



FDA Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Disclaimers:

Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Data provided in the Quarterly Data Extract (QDE) or a FAERS FOIA report are a snapshot of FAERS at a given time. There are several reasons that a case captured in this snapshot can be marked as inactive and not show up in subsequent reports. Manufacturers are allowed to electronically delete reports they submitted if they have a valid reason for deletion. FDA may merge cases that are found to describe a single event, marking one of the duplicate reports as inactive. The data marked as inactive are not lost but may not be available under the original case number.

The FOIA case report information may include both Electronic Submissions (Esubs) and Report Images (Non-Esubs). Case ID(s) will be displayed under separate cover pages for the different submission types.

Cover page Case ID(s) with an asterisk (*) indicate an invalid status and are not captured in the body of the report.

Esub Case ID(s) Submitted:

17610621	17618200	17620078	17641623	17644417	17646286	17646292
17655387	17655678	17656876	17662053	17666050	17666068	17674032
17678265	17678744	17678836	17681818	17688786	17690600	

Run by: STEPPERH

Date - Time: 28-APR-2020 11:38 AM

Total number of cases (Esub): 20

Total number of inactive cases: 0



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17610621

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: NLD Event Date: 10-Mar-2020 Outcomes: OT,

Application Type: ANDA

FDA Rcvd Date: 01-Apr-2020 Mfr Rcvd Date: 23-Mar-2020 Mfr Control #: NL-ACCORD-177665

Application #: 202152

Patient Information:

Age: 73 YR

Sex: Female

Weight: KG

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	QUETIAPINE		300 MG/		Tablet MVA, 300 mg, 1 x per day 1 piece	Bipolar II disorder	2013	
2	CHLOROQUINE		600 MG/		Tablet, 100 mg, 2 x per dag 3 stuks, 1e dosis 6 stuks	Corona virus infection	05-Mar-2020	09-Mar-2020
3	LITHIUM		300 MG/		300 mg, 1 x per dag 1 piece	Bipolar II disorder	09-Mar-2020	

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	QUETIAPINE		Unk	NA					
2	CHLOROQUINE		Unk	NA					
3	LITHIUM		Unk	NA					

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

ReC

Electrocardiogram QT prolonged

NA

Potentiating drug interaction

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17610621

Event/Problem Narrative:

CBGMEB Health Authority report from a physician via the Regulatory Agency (NL-LRB-00383645) concerns. A 73 years old female patient (weight 83 kg. and height 167 cm.) who experienced QTc extension and dynamic interaction of chloroquine / lithium carbonate and quetiapine while receiving quetiapine fumarate (300 mg) (Tablet MVA, 300 mg, 1 x per day 1 piece) from 2013 for bipolar ii disorder and bipolar type ii disorder (Route of administration unspecified), chloroquine (600 mg) (Tablet, 100 mg, 2 x per dag 3 stuks, 1e dosis 6 stuks) from 05-Mar-2020 to 09-Mar-2020 for corona virus infection and corona virus infection (Route of administration unspecified) and lithium carbonate (300 mg) (300 mg, 1 x per dag 1 piece) from 09-Mar-2020 for bipolar ii disorder and maintenance dose of bipolar disorder type ii (Route of administration unspecified).

The patient's past drug history included as lithium carbonat and which caused no adverse event and quetiapine and which caused no adverse event. Concomitant medication included dalteparin (1 dosage) (Injection Fluid, 25,000 IU / ml (units per milliliter)) (Route of administration and indication unspecified), paracetamol (1 dosage) (Infusion liquid, 10 mg / ml (milligrams per milliliter)) (Route of administration and indication unspecified), oxazepam (5 mg) (Tablet, 5 mg (milligram)) (Route of administration and indication unspecified) and cefuroxim (1 dosage) (Injection liquid) (Route of administration and indication unspecified).

The patient received quetiapine fumarate (Batch no: asked but unknown) from 2013, chloroquine (Batch no: asked but unknown) from 05-Mar-2020 to 09-Mar-2020 and lithium carbonate (Batch no: asked but unknown) from 09-Mar-2020. Patient experienced QTc extension from 10-Mar-2020 and dynamic interaction of chloroquine / lithium carbonate and quetiapine while receiving quetiapine fumarate from 10-Mar-2020. Patient's laboratory tests included qtc prolonged was 473 ms, qtc prolonged was 441 ms, qtc prolonged was 461 ms, qtc prolonged was 432 ms on (b) (6) qtc prolonged was 437 ms and qtc prolonged was 454 ms on (b) (6). At the time of reporting the action taken with quetiapine fumarate was reported as unknown, chloroquine treatment in response to the event was unknown and lithium carbonate was reported as unknown. The outcome of QTc extension was reported as not recovered/not resolved and dynamic interaction of chloroquine / lithium carbonate and quetiapine while receiving quetiapine fumarate was reported as unknown.

Patient's laboratory tests included qtc prolonged was 473 ms, qtc prolonged was 441 ms, qtc prolonged was 461 ms, qtc prolonged was 432 ms on (b) (6) qtc prolonged was 437 ms and qtc prolonged was 454 ms on (b) (6).

The reporter considered the case to be non-serious but as per company assessment the event was medically significant & other medically important condition.

Medical review comment:

The causality is assessed as possible for the event electrocardiogram QT prolonged with quetiapine fumarate following its interaction with chloroquine and lithium carbonat based on reasonable temporal association. The other interacting drugs chloroquine and lithium carbonat could also have equally contributed to events hence confounds the causality.



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17610621

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events
lithium carbonaat				No adverse event
quetiapine				No adverse event

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
QTC prolonged	454	ms			N
QTC prolonged	441	ms			N
QTC prolonged	461	ms			N
QTC prolonged	437	ms			N
QTC prolonged	473	ms			N
QTC prolonged	432	ms			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	CEFUROXIME	1 DF/		Injection liquid				
2	DALTEPARIN	1 DF/		Injectievloeistof, 25.000 ie/ml (eenheden per milliliter)				
3	OXAZEPAM	5 MG/		Tablet, 5 mg (milligram)				
4	PARACETAMOL	1 DF/		Infusion liquid, 10 mg / ml (milligrams per milliliter)				

Reporter Source:

Study Report?: No

Sender Organization: ACCORD

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17618200

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ITA Event Date: 30-Mar-2020 Outcomes: HO,

Application Type: NDA

FDA Rcvd Date: 02-Apr-2020 Mfr Rcvd Date: 02-Apr-2020 Mfr Control #: IT-ABBVIE-20K-083-3348747-00

Application #: 021906

Patient Information:

Age: 57 YR

Sex: Male

Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	KALETRA 100/25		4 DF/	Oral		Coronavirus infection	29-Mar-2020	30-Mar-2020
2	PLAQUENIL		2 DF/	Oral		Coronavirus infection	29-Mar-2020	
3	ZITROMAX		1 DF/	Oral		Prophylactic antibiotic therapy	18-Mar-2020	30-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	KALETRA 100/25	1 Day	NA	NA	NOT AVAILABLE				
2	PLAQUENIL	1 Day	Unk	NA	UNKNOWN				
3	ZITROMAX	12 Day	NA	NA	UNKNOWN				

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

ReC

Electrocardiogram QT prolonged

NA

Off label use

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17618200

Event/Problem Narrative:

Spontaneous report from ITALY by a pharmacist of a 57 year old male with events of OFF LABEL USE and ELECTROCARDIOGRAM QT PROLONGED with KALETRA 100/25 (LOPINAVIR/RITONAVIR). There was no reported medical history.

Case received on 02 Apr 2020 from EMA, (IT-MINISAL02-613503).

On (b) (6), the patient experienced OFF LABEL USE and ELECTROCARDIOGRAM QT PROLONGED. PLAQUENIL (HYDROXYCHLOROQUINE PHOSPHATE) and ZITROMAX (AZITHROMYCIN) were also considered suspect.

Primary reporter contact for lot number information was not available.

Causality for KALETRA 100/25(LOPINAVIR/RITONAVIR)

The reporter's causality for the event(s) of OFF LABEL USE and ELECTROCARDIOGRAM QT PROLONGED was not provided.

Relevant Medical History:

Not reported.

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Electrocardiogram					N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17618200

Reporter Source:

Study Report?: No

Sender Organization: ABBVIE

**503B Compounding
Outsourcing Facility?:**

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17620078

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ESP Event Date: 2020 Outcomes: OT, Application Type: NDA

FDA Rcvd Date: 28-Apr-2020 Mfr Rcvd Date: 01-Apr-2020 Mfr Control #: ES-ABBVIE-20K-144-3348741-00 Application #: 021226

Patient Information:

Age: Sex: Male Weight:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	KALETRA			Oral		Corona virus infection	Mar-2020	2020
2	AZITHROMYCIN			Unknown		Coronavirus infection	Mar-2020	2020
3	CHLOROQUINE			Unknown		Coronavirus infection	2020	2020
4	KALETRA					Pneumonia		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	KALETRA		NA	NA	NOT AVAILABLE				
2	AZITHROMYCIN		NA	NA	UNKNOWN				
3	CHLOROQUINE		NA	NA	UNKNOWN				
4	KALETRA		NA	NA	NOT AVAILABLE				

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

Electrocardiogram QT prolonged

Off label use

ReC

NA

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17620078

Event/Problem Narrative:

Social Media report from SPAIN by a consumer of a male with events of QT PROLONGATION and non-serious OFF LABEL USE with KALETRA (LOPINAVIR/RITONAVIR). The patient had a relevant medical history of RESPIRATORY ISSUE, INFLAMMATORY PROCESS RESPONSIBLE OF THE RESPIRATORY INSUFFICIENCY and INFLAMMATORY PROCESS RESPONSIBLE OF THE RESPIRATORY INSUFFICIENCY.

In 2020, the patient experienced QT PROLONGATION. In March 2020, the patient experienced OFF LABEL USE. AZITHROMYCIN and CHLOROQUINE were also considered suspect.

Primary reporter contact for lot number information was not available.

The patient was treated with URBASON.

Causality for KALETRA(LOPINAVIR/RITONAVIR)

The reporter's causality for the event(s) of QT PROLONGATION and OFF LABEL USE was not provided.

Change History

Amendment to data received on 01 Apr 2020 with changes to medical history, event information, reporter opinion of causality, suspect drug information, concomitant drug information, laboratory/diagnostic procedures and narrative description. The event of "QT PROLONGATION" was added. The events of "FLU", "UNEXPECTED THERAPEUTIC BENEFIT", "RESPIRATORY FAILURE" and "FLU LIKE SYMPTOMS" were removed.

Amendment was performed to downgrade the case to non serious. Kaletra, Azithromycin, Chloroquine were captured as suspect with indication covid19Events of respiratory failure, flu and unexpected therapeutic benefit were removed. Flu like symptoms was captured as medical history.

Amendment to data received on 01 Apr 2020 with changes to event information and narrative description. The event of "QT PROLONGATION" is now considered serious.
Amendment to the event QT prolongation was updated from non-serious to serious.

Relevant Medical History:

Patient Medical History

FLU LIKE SYMPTOMS
RESPIRATORY ISSUE



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17620078

INFLAMMATORY PROCESS RESPONSIBLE OF THE RESPIRATORY INSUFFICIENCY

Disease/Surgical Procedure

Flu like symptoms

Inflammation

Respiratory disorder

Respiratory insufficiency

Start Date

End Date

Continuing?

Medical History Product(s)

Start Date

End Date

Indications

Events

Relevant Laboratory Data:

Test Name

Result

Unit

Normal Low Range

Normal High Range

Info Avail

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	CEFTRIAZONE				Drug use for unknown indication	Mar-2020		
2	TOCILIZUMAB				Drug use for unknown indication	Mar-2020		

Reporter Source:

Study Report?: No

Sender Organization: ABBVIE

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17641623

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: EGY Event Date: Outcomes: HO,OT, Application Type: NDA

FDA Rcvd Date: 08-Apr-2020 Mfr Rcvd Date: 25-Mar-2020 Mfr Control #: EG-ADVANZ PHARMA-202003002270 Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

Suspect Products:								
#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Hydroxychloroquine sulfate (Authorized Generic),Plaquenil		2 DF/	Unknown	2 Dosage Form, qd	Antiviral prophylaxis		
#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler
1	Hydroxychloroquine sulfate (Authorized Generic),Plaquenil		Unk	NA	unknown			CONCORDIA
								OTC

Event Information:

Preferred Term (MedDRA A Version: 22.1)	ReC
Atrial fibrillation	NA
Blindness	NA
Blood glucose abnormal	NA
Brain oedema	NA
Loss of consciousness	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17641623

Event/Problem Narrative:

Case number 202003002270 is a business partner report (reference ID: 2020SA076166) send by consumer on 25-Mar-2020.

Case Description: Initial information received from Egypt on 25-Mar-2020 regarding an unsolicited valid serious case received from a consumer via social media.

This case involves an unknown age male patient who was presented with brain edema, acute atrial fibrillation, unconscious, his glucose level was still increasing and decreasing uncontrolled and he could not see, while he was treated with hydroxychloroquine sulfate (Plaquenil).

No past drugs were reported.

On an unknown date, the patient started taking tablet of hydroxychloroquine sulfate at a dose of 2 tablets daily (with an unknown strength, batch number, and expiry date) for COVID 19 prophylaxis.

On an unknown date, the patient was admitted to the emergency room with the following details: Diabetic patient had glaucoma was taking 30IU of insulin in the morning, suddenly suffered from 30mg/dl blood glucose level, he started taking glucose 25% but his glucose level was still increasing and decreasing "uncontrolled" (latency: unknown).

His family advised that they were giving him hydroxychloroquine sulfate 2 tablets daily for 1 week as prophylactic from Covid 19.

The patient glucose became controlled and was 200mg/dl however still unconscious, Computerised tomogram head (CT) brain was performed to check the prolonged hypoglycemia effect and showed brain edema. He took Menthol and became normal and conscious then transferred to ICU, the patient is complaining that he could not see then suffers from acute atrial fibrillation (onset date and latency: unknown).

Action taken: Unknown

Corrective treatment: glucose for glucose abnormal, not reported for other events

Events outcome: Recovered for loss of consciousness and glucose abnormal, unknown for rest of the events

Seriousness criteria: Medically Significant and Hospitalization on an unknown date for all the events

A query mail was sent to the Business partner regarding the onset date of the events and the commencement of the suspect drug Plaquenil so that an estimated date for the events could be calculated.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Antiviral prophylaxis			
Diabetes mellitus			YES
Glaucoma			YES



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17641623

Medical History Product(s)	Start Date	End Date	Indications	Events
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Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Blood glucose	30	mg/dL			N
Blood glucose	200	mg/dL			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	INSULIN	30 IU/		30 IU, qd	Glaucoma			
2	MENTHOL							

Reporter Source:

Study Report?: No	Sender Organization: ADVANZ PHARMA	503B Compounding Outsourcing Facility?:
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Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17644417

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: DE,OT, Application Type: NDA

FDA Rcvd Date: 08-Apr-2020 Mfr Rcvd Date: 01-Apr-2020 Mfr Control #:US-ADVANZ PHARMA-202003002359 Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Hydroxychloroquine				UNK			
2	azithromycin				UNK			

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Hydroxychloroquine		NA	NA				CONCORDIA	
2	azithromycin		NA	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

	ReC
Sudden death	NA
Ventricular fibrillation	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17644417

Event/Problem Narrative:

Case number 202003002359 is a spontaneous case (reference ID: 1-2184819976 (1)) sent by physician on 01/Apr/2020.

This is one of the linked case and linked to 202003002360 and 202003002361.

Information was received via other source under principles of good pharmacovigilance practices regarding a patient of an unknown demographics who experienced ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin following treatment with Hydroxychloroquine and Azithromycin.

The patient's medical history and the historical medications was not reported.

The patient's co-morbid conditions was not reported.

The patient's concomitant medications were not reported.

The patient's laboratory tests were not reported.

Cause of death included sudden death from receiving hydroxychloroquine and azithromycin.

Reporter assessed this weekend 3 patients for ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin. The evidence for any therapy against COVID was so far limited based on small, non-randomized studies. Reporter advised to give hydroxychloroquine and /or azithromycin, please, it was on the recommendation of an infectologist or internist and make sure that all patients had a previous electrocardiogram and the following two days after its administration. Both medications prolong QT and promote ventricular arrhythmias. Did not give it with corrected base QT greater than 450 ms, and discontinue use if the QT was prolonged more than 25% baseline. If necessary, asked for help to have someone evaluate the electrocardiograms.

At the time of this report, the outcome of the event ventricular fibrillation was unknown and fatal for sudden death from receiving hydroxychloroquine and azithromycin. The action taken with Hydroxychloroquine and Azithromycin was unknown.

De-challenge and re-challenge result was not applicable for the event with respect to Hydroxychloroquine and Azithromycin.

This case is considered to be serious due to seriousness criteria death and other important medical significant for the event sudden death from receiving hydroxychloroquine and azithromycin and other medically significant for ventricular fibrillation.

The reporter did not provide any causality assessments.

Query mail was sent to other source regarding onset date of event and start date of company suspect drug. So that estimated date can be



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17644417

calculated.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ADVANZ PHARMA

503B Compounding
Outsourcing Facility?:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17644417

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646286

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: DE,OT, Application Type: NDA

FDA Rcvd Date: 08-Apr-2020 Mfr Rcvd Date: 01-Apr-2020 Mfr Control #:US-ADVANSZ PHARMA-202003002360 Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Hydroxychloroquine				UNK			
2	azithromycin				UNK			

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Hydroxychloroquine		NA	NA				CONCORDIA	
2	azithromycin		NA	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Sudden death	ReC	NA
Ventricular fibrillation	ReC	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646286

Event/Problem Narrative:

Case number 202003002360 is a spontaneous case (reference ID: 1-2184819976 (2)) sent by physician on 01/Apr/2020.

This is one of the linked case and linked to the case 202003002359 and 202003002361.

Information was received via other source under principles of good pharmacovigilance practices regarding a patient of an unknown demographics who experienced ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin, following treatment with Hydroxychloroquine and Azithromycin.

The patient's medical history and the historical medications was not reported.

The patient's co-morbid conditions was not reported.

The patient's concomitant medications were not reported.

The patient's laboratory tests were not reported.

The patient's cause of death included sudden death from receiving hydroxychloroquine and azithromycin.

Reporter assessed this weekend three patients for ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin. The evidence for any therapy against COVID was so far limited based on small, non-randomized studies. Reporter advised to gave hydroxychloroquine and /or azitre on the recommendation of an infectologist or internist and make sure that all patients had a previous electrocardiogram and the following two days after its administration. Both medications prolong QT and promote ventricular arrhythmias. Did not gave it with corrected base QT greater than 450 ms, and discontinued the use if the QT was prolonged more than 25% baseline. If necessary, asked for help to had someone evaluate the electrocardiograms.

At the time of this report, the outcome of the event ventricular fibrillation was unknown and fatal for sudden death from receiving hydroxychloroquine and azithromycin. The action taken with Hydroxychloroquine and Azithromycin was unknown.

De-challenge and rechallenge result was not applicable for the event with respect to Hydroxychloroquine and Azithromycin.

This case is considered to be serious due to seriousness criteria death and other important medical significant for the event sudden death from receiving hydroxychloroquine and azithromycin and medically significant for ventricular fibrillation.

The reporter did not provide any causality assessments.



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646286

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ADVANZ PHARMA

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646292

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: DE,OT, Application Type: NDA

FDA Rcvd Date: 08-Apr-2020 Mfr Rcvd Date: 01-Apr-2020 Mfr Control #:US-ADVANZ PHARMA-202003002361 Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Hydroxychloroquine				UNK			
2	azithromycin				UNK			

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Hydroxychloroquine		NA	NA				CONCORDIA	
2	azithromycin		NA	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Sudden death	ReC	NA
Ventricular fibrillation	NA	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646292

Event/Problem Narrative:

Case number 202003002361 is a spontaneous case (reference ID: 1-2184819976 (3)) sent by physician on 01/Apr/2020.

This is one of the linked case and linked to the case 202003002359 and 202003002360.

Information was received via other source under principles of good pharmacovigilance practices regarding a patient of an unknown demographics who experienced ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin following treatment with Hydroxychloroquine and Azithromycin.

The patient's medical history and the historical medications was not reported.

The patient's co-morbid conditions was not reported.

The patient's concomitant medications were not reported.

The patient's laboratory tests were not reported.

The patient's cause of death included sudden death from receiving hydroxychloroquine and azithromycin.

Reporter assessed this weekend 3 patients for ventricular fibrillation and sudden death from receiving hydroxychloroquine and azithromycin. The evidence for any therapy against COVID was so far limited based on small, non-randomized studies. Reporter advised to give hydroxychloroquine and /or azithromycin on the recommendation of an infectologist or internist and make sure that all patients had a previous electrocardiogram and the following two days after its administration. Both medications prolong QT and promote ventricular arrhythmias. Did not give it with corrected base QT greater than 450 ms, and discontinued the use if the QT was prolonged more than 25% baseline. If necessary, asked for help to have someone evaluate the electrocardiograms.

At the time of this report, the outcome of the event ventricular fibrillation was unknown and fatal for sudden death from receiving hydroxychloroquine and azithromycin. The action taken with Hydroxychloroquine and Azithromycin was unknown.

De-challenge and re-challenge result was not applicable for the event with respect to Hydroxychloroquine and Azithromycin.

This case is considered to be serious due to seriousness criteria death and other important medical significant for the event sudden death from receiving hydroxychloroquine and azithromycin and medically significant for ventricular fibrillation.

The reporter did not provide any causality assessments.

A query mail was sent to the business partner regarding the onset date of event and start date of suspect drug. So that estimated date can be



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646292

calculated.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ADVANZ PHARMA

503B Compounding
Outsourcing Facility?:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17646292

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655387

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ITA Event Date: 19-Mar-2020 Outcomes: OT, Application Type: NDA

FDA Rcvd Date: 23-Apr-2020 Mfr Rcvd Date: 22-Apr-2020 Mfr Control #: IT-ABBVIE-20K-083-3357377-00 Application #: 021906

Patient Information:

Age: 76 YR Sex: Male Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	KALETRA		2 DF/	Oral		Coronavirus infection	19-Mar-2020	21-Mar-2020
2	PLAQUENIL		400 MG/QD	Oral		Coronavirus infection	19-Mar-2020	21-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	KALETRA	2 Day	NA	NA	NOT AVAILABLE,NOT AVAILABLE				
2	PLAQUENIL	2 Day	NA	NA	NOT AVAILABLE,UNK NOWN				

Event Information:

Preferred Term (MedDRA ⚠ Version: 22.1) ReC

Off label use NA

Ventricular tachycardia NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655387

Event/Problem Narrative:

Solicited report from ITALY by a pharmacist of a 76 year old male with events of NON-SUSTAINED VENTRICULAR TACHYCARDIA and non-serious OFF LABEL with KALETRA (LOPINAVIR/RITONAVIR). There was no reported medical history.

This case was received from EMA on 09 APR 2020 (Ref. number IT-MINISAL02-614135)

On 19 Mar 2020, the patient experienced OFF LABEL. On (b) (6) the patient experienced NON-SUSTAINED VENTRICULAR TACHYCARDIA. PLAQUENIL (HYDROXYCHLOROQUINE SULFATE) was also considered suspect.

Primary reporter contact for lot number information was not available.

Causality for KALETRA(LOPINAVIR/RITONAVIR)

The reporter's causality for the event(s) of NON-SUSTAINED VENTRICULAR TACHYCARDIA and OFF LABEL was not provided. AbbVie's opinion is that there is no reasonable possibility that the events of NON-SUSTAINED VENTRICULAR TACHYCARDIA and OFF LABEL are related to KALETRA(LOPINAVIR/RITONAVIR).

Change History

On 22 Apr 2020, received updates to event information, company alternative etiology, suspect drug information and narrative description.

Relevant Medical History:

Not reported.

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655387

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ABBVIE

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655678

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: FRA Event Date: 26-Mar-2020 Outcomes: LT,

Application Type: ANDA

FDA Rcvd Date: 17-Apr-2020 Mfr Rcvd Date: 09-Apr-2020 Mfr Control #: FR-TEVA-2020-FR-1221608

Application #: 065150

Patient Information:

Age: 80 YR

Sex: Female

Weight: 85 KG

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	AZITHROMYCINE ANHYDRE		250 MG/	Oral	250 Milligram	Corona virus infection	19-Mar-2020	23-Mar-2020
2	LASILIX 20 mg/2 ml, solution injectable en ampoule		2 DF/	Intravenous (not otherwise specified)	2 Dosage Forms	Oedema	19-Mar-2020	
3	PLAQUENIL			Oral		Corona virus infection	19-Mar-2020	25-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	AZITHROMYCINE ANHYDRE	7 Day	NA	NA	UNKNOWN				
2	LASILIX 20 mg/2 ml, solution injectable en ampoule	7 Day	Unk	NA	UNKNOWN				
3	PLAQUENIL	7 Day	Yes	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Hypokalaemia

Ventricular tachycardia

ReC

NA

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655678

Event/Problem Narrative:

06-Apr-2020, Spontaneous, Health authority Serious report . (Report duplicates - AFSSAPS: FR-AFSSAPS-TO20200633)

A Physician reported the case of a 80-Years-old Female patient who received AZITHROMYCINE ANHYDRE (AZITHROMYCIN, Product cannot be excluded as a Teva product), LASILIX (FUROSEMIDE, not Teva's product), PLAQUENIL (HYDROXYCHLOROQUINE PHOSPHATE, not Teva's product).

The patient took LASILIX for OEDEMA (FUROSEMIDE, Intravenous (not otherwise specified), INCONNU) batch: INCONNU, AZITHROMYCINE ANHYDRE for CORONAVIRUS INFECTION (AZITHROMYCIN, Oral, from 19-Mar-2020, until 24-Mar-2020, 250 Milligram) batch: UNKNOWN, PLAQUENIL for CORONAVIRUS INFECTION (HYDROXYCHLOROQUINE PHOSPHATE, Oral, from 19-Mar-2020, until 26-Mar-2020) batch: INCONNU.

While on the suspect medication(s), the patient experienced VENTRICULAR TACHYCARDIA(Serious , since (b) (6) until (b) (6) (b) (6) ; HYPOKALEMIA(Serious , since (b) (6) .

At the time of the report the outcome of the AEs was: HYPOKALEMIA:Recovering/resolving, VENTRICULAR TACHYCARDIA:Recovered/resolved.

Action taken with suspect drugs: LASILIX - Unknown; AZITHROMYCINE ANHYDRE - Not Applicable; PLAQUENIL - Drug discontinued.

The patient had medical history of BRONCHITIS CHRONIC(Unknown if Continuing), CORONAVIRUS INFECTION(Unknown if Continuing).

The patient's concomitant medication included SUFENTANIL(Intravenous (not otherwise specified)); PERFALGAN 10 mg/ml, solution pour perfusion(PARACETAMOL; Solution for infusion, Intravenous (not otherwise specified)); NORADRENALINE (TARTRATE DE)(NOREPINEPHRINE; Intravenous (not otherwise specified)); MIDAZOLAM(Intravenous (not otherwise specified)); TAZOCILLINE(PIPERACILLINE SODIQUE; tazobactam sodique; Intravenous (not otherwise specified)); TRANSIPEG(MACROGOL; Oral); POTASSIUM (CHLORURE DE)(POTASSIUM CHLORIDE; Intravenous (not otherwise specified)).

The patient's past medication were unspecified.

Lab tests were not reported.

This case was considered serious based on the following criteria: (Life Threatening)

Because this is a spontaneous case, regulatory distribution will be handled as though it is a related case.

09-Apr-2020

Additional Information Received From Health Authority :

For the Serious Event Hypokalemia Therapy End Date 27-Mar-2020 was added, outcome was changed to Recovered/resolved.

The overall case outcome was changed to Recovered/resolved .

The suspect LASILIX the reported term was changed to LASILIX 20 mg/2 ml, solution injectable en ampoule, form of admin solution for injection was added.

For the suspect Drug LASILIX 20 mg/2 ml, solution injectable en ampoule 2 Dosage Forms was added and time interval 1 Days was Added.

The suspect drug TAZOCILLINE reported term was changed TAZOCILLINE 4 g/500 mg, poudre pour solution pour perfusion, form of admin powder for solution for infusion was added.



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655678

For the suspect Drug PLAQUENIL Therapy End Date 25-Mar-2020 was added.
For the suspect Drug AZITHROMYCINE ANHYDRE Therapy End Date 23-Mar-2020 was added.
New Concomitant NIMBEX was added.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Bronchitis chronic			UNKNOWN	
Corona virus infection			UNKNOWN	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	MIDAZOLAM		Intravenous (not otherwise specified)					



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17655678

	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
2	NIMBEX		Intravenous (not otherwise specified)					
3	NORADRENALINE (TARTRATE DE)		Intravenous (not otherwise specified)					
4	PERFALGAN 10 mg/ml, solution pour perfusion		Intravenous (not otherwise specified)					
5	POTASSIUM (CHLORURE DE)		Intravenous (not otherwise specified)					
6	SUFENTANIL		Intravenous (not otherwise specified)					
7	TAZOCILLINE 4 g/500 mg, poudre pour solution pour perfusion	4 DF/	Intravenous (not otherwise specified)	4 Dosage Forms				
8	TRANSIPEG		Oral					

Reporter Source:

Study Report?: No

Sender Organization: TEVA

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17656876

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: LT, Application Type: NDA

FDA Rcvd Date: 14-Apr-2020 Mfr Rcvd Date: 10-Apr-2020 Mfr Control #:US-PFIZER INC-2020148479 Application #: 050670

Patient Information:

Age: 70 YR Sex: Female Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	
1	AZITHROMYCIN		500 MG/	Oral	500 mg, daily (500 mg on day 1)	Community acquired pneumonia			
2	AZITHROMYCIN		250 MG/	Oral	250 mg, daily (followed by 250 mg daily for 4 days)				
3	HYDROXYCHLOROQUIN E		400 MG/BID	Oral	400 mg, 2x/day (400 mg twice daily on day 1)				
4	HYDROXYCHLOROQUIN E		400 MG/QD	Oral	400 mg, 1x/day (followed by 400 mg daily for 4 days)				
#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	AZITHROMYCIN		NA	NA				PFIZER	
2	AZITHROMYCIN		NA	NA				PFIZER	
3	HYDROXYCHLOROQUIN E		Yes	NA					
4	HYDROXYCHLOROQUIN E		Yes	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Cardiac arrest	ReC
Electrocardiogram QT prolonged	NA
Ventricular fibrillation	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17656876

Event/Problem Narrative:

This is a spontaneous report from a five contactable health care professionals (two physicians, two nurses and one pharmacist). These physicians, pharmacist and nurses reported for a 70-year-old female patient.

A 70-year-old female patient received azithromycin, orally on an unspecified date at 500 mg, daily (on day 1), followed by at 250 mg, daily for 4 days for community-acquired pneumonia. One day after azithromycin and ceftriaxone were discontinued, the patient was started on hydroxychloroquine, orally from an unspecified date at 400 mg, 2x/day (400 mg twice daily on day 1), followed by 400 mg, 1x/day (followed by 400 mg daily for 4 days) for an unspecified indication. Medical history included history of non-Hodgkin lymphoma, chronic obstructive pulmonary disease (COPD), adrenal insufficiency, and hypertension was hospitalized with a cough and shortness of breath. The patient concomitant medications included ceftriaxone. She was tested for COVID-19 and confirmed to be positive on an unspecified date. On admission to the hospital, this patient's ECG showed a QTcB interval (a heart rate-corrected QT interval using Bazett's formula) of 460 milliseconds (ms). A borderline QTc for women is between 451-470 ms.

The day oral hydroxychloroquine was started, the patient ECG showed a QTcB of 490 ms. Three days later, the patient's QTcB was 515 ms. On the fifth and last day of taking hydroxychloroquine, the patient experienced ventricular fibrillation and coded.

After two cycles of cardiopulmonary resuscitation, a return of spontaneous circulation was achieved. An ECG performed afterwards showed a QTcB of 605 ms, and all QTc-prolonging medications were discontinued. Initially, the patient was not responding neurologically. However, after undergoing targeted temperature management (therapeutic hypothermia) post-arrest, the patient now appears to be responding and is expected to recover with good neurological function. The hospital determined that the patient suffered ventricular fibrillation and cardiac arrest due to QTc prolongation from the combination of hydroxychloroquine and azithromycin. Even though the patient did not receive azithromycin and hydroxychloroquine concomitantly, given the long half-life of azithromycin (68 to 72 hours in adults), it was suspected that azithromycin was still at or near a therapeutic concentration when the patient started receiving hydroxychloroquine. The action taken in response to the events for azithromycin was post-therapy, for hydroxychloroquine was permanently withdrawn on an unspecified date. The outcome of QTc prolongation was unknown, and the other events was recovering.

Pfizer is a marketing authorization holder of azithromycin in the country of incidence or the country where the product was purchased (if different). This may be a duplicate report if another marketing authorization holder of azithromycin has submitted the same report to the regulatory authorities.

Follow up (13Apr2020): follow up attempt completed, no further information expected.

Amendment: This follow-up report is being submitted to amend previously reported information: amended the narrative.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
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FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17656876

Adrenal insufficiency

Chronic obstructive pulmonary disease

Cough

Hodgkin's disease

Hospitalization

Hypertension

Shortness of breath

Medical History Product(s)	Start Date	End Date	Indications	Events
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Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
ECG	490 ms		451	470	N
ECG	515 ms		451	470	N
ECG	460 ms		451	470	N
Viral test	positive				N
ECG	605 ms		451	470	N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	CEFTRIAXONE	1 G/QD	Intravenous (not otherwise specified)	1 g, 1x/day				

Reporter Source:

Study Report?: No

Sender Organization: PFIZER

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17662053

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: FRA Event Date: 27-Mar-2020 Outcomes: LT,

Application Type: ANDA

FDA Rcvd Date: 13-Apr-2020 Mfr Rcvd Date: 08-Apr-2020 Mfr Control #:FR-TEVA-2020-FR-1223033

Application #: 065150

Patient Information:

Age: 54 YR

Sex: Male

Weight: 94 KG

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	AZITHROMYCINE ANHYDRE			Oral	unknown dosage	Corona virus infection	25-Mar-2020	
2	PLAQUENIL		800 MG/	Oral	800 MG	Corona virus infection	25-Mar-2020	27-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	AZITHROMYCINE ANHYDRE	2 Day	NA	NA	Unknown				
2	PLAQUENIL	2 Day	Yes	NA	Unknown				

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

ReC

Electrocardiogram QT prolonged

NA

Event/Problem Narrative:

08-Apr-2020, Spontaneous, Health authority Serious report. (Report duplicates - AFSSAPS: FR-AFSSAPS-PV20200208)
A Pharmacist reported the case of a 54-Years-old Male patient who received AZITHROMYCINE ANHYDRE (AZITHROMYCIN, Product cannot be excluded as a Teva product), PLAQUENIL (HYDROXYCHLOROQUINE PHOSPHATE, not Teva's product), .
The patient took AZITHROMYCINE ANHYDRE for CORONAVIRUS INFECTION (AZITHROMYCIN, Oral, from 25-Mar-2020, unknown dosage) batch: Unknown, PLAQUENIL for CORONAVIRUS INFECTION (HYDROXYCHLOROQUINE PHOSPHATE, Oral, from 25-Mar-2020, until 27-Mar-2020, 800 MG) batch: Unknown.
While on the suspect medication, the patient experienced ELECTROCARDIOGRAM QT PROLONGED(Serious , since (b) (6) .
At the time of the report the outcome of the AE was: ELECTROCARDIOGRAM QT PROLONGED: Recovered/resolved.
Action taken with suspect drugs: AZITHROMYCINE ANHYDRE - Dosage maintained; PLAQUENIL - Drug discontinued.
The patient had medical history of CORONAVIRUS INFECTION(Unknown if Continuing), EX-TOBACCO USER(10 PA smoking cessation for



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17662053

10 years, Continuing).

The patient's concomitant medication included AUGMENTIN(AMOXICILLIN SODIUM; CLAVULANATE POTASSIUM; Oral, since 25-Mar-2020, unknown dosage, for CORONAVIRUS INFECTION); HYPNOVEL(MIDAZOLAM; MIDAZOLAM (CHLORHYDRATE DE)); SUFENTANIL; ETOMIDATE; TRACRIUM(ATRACURIUM (BESILATE D'); BESILATE D'ATRACURIUM); ESMERON(BROMURE DE ROCURONIUM; ROCURONIUM (BROMURE DE)).

The patient's past medication were unspecified.

Lab tests: ELECTROCARDIOGRAM QT PROLONGED: UNKNOWN

This case was considered serious based on the following criteria: (Life Threatening)

Because this is a spontaneous case, regulatory distribution will be handled as though it is a related case.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Corona virus infection			UNKNOWN	
Ex-tobacco user			YES	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
ELECTROCARDIOGRAM QT PROLONGED	UNKNOWN	Not Applicable			N

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	AUGMENTIN		Oral	unknown dosage	Corona virus infection	25-Mar-2020		
2	ESMERON							



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17662053

	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
3	ETOMIDATE							
4	HYPNOVEL							
5	SUFENTANIL							
6	TRACRIUM							

Reporter Source:

Study Report?: No

Sender Organization: TEVA

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666050

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ITA Event Date: 26-Mar-2020 Outcomes: OT,

Application Type: NDA

FDA Rcvd Date: 23-Apr-2020 Mfr Rcvd Date: 22-Apr-2020 Mfr Control #: IT-ABBVIE-20K-083-3361715-00

Application #: 021906

Patient Information:

Age: 80 YR

Sex: Female

Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	KALETRA		2 DF/	Oral		Coronavirus infection	23-Mar-2020	26-Mar-2020
2	PLAQUENIL		400 MG/	Oral		Coronavirus infection	23-Mar-2020	26-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	KALETRA	3 Day	Yes	NA	NOT AVAILABLE,NOT AVAILABLE				
2	PLAQUENIL	3 Day	Yes	NA	UNKNOWN,NOT AVAILABLE				

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

ReC

Electrocardiogram QT prolonged

NA

Off label use

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666050

Event/Problem Narrative:

Solicited report from ITALY by a pharmacist of an 80 year old female with events of QT PROLONGED and OFF LABEL USE with KALETRA (LOPINAVIR/RITONAVIR). There was no reported medical history.

Case received on 13 Apr 2020 from Italy health authority with reference number IT-MINISAL02-614658.

On (b) (6) the patient experienced QT PROLONGED and OFF LABEL USE. PLAQUENIL (HYDROXYCHLOROQUINE SULFATE) was also considered suspect.

Other company comment: MedDRA encoding of events by adding Off-label use.

Primary reporter contact for lot number information was not available.

Causality for KALETRA(LOPINAVIR/RITONAVIR)

The reporter's causality for the event(s) of QT PROLONGED and OFF LABEL USE was not provided.
AbbVie's opinion is that there is a reasonable possibility that the event of QT PROLONGED is related to KALETRA(LOPINAVIR/RITONAVIR).
AbbVie's opinion is that there is no reasonable possibility that the event of OFF LABEL USE is related to KALETRA(LOPINAVIR/RITONAVIR).

Change History

On 22 Apr 2020, received updates to event information, company opinion of causality, company alternative etiology, suspect drug information and narrative description. The event of "OFF LABEL USE" is now considered serious.

Relevant Medical History:

Not reported.

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666050

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ABBVIE

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666068

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: HO,LT, Application Type: NDA

FDA Rcvd Date: 14-Apr-2020 Mfr Rcvd Date: 06-Apr-2020 Mfr Control #:US-ABBVIE-20K-163-3362478-00 Application #: 205552

Patient Information:

Age: Sex: Male Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	IBRUTINIB		140 MG/QD	Oral	reduced dose	Waldenstrom's macroglobulinemia		
2	IBRUTINIB		140 MG/QD	Oral		Hypoxia		
3	IBRUTINIB		420 MG/QD	Oral	on days 11 and day 12 of hospitalization	Fever		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	IBRUTINIB		Yes	NA	NOT AVAILABLE,NOT AVAILABLE,NOT AVA				
2	IBRUTINIB		Yes	NA	NOT AVAILABLE,NOT AVAILABLE,NOT AVA				
3	IBRUTINIB		Yes	NA	NOT AVAILABLE,NOT AVAILABLE,NOT AVA				

Event Information:

Preferred Term (MedDRA ® Version: 22.1)	ReC
Corona virus infection	NA
Mechanical ventilation	NA
Therapeutic response unexpected	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666068

Event/Problem Narrative:

This case received from JNJFOC on 6 Apr 2020 with reference no US-JNJFOC-20200408835.

This spontaneous report received from literature: Steven P. Treon, Castillo JJ, Skarbnik AP, Soumerai J, Yang G, Ibrutinib may be protective against pulmonary injury in COVID-19 patients. The article reports 4 patients receiving ibrutinib, an FDA approved BTK-inhibitor for the indication of Waldenstroms Macroglobulinemia (WM). Their median age was 63 (range 58-72) years, and three were male. Three patients were on the recommended treatment dose of 420 mg/day; the fourth patient was on a reduced dose of 140 mg/day. The median time on ibrutinib for WM was 69 (range 39-85) months. All 4 patients experienced fever, cough and sore throat prompting testing that lead to the diagnosis of COVID-19. The median time from the COVID-19 diagnosis to this report was 11 (range 9-14) days. The aim of this study is to describe protective action of ibrutinib against pulmonary injury in COVID-19 patients. This report concerned male patient of unspecified age. The patient's height and weight were not reported. The patient's concurrent conditions included Waldenstroms macroglobulinemia (WM) and arthralgias. The patient received ibrutinib (unknown formulation, oral, batch number not reported) 140 mg a day (dose reduced due to arthralgias) therapy dates not reported, for WM. No concomitant medications were reported. The patient experienced fever, cough and sore throat prompting testing that lead to the diagnosis of COVID-19. The patients on ibrutinib at 420 mg/day experienced no shortness of breath or hypoxia and required no hospitalization. However, this patient experienced progressive dyspnea and hypoxia prompting hospitalization. Chest CT (computerized tomogram) showed bilateral ground-glass opacities and a pleural effusion on admission. Treatment with ibrutinib was withdrawn with respect to COVID 19 infection (bilateral ground glass opacities and a pleural effusion); Hydroxychloroquine and azithromycin were administered. Azithromycin was stopped after 3 days due to wide QRS complex tachyarrhythmia, Hydroxychloroquine was given for a total of 5 days. Hypoxia worsened and fever persisted during Hydroxychloroquine course. Ibrutinib was re-introduced because of worsening hypoxia and fever due to COVID-19 at 140 mg/day and tocilizumab 400 mg was co-administered on day 5 of hospitalization with improved oxygenation, and decreased C-reactive protein (CRP) levels (83 to 9 mg/L) (characterized as unexpected therapeutic benefit). Intravenous immunoglobulin was also given on hospital days 6-10. On day 10 of hospitalization, the patient experienced worsening hypoxia accompanied by increased CRP (28 mg/L) and required mechanical ventilation (coded as patient placed on ventilator). Given the lack of hypoxia in the other COVID-19 infected WM patients on 420 mg ibrutinib, the ibrutinib was increased to 420 mg/day on days 11 and day 12. A rapid improvement in oxygenation followed and the patient was successfully extubated on day 12. The patient continued 420 mg/day of ibrutinib, on 3 liters/min supplemental oxygen by nasal cannula, and with oxygen saturations of 94-96% on day 13. The patient was recovering from COVID-19 infection and recovered from patient placed on ventilator. The outcome of unexpected therapeutic benefit was not reported. The author concluded that the findings provide a compelling rationale that an exaggerated cytokine release syndrome triggered by ATII cells and resident macrophages by SARS-CoV-2 may be etiological for the pulmonary injury associated with COVID-19. Ibrutinib and possibly other BTK-inhibitors may therefore provide protection against lung injury, and even improve pulmonary function in patients with COVID-19. This report was serious (Hospitalization Caused / Prolonged and Life Threatening).

JNJFOC comment: V0: This male patient of unspecified age with Waldenstroms Macroglobulinemia (WM) experienced COVID 19 infection while on 140mg/day of ibrutinib. The patient had presenting symptoms of fever, cough and sore throat. The patient further was hospitalized due to progressive dyspnea and hypoxia. Chest CT showed bilateral ground glass opacities and pleural effusion; ibrutinib was held and the patient was treated with supplemental oxygen, Hydroxychloroquine (HCQ) and azithromycin. Azithromycin was stopped due to QRS complex tachyarrhythmia. The patients hypoxia and fever persisted and hence ibrutinib was restarted at 140 mg/day along with tocilizumab 400 mg with



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666068

improvement in oxygenation. The patient was also administered intravenous immunoglobulin for 5 days. The patient still experienced worsening hypoxia and required mechanical ventilation; The dose of ibrutinib was increased to 420 mg/day followed by a rapid improvement in oxygenation and extubation (unexpected therapeutic benefit). Considering the underlying WM as risk factor for contracting COVID 19 infection, and as the events are due to the current COVID-19 pandemic, causality for COVID 19 infection and consequent hypoxia/dyspnea requiring mechanical ventilation is assessed as not related to ibrutinib.

Relevant Medical History:

This report is 4 of 4 from the same literature article.

ARTHRALGIAS

WALDENSTROM'S MACROGLOBULINEMIA

Disease/Surgical Procedure

Start Date

End Date

Continuing?

Arthralgia

YES

Waldenstrom's macroglobulinemia

YES

Medical History Product(s)

Start Date

End Date

Indications

Events

Relevant Laboratory Data:

Test Name

Result

Unit

Normal Low Range

Normal High Range

Info Avail

Coronavirus test positive

N

C-reactive protein

28

MG/L

N

C-reactive protein

83

MG/L

N

Oxygen saturation

N

C-reactive protein

9

MG/L

N

Chest CT

N



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17666068

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ABBVIE

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17674032

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ESP Event Date: 02-Apr-2020 Outcomes: DE,OT, Application Type: ANDA

FDA Rcvd Date: 15-Apr-2020 Mfr Rcvd Date: 13-Apr-2020 Mfr Control #: ES-AUROBINDO-AUR-APL-2020-018904 Application #: 203294

Patient Information:

Age: 65 YR Sex: Female Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Azithromycin		500 MG/QD	Oral	500 milligram, Once a Day	Corona virus infection	30-Mar-2020	01-Apr-2020
2	Hydroxychloroquine sulfate		200 MG/QD	Oral	200 milligram, Once a Day	Corona virus infection	31-Mar-2020	02-Apr-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Azithromycin	4 Day	NA	NA				AUROBINDO	
2	Hydroxychloroquine sulfate	3 Day	NA	NA					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Cardiogenic shock	ReC	NA
Tachyarrhythmia		NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17674032

Event/Problem Narrative:

Initial report received on 13-Apr-2020: This spontaneous report received from Eudravigilance Database Management System (EVDMS) with ADR reference number of ES-AEMPS-621538, by Physician.

This report concerned about a 65-year-old elderly female patient from Spain.

Medical history, concurrent conditions and historical drugs of the patient were not reported.

Concomitant medications of the patient included ceftriaxone with an unknown formulation at a dose of one gram, once a day via intravenous route for pneumonia on 30-Mar-2020, tocilizumab with an unknown formulation at an unknown dose and frequency via intravenous route for corona virus infection on 31-Mar-2020 and the drug tocilizumab was discontinued on same day. The drug ceftriaxone was discontinued on 02-Apr-2020.

On 30-Mar-2020, the patient received azithromycin with an unknown formulation at a dose of 500 milligrams, once a day via oral route for corona virus infection and the drug was discontinued on 01-Apr-2020. On 31-Mar-2020, the patient received hydroxychloroquine sulfate with an unknown formulation at a dose of 200 milligrams, once a day via oral route for corona virus infection and the drug was discontinued on 02-Apr-2020.

On (b) (6) the patient experienced tachyarrhythmia, cardiogenic shock and died. The autopsy was unknown.

Relevant laboratory tests and treatment medications of the patient were not reported.

The outcome of the events tachyarrhythmia and cardiogenic shock was fatal.

The case was assessed as serious (death) for the events tachyarrhythmia, cardiogenic shock and (medically significant as per IME list) for the event cardiogenic shock.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17674032

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	Ceftriaxone	1 G/QD	Intravenous (not otherwise specified)	1 gram, Once a Day	Pneumonia	30-Mar-2020	02-Apr-2020	4 DAY
2	Tocilizumab		Intravenous (not otherwise specified)	UNK	Corona virus infection	31-Mar-2020	31-Mar-2020	3 DAY

Reporter Source:

Study Report?: No

Sender Organization: AUROBINDO

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678265

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: USA Event Date: Outcomes: OT, Application Type: NDA

FDA Rcvd Date: 17-Apr-2020 Mfr Rcvd Date: 02-Apr-2020 Mfr Control #:US-ADVANZ PHARMA-202004002747

Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	
1	Hydroxychloroquine		400 MG/	Unknown	400 mg, bid (for one day followed by 200mg twice daily for four days)	Corona virus infection			
2	AZITHROMYCIN		500 MG/	Intravenous (not otherwise specified)	500 mg, qd	Corona virus infection			
3	Hydroxychloroquine		200 MG/	Unknown	200 mg, bid (for one day followed by 200mg twice daily for four days)				
#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Hydroxychloroquine		NA	NA	unknown			CONCORDIA	
2	AZITHROMYCIN		NA	NA	unknown				
3	Hydroxychloroquine		NA	NA	unk			CONCORDIA	

Event Information:

Preferred Term (MedDRA ® Version: 22.1)	ReC
Arrhythmia	NA
Atrial fibrillation	NA
Electrocardiogram QRS complex prolonged	NA
Electrocardiogram QT prolonged	NA
Off label use	NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678265

Event/Problem Narrative:

Case number 202004002747 is a business partner report (Reference ID: 2020SA083151) sent by healthcare professional on 02-Apr-2020

Case Description: Initial information received on 02-Apr-2020 regarding an unsolicited valid serious case of United States issued from a literature article via: Gabriels J, Saleh M, Chang D, Epstein LM. Inpatient Use of Mobile Continuous Telemetry for COVID-19 Patients Treated with. HeartRhythm Case Reports 2020. Available from: <https://doi.org/10.1016/j.hrcr.2020.03.017>.

This case involves a 72-years-old female patient who experienced episode of atrial fibrillation following off label use and qt prolonged following off label use, while she was treated with hydroxychloroquine sulfate (Hydroxychloroquine) and azithromycin.

The female patient with paroxysmal atrial fibrillation (AF) presented with several days of shortness of breath, cough, fevers and chills. Her admission chest x-ray revealed a multifocal pneumonia and a nasopharyngeal swab tested positive for Corona virus disease (COVID)-19. She was admitted to a non-telemetry floor with a cohort of other COVID-19 patients. Her admission electrocardiography (ECG), prior to starting hydroxychloroquine and azithromycin showed sinus rhythm with an interventricular conduction delay with a QRS duration (QRSd) of 128ms and a QTc of 458ms. Her home medications of apixaban 5mg twice daily, metoprolol succinate 25mg daily and flecainide 50mg twice daily were continued.

On an unknown date, the patient started treatment with 400 mg of hydroxychloroquine sulfate twice daily (for one day followed by 200mg twice daily for four days) and 500 mg of intravenous azithromycin daily for five days was initiated (lot no./batch no. and expiry date: unknown) for COVID-19 (off label use for unapproved indication).

On an unknown date, unspecified time later, on the second day of admission, after receiving one dose of hydroxychloroquine and azithromycin, a repeat ECG showed a QRSd of 160ms with a QTc of 472ms. Given that the inpatient telemetry units were fully occupied, and in light of the ECG changes that occurred after a single dose of these medications, a mobile continuous telemetry monitor (MCOT) Patch monitor was placed on the patient as a substitute for inpatient telemetry monitoring. Within hours of wearing the MCOT, she had an episode of atrial fibrillation that began at 6:07pm in the setting of a fever of 102.6 degree Fahrenheit. At 6:28pm the ventricular rate exceeded 150 beats per minute and the clinical team was notified of the arrhythmia by 6:31pm. Given that the care providers were notified quickly, the patient was promptly given an additional dose of paracetamol (Tylenol), flecainide 100 mg and metoprolol tartrate 25mg with quick resumption of sinus rhythm. On the following day the MCOT was used to obtain both the QRSd and QTc which were 160ms and 520ms respectively. These values correlated with an ECG that was obtained simultaneously (QRSd:160ms, QTc:517ms). Her course of hydroxychloroquine and azithromycin was continued, with twice daily monitoring of her QTc using the MCOT, without any further arrhythmic events and a stable QTc.

Action taken: no action taken

Corrective treatment: tylenol, flecainide and metoprolol tartrate for both events

Outcome: recovered for both events



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678265

Seriousness criteria: medically significant for both events

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Atrial fibrillation				
Corona virus infection			YES	
Pneumonia				
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
Heart rate	150	heart beats per minute			N



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678265

Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	APIXABAN	5 MG/		5 mg, bid				
2	flecainide	50 MG/		50 mg, bid				
3	metoprolol succinate	25 MG/		25 mg, qd				

Reporter Source:

Study Report?: No

Sender Organization: ADVANZ PHARMA

503B Compounding
Outsourcing Facility?:

Literature Text: Gabriels J, Saleh M, Chang D, Epstein LM,. Inpatient Use of Mobile Continuous Telemetry for COVID-19 Patients Treated with. HeartRhythm Case Reports. unk;2020:unk



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678744

Case Information:

Case Type: EXPEDITED (15-DAY) **eSub:** Y **HP:** **Country:** FRA **Event Date:** 28-Mar-2020 **Outcomes:** HO,LT, **Application Type:** ANDA

FDA Rcvd Date: 17-Apr-2020 **Mfr Rcvd Date:** 12-Apr-2020 **Mfr Control #:** FR-TEVA-2020-FR-1224307 **Application #:** 065150

Patient Information:

Age: 67 YR **Sex:** Male **Weight:** 90 KG

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	azithromycine dihydratee			Oral	500 mg D1 then 250 mg per day	Corona virus infection	26-Mar-2020	28-Mar-2020
2	PLAQUENIL		600 MG/	Oral	600 mg	Corona virus infection	26-Mar-2020	28-Mar-2020

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	azithromycine dihydratee	2 Day	Yes	NA	Unknown				
2	PLAQUENIL	2 Day	Yes	NA	Unknown				

Event Information:

Preferred Term (MedDRA A Version: 22.1)

Ventricular extrasystoles

Ventricular tachycardia

ReC

NA

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678744

Event/Problem Narrative:

12-Apr-2020, Spontaneous, Health authority Serious report . (Report duplicates - AFSSAPS: FR-AFSSAPS-RE20200302)
A Pharmacist reported the case of a 67-Years-old Male patient who received PLAQUENIL (HYDROXYCHLOROQUINE PHOSPHATE, not Teva's product), azithromycine dihydrate (AZITHROMYCIN, Product cannot be excluded as a Teva product).
The patient took azithromycine dihydrate for CORONA VIRUS INFECTION (AZITHROMYCIN, Oral, from 26-Mar-2020, until 28-Mar-2020, 500 mg D1 then 250 mg per day) batch: Unknown, PLAQUENIL for CORONA VIRUS INFECTION (HYDROXYCHLOROQUINE PHOSPHATE, Oral, from 26-Mar-2020, until 28-Mar-2020, 600 mg) batch: Unknown.
While on the suspect medications, the patient experienced VENTRICULAR TACHYCARDIA(Serious , since (b) (6)); VENTRICULAR EXTRASYSTOLES(Serious , since (b) (6)) .
At the time of the report the outcome of the AEs were: VENTRICULAR EXTRASYSTOLES:Recovered/resolved, VENTRICULAR TACHYCARDIA:Recovered/resolved.
Action taken with suspect drugs: azithromycine dihydrate - Drug discontinued; PLAQUENIL - Drug discontinued.

The patient had medical history of CORONA VIRUS INFECTION(Unknown if Continuing), RHEUMATOID ARTHRITIS(Unknown if Continuing), OBESITY(Unknown if Continuing).

The patient's concomitant medication were unspecified.
The patient's past medication were unspecified.

Lab tests were not reported.
This case was considered serious based on the following criteria: (Life Threatening, Hospitalization Required)
Because this is a spontaneous case, regulatory distribution will be handled as though it is a related case.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Corona virus infection			UNKNOWN	
Obesity			UNKNOWN	
Rheumatoid arthritis			UNKNOWN	
Medical History Product(s)	Start Date	End Date	Indications	Events



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678744

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: TEVA

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678836

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: FRA Event Date: 23-Mar-2020 Outcomes: DE,OT, Application Type: ANDA

FDA Rcvd Date: 17-Apr-2020 Mfr Rcvd Date: 08-Apr-2020 Mfr Control #: FR-AUROBINDO-AUR-APL-2020-017962 Application #: 201043

Patient Information:

Age: 88 YR Sex: Female Weight: KG

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Levofloxacin Arrow film-coated tablets 500mg		1000 MG/QD	Oral	1000 milligram, Once a Day	Pyelonephritis acute	19-Mar-2020	
2	Levofloxacin Arrow film-coated tablets 500mg		500 MG/QD	Oral	500 milligram, Once a Day	Pneumonia	19-Mar-2020	
3	Plaquenil		600 MG/QD	Oral	600 milligram, Once a Day	Corona virus infection	20-Mar-2020	

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Levofloxacin Arrow film-coated tablets 500mg	4 Day	NA	NA				AUROBINDO	
2	Levofloxacin Arrow film-coated tablets 500mg	4 Day	NA	NA				AUROBINDO	
3	Plaquenil	3 Day	NA	NA					

Event Information:

Preferred Term (MedDRA ® Version: 22.1) ReC

Cardio-respiratory arrest NA

Electrocardiogram QT prolonged NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678836

Event/Problem Narrative:

Initial report received on 08-Apr-2020: This is a spontaneous report received from Eudravigilance Database Management System (EVDMS) with ADR reference number FR-AFSSAPS-PP20200220, by physician.

This report concerned about 88-year-old elderly female patient with body weight 64 kgs from France.

Medical history of the patient included coronavirus infection, type 2 diabetes mellitus, cognitive deterioration, peripheral obliterative arteriopathy, hypertension and kidney failure chronic on unknown date. Historical drugs of the patient were not reported.

Concomitant medications were not reported.

On 19-Mar-2020, the patient received levofloxacin arrow film-coated tablets 500mg at a dose of 1000 milligram, frequency once a day via oral route for pyelonephritis acute, levofloxacin arrow film-coated tablets 500mg at a dose of 500 milligram, frequency once a day via oral route superinfection lung and on 20-Mar-2020 Plaquenil (hydroxychloroquine sulfate) film coated tablet 200 milligram at a dose of 600 milligram, frequency once a day via oral route for coronavirus infection.

On (b) (6) the patient's QT was increased and on (b) (6) the patient experienced cardio-respiratory arrest.

On (b) (6) the patient died due to cardio-respiratory arrest and QT increased. Autopsy details were unknown.

Laboratorial examinations and treatment medication were not reported.

The outcome of the events electrocardiogram QT prolonged and cardio-respiratory arrest was fatal.

The case was assessed as serious death, medically significant for the event electrocardiogram QT prolonged and cardio-respiratory arrest .

Additional information received on 09-Apr-2020 from Eudravigilance Database Management System (EVDMS) with ADR number FR-AFSSAPS-PP20200220 by physician.

New information was added regarding medical history (type 2 diabetes mellitus, cognitive deterioration, peripheral obliterative arteriopathy, hypertension, kidney failure chronic), event (cardio-respiratory arrest) and suspect product dosage, indication (levofloxacin 500 mg, once a day for superinfection lung).

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
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FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17678836

Chronic kidney disease

Cognitive disorder

Corona virus infection

Hypertension

Peripheral arterial occlusive disease

Type 2 diabetes mellitus

Medical History Product(s)	Start Date	End Date	Indications	Events
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Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: AUROBINDO

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17681818

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: ESP Event Date: 03-Apr-2020 Outcomes: HO,OT,

Application Type: ANDA

FDA Rcvd Date: 17-Apr-2020 Mfr Rcvd Date: 15-Apr-2020 Mfr Control #: ES-AUROBINDO-AUR-APL-2020-019820

Application #: 203294

Patient Information:

Age: 73 YR

Sex: Male

Weight:

Suspect Products:

Suspect Products:									
#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	
1	Azithromycin		500 MG/QD	Oral	500 milligram, Once a Day	Corona virus infection	22-Mar-2020	07-Apr-2020	
2	Dolquine		400 MG/QD	Oral	400 milligram, Once a Day	Pneumonia	20-Mar-2020	07-Apr-2020	
3	Dolquine					Corona virus infection			
4	Ertapenem		1 G/QD	Intravenous (not otherwise specified)	1 gram, Once a Day	Corona virus infection	24-Mar-2020	03-Apr-2020	
5	Piperacillin+Tazobactam 4/0.5g Powderforsolutionforinfusio n		QD	Intravenous (not otherwise specified)	UNK UNK, Once a Day	Corona virus infection	21-Mar-2020	05-Apr-2020	
#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Azithromycin	12 Day	Yes	Unk				AUROBINDO	
2	Dolquine	14 Day	Yes	Unk					
3	Dolquine	14 Day	Yes	Unk					
4	Ertapenem	10 Day	Yes	NA				AUROBINDO	
5	Piperacillin+Tazobactam 4/0.5g Powderforsolutionforinfusio n	13 Day	Yes	Unk				AUROBINDO	



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17681818

Event Information:

Preferred Term (MedDRA ® Version: 22.1)

ReC

Bradycardia

NA

Haemorrhage

NA

Hepatitis acute

NA

Event/Problem Narrative:

Initial report received on 15-Apr-2020: This is a spontaneous report received from Eudravigilance Database Management System (EVDMS) with ADR reference number ES-AEMPS-621313, by physician.

This report concerned about 73-year-old elderly male patient from Spain.

Medical history and historical drugs of the patient were not reported.

Concomitant medications were not reported.

On 20-Mar-2020, the patient received Dolquine (hydroxychloroquine sulfate) coated tablet 200 milligram at a dose of 400 milligram, frequency once a day via oral route for pneumonia, neumonia COVID 19, on 21-Mar-2020, piperacillin tazobactam 4/0.5g powder for solution for infusion at an unknown dose, frequency once a day via intravenous route for coronavirus infection, on 22-Mar-2020, azithromycin with unknown strength, formulation at a dose of 500 milligram, frequency once a day via oral route for coronavirus infection, on 24-Mar-2020, ertapenem with unknown strength, formulation at a dose of 1 gram, frequency once a day via intravenous route for coronavirus infection and on 07-Apr-2020, the patient received last dose of Dolquine (hydroxychloroquine sulfate).

On (b) (6) the patient experienced hemorrhage, on (b) (6) bradycardia and on (b) (6) hepatitis acute.

Laboratorial examinations and treatment medication were not reported.

Action taken with the suspect product ertapenem in response to the events was discontinued on 03-Apr-2020, piperacillin tazobactam in response to the events was discontinued on 05-Apr-2020 and azithromycin in response to the events was discontinued on 07-Apr-2020

The outcome of the events haemorrhage, bradycardia and hepatitis acute was resolving.

The case was assessed as serious hospitalization, medically significant (as per IME list) for the events haemorrhage, bradycardia and hepatitis acute.

Additional information received on 16-Apr-2020 from Eudravigilance Database Management System (EVDMS) with ADR number ES-AEMPS-621313 by physician.



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17681818

No new significant information was updated.

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?	
Medical History Product(s)	Start Date	End Date	Indications	Events

Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: AUROBINDO

503B Compounding
Outsourcing Facility?:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17681818

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17688786

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: FRA Event Date: Outcomes: DE, Application Type: NDA

FDA Rcvd Date: 21-Apr-2020 Mfr Rcvd Date: 10-Apr-2020 Mfr Control #: FR-ADVANSZ PHARMA-202004003713 Application #: 009768

Patient Information:

Age: Sex: Weight:

Suspect Products:

Suspect Products.									
#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	
1	Hydroxychloroquine			Unknown		Product use in unapproved indication			
2	AZITHROMYCIN			Unknown	UNK	Product use in unapproved indication			
3	AZITHROMYCIN					Corona virus infection			
4	Hydroxychloroquine					Corona virus infection			
#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Hydroxychloroquine		NA	NA	Unknown			CONCORDIA	
2	AZITHROMYCIN		NA	NA	Unknown				
3	AZITHROMYCIN		NA	NA					
4	Hydroxychloroquine		NA	NA				CONCORDIA	

Event Information:

Preferred Term (MedDRA ® Version: 22.1) ReC

Cardiac disorder NA

Off label use NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17688786

Event/Problem Narrative:

Case number 202004003713 is a business partner report (Reference ID:2020SA098061) sent by other healthcare professional on 10-Apr-2020.

This case was linked to cases 2020SA099419, 2020SA099411, 2020SA099420, 2020SA099424, 2020SA099422, 2020SA099423 and 2020SA099421 (cluster).

information received on 10-Apr-2020 from France regarding an unsolicited valid serious case received from a other health professional.

This case involves Adult patient who had death due to cardiac disorder and off label use indication for covid-19, while he/she was treated with hydroxychloroquine sulfate (Plaquenil) and azithromycin.

The patient's past medical history, medical treatment(s), concomitant medication(s), vaccination(s) and family history were not provided.

On an unknown date, patients started taking hydroxychloroquine sulfate (formulation, dose, frequency, route, batch: unknown) for drug use in unapproved indication (off label use indication for covid-19) and COVID-19 infection. On an unknown date, patients started taking azithromycin formulation, dose, frequency, route, batch: unknown) for off label use indication for covid-19. Since 27 March, 54 cases of cardiac disorders (onset and latency: unknown) (death) including 4 fatal, had been identified in France in patients taking this treatment, in some cases associated with azithromycin. It was unknown if an autopsy was performed. The cases reported in the territory concern hospitalized patients, aged 34 to 88 years. The pharmacologist and cardiologist emphasized at the outset that this was probably only the tip of the iceberg, 95% of the adverse effects of the drugs were not being declared on average to the pharmacovigilance system. Mortality was significantly lower in patients who had received more than 3 days of HCQ-AZ than in patients treated with other regimens.

Action taken: unknown for both suspects with cardiac disorders; not applicable for both suspect with off label use indication for covid-19

Corrective treatment: not reported for both events

Outcome: fatal for cardiac disorders; not applicable for off label use indication for covid-19.

A query mail was sent to the Business partner regarding the onset date of the events and the commencement of the suspect drug Plaquenil so that an estimated date could be calculated.

Relevant Medical History:

Disease/Surgical Procedure

Start Date

End Date

Continuing?



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17688786

Corona virus infection

Medical History Product(s)	Start Date	End Date	Indications	Events
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Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
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Reporter Source:

Study Report?: No

Sender Organization: ADVANZ PHARMA

503B Compounding
Outsourcing Facility?:

Literature Text:



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17690600

Case Information:

Case Type: EXPEDITED (15-DAY) eSub: Y HP: Country: FRA Event Date: 29-Mar-2020 Outcomes: HO,OT,

Application Type: ANDA

FDA Rcvd Date: 21-Apr-2020 Mfr Rcvd Date: 13-Apr-2020 Mfr Control #:FR-AUROBINDO-AUR-APL-2020-019705

Application #: 203294

Patient Information:

Age: 70 YR

Sex: Male

Weight: 85 KG

Suspect Products:

Suspect Products:

#	Product Name	Compounded Drug ?	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date
1	Azithromycin			Oral	UNK	Corona virus infection		
2	Plaquenil			Oral	UNK	Corona virus infection		

#	Product Name	Interval 1st Dose to Event	DeC	ReC	Lot#	Exp Date	NDC #	MFR/Labeler	OTC
1	Azithromycin		NA	NA				AUROBINDO	
2	Plaquenil		Yes	Unk					

Event Information:

Preferred Term (MedDRA Version: 22.1)

Bradycardia

Loss of consciousness

Malaise

Ventricular extrasystoles

ReC

NA

NA

NA

NA



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17690600

Event/Problem Narrative:

Initial report received on 13-Apr-2020: This spontaneous report received from Database Management System (EVDBMS) with ADR reference number FR-AFSSAPS-MP20200506, by a physician

This report concerned to a 70-year-old elderly male patient with weight 85 kg from France.

Patient's medical history included ptosis, coronavirus infection and divergent squint.

Patient's concomitant medications included Paracetamol, Lovenox (enoxaparin sodium), both drugs via oral route for unknown indication.

Patient's drug history was not reported.

On an unknown date, the Patient's had started therapy with suspect drug Azithromycin and co-suspect drug Plaquenil (Hydroxychloroquine phosphate), both drugs with unknown formulation at an unknown dose via oral route for coronavirus infection.

On (b) (6) the patient had experienced perte de connaissance (consciousness loss), extrasystole ventriculaire (extrasystole ventricular), bradycardie (bradycardia) and malaise (malaise).

Patient's relevant lab data and treatment medications were not reported.

Action taken with the co-suspect drug was drugs discontinued on an unknown date.

Outcome of the all events was resolved on (b) (6)

This case was assessed as serious bradycardia, consciousness loss (hospitalization and medically significant), extrasystole ventricula, malaise (hospitalization).

Relevant Medical History:

Disease/Surgical Procedure	Start Date	End Date	Continuing?
Corona virus infection			
Eyelid ptosis			
Strabismus			



FDA - Adverse Event Reporting System (FAERS)

FOIA Case Report Information

Case ID: 17690600

Medical History Product(s)	Start Date	End Date	Indications	Events
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Relevant Laboratory Data:

Test Name	Result	Unit	Normal Low Range	Normal High Range	Info Avail
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Concomitant Products:

#	Product Name	Dose/ Frequency	Route	Dosage Text	Indications(s)	Start Date	End Date	Interval 1st Dose to Event
1	Lovenox		Oral	UNK	Product used for unknown indication			
2	Paracetamol		Oral	UNK	Product used for unknown indication			

Reporter Source:

Study Report?: No

Sender Organization: AUROBINDO

503B Compounding
Outsourcing Facility?:

Literature Text:

Printer: CDPEDQ5

User: STEPPERH

Date - Time: 28-Apr-2020 11:42 AM

Total Number of Cases (Non-Esub): 17

Total Number of Pages: 109

Print Job Number: 21993

Disclaimers:

Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Data provided in the Quarterly Data Extract (QDE) or a FAERS FOIA report are a snapshot of FAERS at a given time. There are several reasons that a case captured in this snapshot can be marked as inactive and not show up in subsequent reports. Manufacturers are allowed to electronically delete reports they submitted if they have a valid reason for deletion. FDA may merge cases that are found to describe a single event, marking one of the duplicate reports as inactive. The data marked as inactive are not lost but may not be available under the original case number.

Processed Case Id's for Images:

17591609 17605416 17605425 17605439 17611030 17611066 17623040 17651582
17654933 17656611 17656614 17656625 17661320 17661903 17665337
17669916 17685294

Failed Case Id's for Images:

Total Failed Cases: 0

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	26-Mar-2020	CTU Received Date	26-Mar-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	65 Year(s)
Date of Birth	
Gender	Male
Weight	105.3 kg
Ethnicity (Check single best answer)	
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☒ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-34410 | Department: CDER | RCT #: RCT-796103 | CTU Triage Date: 26-Mar-2020 | AER #: 17591609 |
Total Pages: 4

Date of Death		
Date of Event	17-Mar-2020	
Date of this Report	26-Mar-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Per pharmacist internal report: QTc on (b) (6) was 482 but increased to 570 on (b) (6) with hydroxychloroquine so therapy was changed to darunavir / cobicistat (800/150 mg - 1 tablet - daily) Patient admitted on (b) (6) Transferred to ICU on (b) (6) Received plaquenil: 400 mg - (b) (6) at 1847 400 mg - (b) (6) at 0844 200 mg - (b) (6) at 1716 200 mg - (b) (6) at 0913 Additional patient information: Does take sertraline 25 mg daily (home med), utilizes hemodialysis, Haldol 1 mg IV was administered on (b) (6) at 0741 and 2 mg IV was given (b) (6) at 2152 (order was prn agitation q4 hrs) As of (b) (6) - patient is still admitted in ICU

Relevant Test/Laboratory Data

1 of 1

Test Name		Test Date	
Test Result		Test Unit	
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	No
Returned to Manufacturer on	
Do you have a picture of the product? (check yes if you are including a picture)	No

D. PRODUCT(S)

1 of 1

	Suspect	Yes			
	Does this report involve cosmetic, dietary supplement or food/medical food?				
	Primary?	Yes			
	Type	Drug/Biologic			
	Product Name	plaquenil			
	Strength		If Other		
	Manufacturer/Compounder				
	NDC# or Unique ID				

Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
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Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start				
Stop				
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				

Diagnosis for Use (indication)	1 of 1
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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	
Expiration Date	
Serial #	
Unique Identifier (UDI)#	
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other
Other	
If Implanted, Give Date	
If Explanted, Give Date	

CTU #: FDA-CDER-CTU-2020-34410 | Department: CDER | RCT #: RCT-796103 | CTU Triage Date: 26-Mar-2020 | AER #: 17591609 |
Total Pages: 4

Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS**CONCOMITANT MEDICAL PRODUCT DESCRIPTION**

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G. REPORTER

1 of 1

Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	31-Mar-2020	CTU Received Date	31-Mar-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	41 Year(s)
Date of Birth	
Gender	Male
Weight	143 kg
Ethnicity (Check single best answer)	Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☒ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage
Date of Death	(b) (6)

Date of Event	29-Mar-2020	
Date of this Report	31-Mar-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Patient with no PMH admitted to ICU with COVID19 pneumonia, intubated, in ARDS and renal failure. Received 5 days of hydroxychloroquine (200 mg TID) last dose on (b) (6). He also received 7 days of ceftriaxone 2 g IV q 24 hours and doxycycline 100 mg BID for community acquired pneumonia. Prior to starting hydroxychloroquine, he had a baseline EKG of 472 on (b) (6). On (b) (6) he went into VTach, then PEA arrest, and was unable to be resuscitated.	
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Relevant Test/Laboratory Data

1 of 2

Test Name	POTASSIUM	Test Date	(b) (6)	
Test Result	5.6	Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Relevant Test/Laboratory Data

2 of 2

Test Name	MAGNESIUM	Test Date	(b) (6)	
Test Result	3.2	Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

obesity	
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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	No	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)

1 of 9

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	

Product Name	Hydroxychloroquine		
Strength	200 mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID	00781140797		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Doesn't Apply		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy

1 of 1

Dose or Amount	200 mg milligram(s)	If Other	
Frequency	3 times a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start			
Stop			
Therapy Duration	5 Day	If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

2 of 9

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Acetaminophen		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			

Event Reappeared after Reintroduction ?		
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Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	3 of 9
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	Concomitant	Yes			
	Does this report involve cosmetic, dietary supplement or food/medical food?				
	Primary?				
	Type	Drug/Biologic			
	Product Name	Ceftriaxone			
	Strength		If Other		
	Manufacturer/Compounder				
	NDC# or Unique ID				
	Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar			
	Event Abated After Use Stopped or Dose Reduced?				
	Event Reappeared after Reintroduction ?				

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	

Is therapy still on-going?		
Lot Number		
Expiration Date		
Diagnosis for Use (indication)		1 of 1

D. PRODUCT(S)		4 of 9	
Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Cisatricurium		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy		1 of 1	
Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)		1 of 1	

D. PRODUCT(S)		5 of 9	
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	doxycycline		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

6 of 9

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	fentanyl		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			

Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy				1 of 1
Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start				
Stop				
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				

Diagnosis for Use (indication)		1 of 1

D. PRODUCT(S)				7 of 9
Concomitant	Yes			
Does this report involve cosmetic, dietary supplement or food/medical food?				
Primary?				
Type	Drug/Biologic			
Product Name	heparin			
Strength		If Other		
Manufacturer/Compounder				
NDC# or Unique ID				
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar			
Event Abated After Use Stopped or Dose Reduced?				
Event Reappeared after Reintroduction ?				

Drug Therapy				1 of 1
Dose or Amount		If Other		
Frequency		If Other		

Route		If Other		
Dosage Form				
Start				
Stop				
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				
Diagnosis for Use (indication)				1 of 1

D. PRODUCT(S)				8 of 9
Concomitant	Yes			
Does this report involve cosmetic, dietary supplement or food/medical food?				
Primary?				
Type	Drug/Biologic			
Product Name	pantoprazole			
Strength		If Other		
Manufacturer/Compounder	-			
NDC# or Unique ID				
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar			
Event Abated After Use Stopped or Dose Reduced?				
Event Reappeared after Reintroduction ?				

Drug Therapy				1 of 1
Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start				
Stop				
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				
Diagnosis for Use (indication)				1 of 1

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D. PRODUCT(S)	9 of 9
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	midazolam		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	

City		
State		
Model #		
Lot #		
Catalog #		
Expiration Date		
Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS**CONCOMITANT MEDICAL PRODUCT DESCRIPTION**

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G. REPORTER

1 of 1

Primary?	Yes	
Reporter is Patient?		
Title		
Last Name	(b) (6)	
Middle Name		
First Name	(b) (6)	
Address	(b) (6)	
City	(b) (6)	
State/Province/Region	(b) (6)	
Country	UNITED STATES	If Other
ZIP/Postal Code	(b) (6)	
Phone	(b) (6)	
Email	(b) (6)	
Fax		
Reporter Organization		

	Department			
	Reporter Speciality			
	Health Professional?	Yes		
	Occupation	Pharmacist	If Other	
	Also Reported to	☐ Manufacturer/Compounder ☐ User Facility ☐ Distributor/Importer		
	If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	Yes		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	30-Mar-2020	CTU Received Date	30-Mar-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	87 Year(s)
Date of Birth	
Gender	Male
Weight	84.5 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☒ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☒ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

Date of Death		
Date of Event	27-Mar-2020	
Date of this Report	30-Mar-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Report from Clinical Pharmacist: QTc increased from 397 on (b) (6) at 2240 to 468 on (b) (6) at 0453, which is a >15% increase leading to increased EKG monitoring. Chart review: Admitted: (b) (6) Expired: (b) (6) Weight: 84.5 kg Height: 69 inches CrCL: 12 mL/min COVID positive test: (b) (6) Home medications: ? Amlodipine 5 mg daily ? Atenolol 100 mg daily ? Atorvastatin 40 mg nightly ? Chlorthalidone 25 mg daily ? Furosemide 20 mg daily prn swelling of legs ? Loratadine 10 mg daily ? Losartan 50 mg dily ? Meclizine 25 mg three a day as prn for dizziness ? TiZANidine 4 mg q6 hrs prn muscle spasms Information from H&P: pleasant 87 y.o. old male with CAD, HTN, history of prostate cancer, CKD stage III who presented to the (b) (6) ED with complaints of malodorous urine. He has had prior hx UTIs. He also complains of mild cough. He denies known ill contacts. He denies myalgias. Further history is limited; pt is a poor historian. ED course: vancomycin, meropenem, 900 ml LR bolus ? Hydroxychlorquine: 400 mg given (b) (6) at 1817; (b) (6) at 0951 ? Hydroxychlorquine: 200 mg given (b) (6) at 1648, (b) (6) at 0936 and 1750, missed both doses on (b) (6) (RN comments state pt on bipap); (b) (6) at 0829 ? One dose of azithromycin 250 mg tablet given ? (b) (6) at 0830 No treatment of QTc prolongation noted in chart

Relevant Test/Laboratory Data

1 of 1

Test Name		Test Date	
Test Result		Test Unit	
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	No
Returned to Manufacturer on	
Do you have a picture of the product? (check yes if you are including a picture)	No

D. PRODUCT(S)

1 of 2

Suspect	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	Yes
Type	Drug/Biologic
Product Name	hydrochlorquine

CTU #: FDA-CDER-CTU-2020-35258 | Department: CDER | RCT #: RCT-797248 | CTU Triage Date: 30-Mar-2020 | AER #: 17605425 |
Total Pages: 5

Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	24-Mar-2020		
Stop	28-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

COVID-19	
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D. PRODUCT(S)

2 of 2

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	azithromycin 250 mg tablet		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy				1 of 1
Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start	27-Mar-2020			
Stop	27-Mar-2020			
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				
Diagnosis for Use (indication)				1 of 1

E. SUSPECT MEDICAL DEVICE			
Brand Name			
Common Device Name			
Procode			
Manufacturer Name			
City			
State			
Model #			
Lot #			
Catalog #			
Expiration Date			
Serial #			
Unique Identifier (UDI)#			
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other		
Other			
If Implanted, Give Date			
If Explanted, Give Date			
Is this a single-use device that was reprocessed and reused on a patient?			
If Yes for the above field, Enter Name and Address of Reprocessor			
Was this device serviced by a third party?			

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION		

G. REPORTER			1 of 1
Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	31-Mar-2020	CTU Received Date	31-Mar-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	85 Year(s)
Date of Birth	
Gender	Male
Weight	84 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☒ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☒ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage
Date of Death	

CTU #: FDA-CDER-CTU-2020-35758 | Department: CDER | RCT #: RCT-797714 | CTU Triage Date: 31-Mar-2020 | AER #: 17605439 |
Total Pages: 5

Date of Event	31-Mar-2020	
Date of this Report	31-Mar-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Plaquenil along with azithromycin caused wide complex tachycardia in this patient and another patient - both with COVID confirmed dx - wish FDA to retract EUA for this combination for this combination	
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Relevant Test/Laboratory Data

1 of 1

Test Name	COVID-19	Test Date	24-Mar-2020	
Test Result	positive	Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

pcr positive	
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Other Relevant History, Including Preexisting Medical Conditions

MS-underlying pulmonary fibrosis and CB-hypertension	
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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	Yes	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)

1 of 2

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	Plaquenil 400mg load then 200 mg BID	
Strength	400 mg milligram(s)	If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded	

CTU #: FDA-CDER-CTU-2020-35758 | Department: CDER | RCT #: RCT-797714 | CTU Triage Date: 31-Mar-2020 | AER #: 17605439 |
Total Pages: 5

	☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes	
Event Reappeared after Reintroduction ?	No	

Drug Therapy 1 of 1

Dose or Amount	400 mg milligram(s)	If Other	
Frequency	Other	If Other	Load - then 200mg
Route	Oral	If Other	
Dosage Form			
Start	24-Mar-2020		
Stop	31-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

covid 19 treatment but family wants the pt to recieve this d
--

D. PRODUCT(S) 2 of 2

Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	azithromycin
Strength	If Other
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy 1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			

Start	24-Mar-2020			
Stop	28-Mar-2020			
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				
Diagnosis for Use (indication)				1 of 1

E. SUSPECT MEDICAL DEVICE

Brand Name				
Common Device Name				
Procode				
Manufacturer Name				
City				
State				
Model #				
Lot #				
Catalog #				
Expiration Date				
Serial #				
Unique Identifier (UDI)#				
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other			
Other				
If Implanted, Give Date				
If Explanted, Give Date				
Is this a single-use device that was reprocessed and reused on a patient?				
If Yes for the above field, Enter Name and Address of Reprocessor				
Was this device serviced by a third party?				

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

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G. REPORTER			1 of 1
Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Physician	If Other	
Also Reported to	☐ Manufacturer/Compounder ☐ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	31-Mar-2020	CTU Received Date	31-Mar-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	61 Year(s)
Date of Birth	
Gender	Male
Weight	95.9 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☒ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☒ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☒ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-35795 | Department: CDER | RCT #: RCT-797812 | CTU Triage Date: 31-Mar-2020 | AER #: 17611030 |
Total Pages: 4

Date of Death		
Date of Event	22-Mar-2020	
Date of this Report	31-Mar-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Reported on 3.27 by clinical pharmacist -Pt admitted: (b) (6) -BMI: 182.9 -ht: 6 ft -CrCl: 31.3 mL/min -Pt expired on (b) (6) discharge summary states "Patient died while hospitalized for pneumonia, and was found to be COVID19 positive. Preliminary cause of death viral pneumonia from COVID19." -PTA Med List: allopurinol 300 mg daily amiodrone 200 mg every other day amlodipine 10 mg daily aspirin 81 mg daily carvedilol 25 g daily clopidogrel 75 mg daily fluticasone one spray each nostril daily hydralazine 25 mg three times a day hydrocodone/apap 5/325 one table q6 hrs prn pain isosorbide dinitrate 20 mg three times a day levetiracetam 1000 mg twice a day levothyroxine 50 mcg daily metolazone 1.25 mg prn CHF multivitamin daily pravastatin 40 mg daily ranitidine 150 mg twice a day sertraline 50 mg daily Tamsulosin 0.4 mg daily torsemide 40 mg daily report from clinical pharmacist states "COVID patient QTc of 624 from 541" MAR states: -Plaquenil 400 mg: (b) (6) at 0818 and 1711 -abx: vanc and cefepime

Relevant Test/Laboratory Data 1 of 1

Test Name		Test Date	
Test Result		Test Unit	
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	
Returned to Manufacturer on	
Do you have a picture of the product? (check yes if you are including a picture)	No

D. PRODUCT(S) 1 of 1

	Suspect	Yes			
	Does this report involve cosmetic, dietary supplement or food/medical food?				
	Primary?	Yes			
	Type	Drug/Biologic			
	Product Name	plaquenil			
	Strength		If Other		
	Manufacturer/Compounder				

NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	
Expiration Date	
Serial #	
Unique Identifier (UDI)#	
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other
Other	
If Implanted, Give Date	
If Explanted, Give Date	

CTU #: FDA-CDER-CTU-2020-35795 | Department: CDER | RCT #: RCT-797812 | CTU Triage Date: 31-Mar-2020 | AER #: 17611030 |
Total Pages: 4

Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS**CONCOMITANT MEDICAL PRODUCT DESCRIPTION**

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G. REPORTER

1 of 1

Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	01-Apr-2020	CTU Received Date	01-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	76 Year(s)
Date of Birth	
Gender	Female
Weight	77.1 kg
Ethnicity (Check single best answer)	
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☒ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-36026 | Department: CDER | RCT #: RCT-798060 | CTU Triage Date: 01-Apr-2020 | AER #: 17611066 |
Total Pages: 5

Date of Death		
Date of Event	25-Mar-2020	
Date of this Report	01-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Clinical Pharmacist report states "COVID 19 patient Patient received hydroxychloroquine and azithromycin as part of COVID therapy. QTc prolonged to 577 a few days after the last doses were given. Of note, the patient's prograf level went to >60, which is possible for being the true cause of QTc prolongation." Additional Patient Information: -Height: 64 inches -CrCl: 24.7 mL/min -Admitted: (b) (6) Home Medication List: -amlodipine 10 mg daily -calcitrol 0.25 mcg twice a week (M and Th) -cinacalcet 30 mg daily -colcris 0.6 mg twice daily -furosemide 80 mg daily -gabapentin 300 mg three times a day -glargine 38 units daily -metoprolol succinate 40 mg daily -omeprazole 20 mg twice daily -tacrolimus 2 mg q12hrs -warfarin: 2.5 mg M, 5 mg all other days MAR (QTc prolongation agents) -Azithromycin 500 mg IV: (b) (6) at 1008, (b) (6) at 0801, (b) (6) at 1457, (b) (6) at 1039, (b) (6) at 1059 -Cipro 400 mg IV given (b) (6) at 0018 - Plaquenil 400 mg tablet given: (b) (6) at 1002 and 1625 -Plaquenil 200 mg tablet given: (b) (6) 0758 ad 1936, (b) (6) at 0944 and 2022; (b) (6) at 0957 and 1711; (b) (6) at 1038 and 1758 -Propofol drip continuous: (b) (6) - (b) (6) (b) (6) (b) (6)	
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Relevant Test/Laboratory Data

1 of 1

Test Name		Test Date	
Test Result		Test Unit	
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	
Returned to Manufacturer on	
Do you have a picture of the product? (check yes if you are including a picture)	No

D. PRODUCT(S)

1 of 2

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	plaquenil	
Strength		If Other

CTU #: FDA-CDER-CTU-2020-36026 | Department: CDER | RCT #: RCT-798060 | CTU Triage Date: 01-Apr-2020 | AER #: 17611066 |
Total Pages: 5

Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

2 of 2

Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	azithromycin 500 mg IV
Strength	
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy

1 of 1

CTU #: FDA-CDER-CTU-2020-36026 | Department: CDER | RCT #: RCT-798060 | CTU Triage Date: 01-Apr-2020 | AER #: 17611066 |
Total Pages: 5

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	
Expiration Date	
Serial #	
Unique Identifier (UDI)#	
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other
Other	
If Implanted, Give Date	
If Explanted, Give Date	
Is this a single-use device that was reprocessed and reused on a patient?	
If Yes for the above field, Enter Name and Address of Reprocessor	
Was this device serviced by a third party?	

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

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G. REPORTER

1 of 1

Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	03-Apr-2020	CTU Received Date	03-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	78 Year(s)
Date of Birth	
Gender	Male
Weight	81 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☒ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-37235 | Department: CDER | RCT #: RCT-799111 | CTU Triage Date: 03-Apr-2020 | AER #: 17623040 |
Total Pages: 5

Date of Death		
Date of Event	25-Mar-2020	
Date of this Report	03-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: QTC prolongation	
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Relevant Test/Laboratory Data 1 of 1

Test Name	ELECTROCARDIOGRAM	Test Date	25-Mar-2020	
Test Result	479	Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

Up from baseline = 422	
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Other Relevant History, Including Preexisting Medical Conditions

COVID +	
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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	No	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S) 1 of 2

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	hydroxychloroquine	
Strength	200 mg milligram(s)	If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC	

	☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes	
Event Reappeared after Reintroduction ?	Doesn't Apply	

Drug Therapy	1 of 1
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Dose or Amount	200 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	20-Mar-2020		
Stop	24-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	2 of 2
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Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	azithromycin		
Strength	500 mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Yes		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy	1 of 1
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Dose or Amount	500 mg milligram(s)	If Other	
Frequency	Daily	If Other	
Route	Oral	If Other	

Dosage Form			
Start	20-Mar-2020		
Stop	24-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			
Diagnosis for Use (indication) 1 of 1			

E. SUSPECT MEDICAL DEVICE

Brand Name			
Common Device Name			
Procode			
Manufacturer Name			
City			
State			
Model #			
Lot #			
Catalog #			
Expiration Date			
Serial #			
Unique Identifier (UDI)#			
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other		
Other			
If Implanted, Give Date			
If Explanted, Give Date			
Is this a single-use device that was reprocessed and reused on a patient?			
If Yes for the above field, Enter Name and Address of Reprocessor			
Was this device serviced by a third party?			

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

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G. REPORTER

1 of 1

Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	Yes		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	08-Apr-2020	CTU Received Date	08-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	Unspecified
Age	79 Year(s)
Date of Birth	
Gender	Male
Weight	70.4 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☒ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-38427 | Department: CDER | RCT #: RCT-800236 | CTU Triage Date: 08-Apr-2020 | AER #: 17651582 |
Total Pages: 7

Date of Death		
Date of Event	08-Apr-2020	
Date of this Report	08-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Patient tested positive for COVID-19. Was prescribed hydroxychloroquine and azithromycin. Prior to admission medication of amiodarone was continued on admission. Drug-Drug interaction between hydroxychloroquine/azithromycin/amiodarone lead to prolonged QTc requiring discontinuation of hydroxychloroquine. Baseline QTc was 480 msec. QTc when hydroxychloroquine discontinued was 510 msec.	
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Relevant Test/Laboratory Data

1 of 1

Test Name	QTC	Test Date	(b) (6)	
Test Result	510	Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	Yes	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)

1 of 5

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	Hydroxychloroquine	
Strength	200 mg milligram(s)	If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC	

CTU #: FDA-CDER-CTU-2020-38427 | Department: CDER | RCT #: RCT-800236 | CTU Triage Date: 08-Apr-2020 | AER #: 17651582 |
Total Pages: 7

	☐ Compounded ☒ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes	
Event Reappeared after Reintroduction ?	Doesn't Apply	

Drug Therapy				1 of 1
Dose or Amount	200 mg milligram(s)	If Other		
Frequency	Twice a day	If Other		
Route	Oral	If Other		
Dosage Form				
Start	06-Apr-2020			
Stop	08-Apr-2020			
Therapy Duration		If Other		
Is therapy still on-going?	No			
Lot Number				
Expiration Date				

Diagnosis for Use (indication)		1 of 1
COVID19		

D. PRODUCT(S)				2 of 5
Suspect	Yes			
Does this report involve cosmetic, dietary supplement or food/medical food?				
Primary?				
Type	Drug/Biologic			
Product Name	amiodarone			
Strength	200 mg milligram(s)	If Other		
Manufacturer/Compounder				
NDC# or Unique ID				
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar			
Event Abated After Use Stopped or Dose Reduced?	No			
Event Reappeared after Reintroduction ?	Doesn't Apply			

Drug Therapy				1 of 1
Dose or Amount	200 mg milligram(s)	If Other		
Frequency	Daily	If Other		
Route	Oral	If Other		

CTU #: FDA-CDER-CTU-2020-38427 | Department: CDER | RCT #: RCT-800236 | CTU Triage Date: 08-Apr-2020 | AER #: 17651582 |
Total Pages: 7

Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?	Yes		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1

D. PRODUCT(S)	3 of 5		
Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	amidoarone		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID	-		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1		
Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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CTU #: FDA-CDER-CTU-2020-38427 | Department: CDER | RCT #: RCT-800236 | CTU Triage Date: 08-Apr-2020 | AER #: 17651582 |
Total Pages: 7

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D. PRODUCT(S)	4 of 5
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	hydroxychloroquine		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	06-Apr-2020		
Stop	08-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	5 of 5
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			

CTU #: FDA-CDER-CTU-2020-38427 | Department: CDER | RCT #: RCT-800236 | CTU Triage Date: 08-Apr-2020 | AER #: 17651582 |
Total Pages: 7

Type	Drug/Biologic		
Product Name	azithromycin		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	06-Apr-2020		
Stop	08-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	
Expiration Date	
Serial #	
Unique Identifier (UDI)#	
Operator of Device	☐ Health Professional ☐ Patient/Consumer

	☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS**CONCOMITANT MEDICAL PRODUCT DESCRIPTION**

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G. REPORTER

1 of 1

Primary?	Yes	
Reporter is Patient?		
Title		
Last Name	(b) (6)	
Middle Name		
First Name	(b) (6)	
Address	(b) (6)	
City	(b) (6)	
State/Province/Region	(b) (6)	
Country	UNITED STATES	If Other
ZIP/Postal Code	(b) (6)	
Phone	(b) (6)	
Email	(b) (6)	
Fax		
Reporter Organization		
Department		
Reporter Speciality		
Health Professional?	Yes	
Occupation	Pharmacist	If Other
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer	
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	Yes	

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	09-Apr-2020	CTU Received Date	09-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	64 Year(s)
Date of Birth	
Gender	Male
Weight	68.04 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☒ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☒ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

Date of Death	(b) (6)	
Date of Event	08-Apr-2020	
Date of this Report	09-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Report submission due to patient receiving hydroxychloroquine during hospitalization. Pt required intubation after ETT leak, ER MD informed, Pulmonologist attempted reintubation but was unsuccessful. HR drop to 40, Code blue paged, ACLS protocol initiated, Code blue terminated. Pt expired.	
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Relevant Test/Laboratory Data

1 of 3

Test Name	ECG	Test Date	(b) (6)	
Test Result	Abnormal	Test Unit	UNKNOWN	
Low Test Range		High Test Range		
More Information Available?				

Relevant Test/Laboratory Data

2 of 3

Test Name	SARS-COV-2, NAA*	Test Date	(b) (6)	
Test Result	NOT DETECTED	Test Unit	UNKNOWN	
Low Test Range		High Test Range		
More Information Available?				

Relevant Test/Laboratory Data

3 of 3

Test Name	RSV AG	Test Date		
Test Result	NEGATIVE	Test Unit	UNKNOWN	
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

ECG RESULTS: Vent rate 138 bpm PR interval 96 ms QRS duration 96 ms QT/QTc: 358/542 ms P-R-T axes * 4 48 Sinus tachycardia with short PR incomplete right bundle branch block ST & T wave abnormality, consider inferior ischemia Abnormal ECG	
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Other Relevant History, Including Preexisting Medical Conditions

SOB, CHF, Troponin I mildly elevated (0.76), D-dimer above reference range, AST/SGOT level abnormal, T2DM uncontrolled, hypoxemia, pneumonia, PE, lactic acidemia, fever, Suspected COVID-19 viral syndrome Hx of atherosclerotic heart disease post stent placement in the past, hx of DM and hyperlipidemia, on glyburide and simvastatin 3-week hx of poor appetite, somnolent the past several days, increasing dyspnea on minimal exertion for 3 days, could not walk from bed to bathroom, became very SOB CXR shows upper lobe infiltrate, suggestive of severe pneumonia, possibility of PE in LLL pulmonary, EKG no acute changes	
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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	Yes	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	Yes	

D. PRODUCT(S) 1 of 19

Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?	Yes		
Type	Drug/Biologic		
Product Name	Hydroxychloroquine		
Strength	200 mg milligram(s)	If Other	
Manufacturer/Compounder	Teva		
NDC# or Unique ID	0591-3041-01		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Doesn't Apply		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy 1 of 1

Dose or Amount	400 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	04-Apr-2020		
Stop	05-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number	1376323M		
Expiration Date	31-Jul-2021		

Diagnosis for Use (indication) 1 of 1

Suspected COVID-19

D. PRODUCT(S) 2 of 19

Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Hydroxychloroquine		
Strength	200 mg milligram(s)	If Other	
Manufacturer/Compounder	Teva		

CTU #: FDA-CDER-CTU-2020-38928 | Department: CDER | RCT #: RCT-800862 | CTU Triage Date: 09-Apr-2020 | AER #: 17654933 |
Total Pages: 20

NDC# or Unique ID	0591304101		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☒ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Doesn't Apply		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy	1 of 1
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Dose or Amount	200 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	05-Apr-2020		
Stop	06-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number	1376323M		
Expiration Date	31-Jul-2021		

Diagnosis for Use (indication)	1 of 1
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Suspected COVID-19

D. PRODUCT(S)	3 of 19
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Azithromycin		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
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CTU #: FDA-CDER-CTU-2020-38928 | Department: CDER | RCT #: RCT-800862 | CTU Triage Date: 09-Apr-2020 | AER #: 17654933 |
Total Pages: 20

Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop	07-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

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D. PRODUCT(S) 4 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Albuterol		
Strength	-	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy 1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

CTU #: FDA-CDER-CTU-2020-38928 | Department: CDER | RCT #: RCT-800862 | CTU Triage Date: 09-Apr-2020 | AER #: 17654933 |
Total Pages: 20

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D. PRODUCT(S) 5 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Lasix		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy 1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop	04-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

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D. PRODUCT(S) 6 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			

CTU #: FDA-CDER-CTU-2020-38928 | Department: CDER | RCT #: RCT-800862 | CTU Triage Date: 09-Apr-2020 | AER #: 17654933 |
Total Pages: 20

Type	Drug/Biologic		
Product Name	Zosyn		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

7 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Humulin R		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		

Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop	04-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	8 of 19
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	Concomitant	Yes			
	Does this report involve cosmetic, dietary supplement or food/medical food?				
	Primary?				
	Type	Drug/Biologic			
	Product Name	Vancomycin			
	Strength		If Other		
	Manufacturer/Compounder				
	NDC# or Unique ID				
	Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar			
	Event Abated After Use Stopped or Dose Reduced?				
	Event Reappeared after Reintroduction ?				

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop			

Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	9 of 19
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Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	Lovenox
Strength	
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S) 10 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Tamiflu		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy 1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

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D. PRODUCT(S) 11 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Rocephin		
Strength		If Other	
Manufacturer/Compounder			

CTU #: FDA-CDER-CTU-2020-38928 | Department: CDER | RCT #: RCT-800862 | CTU Triage Date: 09-Apr-2020 | AER #: 17654933 |
Total Pages: 20

NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	04-Apr-2020		
Stop	07-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	12 of 19
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Acetaminophen		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
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Total Pages: 20

Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

13 of 19

Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	Zofran
Strength	- If Other
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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Total Pages: 20

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D. PRODUCT(S)	14 of 19
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	NS		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	05-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	15 of 19
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Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			

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Total Pages: 20

Type	Drug/Biologic		
Product Name	D50W		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	05-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

16 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Pravachol		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		

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Total Pages: 20

Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	05-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	17 of 19
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	Concomitant	Yes			
	Does this report involve cosmetic, dietary supplement or food/medical food?				
	Primary?				
	Type	Drug/Biologic			
	Product Name	Ativan			
	Strength		If Other		
	Manufacturer/Compounder				
	NDC# or Unique ID				
	Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar			
	Event Abated After Use Stopped or Dose Reduced?				
	Event Reappeared after Reintroduction ?				

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	05-Apr-2020		
Stop	05-Apr-2020		

Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			
Diagnosis for Use (indication)			1 of 1

D. PRODUCT(S)			18 of 19
Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Doxycycline		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy			1 of 1
Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	07-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)			1 of 1

D. PRODUCT(S) 19 of 19

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Propofol		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy 1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	08-Apr-2020		
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication) 1 of 1

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E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	

Expiration Date		
Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

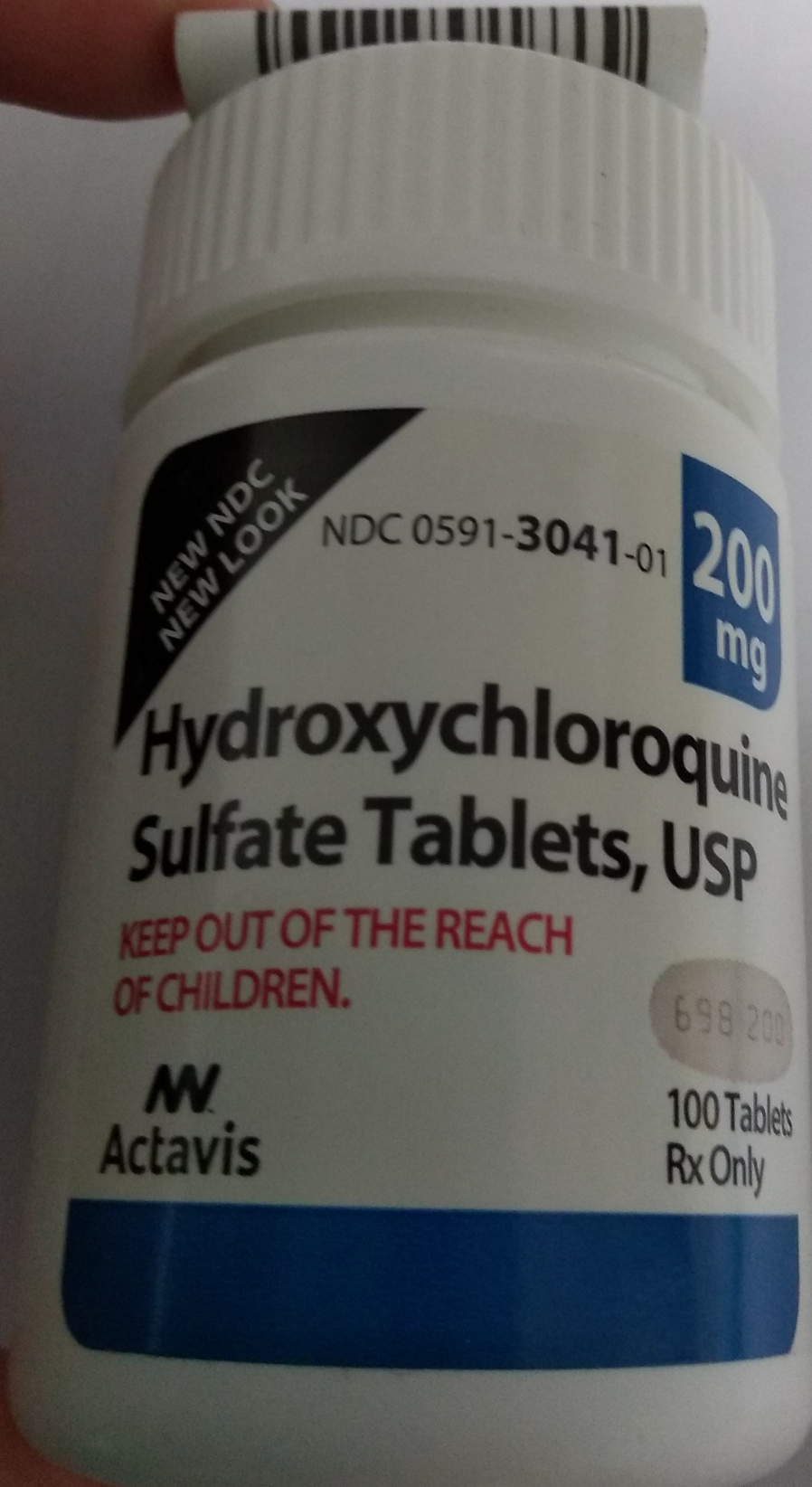
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G. REPORTER

1 of 1

Primary?	Yes	
Reporter is Patient?		
Title		
Last Name	(b) (6)	
Middle Name		
First Name	(b) (6)	
Address	(b) (6)	
City	(b) (6)	
State/Province/Region	(b) (6)	
Country	UNITED STATES	If Other
ZIP/Postal Code	(b) (6)	
Phone	(b) (6)	
Email	(b) (6)	
Fax		
Reporter Organization		
Department		
Reporter Speciality		
Health Professional?	Yes	
Occupation	Pharmacist	If Other
Also Reported to	☐ Manufacturer/Compounder	

		☐ User Facility	
		☐ Distributor/Importer	
	If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No	



All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	10-Apr-2020	CTU Received Date	10-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	
Date of Birth	(b) (6)
Gender	Female
Weight	105 kg
Ethnicity (Check single best answer)	Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

Date of Death		
Date of Event	28-Mar-2020	
Date of this Report	10-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: 63 year old female who is SARS-CoV-2 positive, and is currently on a ventilator. The patient was started on azithromycin 500 mg IV piggyback daily for bilateral pneumonia on (b) (6) and then was initiated on hydroxychloroquine and lopinavir-ritonavir (kaletra) on (b) (6). Patient's baseline QTc while on Azithromycin was between 340-360 msec. Patient received two doses of hydroxychloroquine 400 mg BID and one dose of kaletra 400mg-100mg BID on (b) (6). On (b) (6) the patient also received ondansetron 4 mg iv push once and a dose of promethazine 12.5 mg IM once as well. On (b) (6) patient received two doses of hydroxychloroquine 200 mg BID and two doses of kaletra 400mg-100mg BID. On (b) (6) at 1404, patient's QTc was 482 msec, leading to the discontinuation of Kaletra and hydroxychloroquine by the critical care intensivist. On (b) (6) at 0633, the patient's QTc increased to 520 msec and azithromycin was discontinued. Patient's potassium levels are all within normal range as well. At 2256, the patient's QTc went down to 500 msec. On (b) (6) at 0134, pt's QTc further decreased to 421 msec.
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Relevant Test/Laboratory Data

1 of 4

Test Name	QTC	Test Date	(b) (6)
Test Result	0.52	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

2 of 4

Test Name	QTC	Test Date	(b) (6)
Test Result	0.5	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

3 of 4

Test Name	QTC	Test Date	(b) (6)
Test Result	0.421	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

4 of 4

Test Name	SERUM POTASSIUM	Test Date	(b) (6)
Test Result	4.3	Test Unit	MILLIEQUIVALENTS PER LITRE
Low Test Range	3.7	High Test Range	5.9
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	Yes	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)

1 of 4

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	Azithromycin	
Strength	500 mg milligram(s)	If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes	
Event Reappeared after Reintroduction ?	Doesn't Apply	

Drug Therapy

1 of 1

Dose or Amount	500 mg milligram(s)	If Other	
Frequency	Daily	If Other	
Route	Intravenous (Not otherwise specified)	If Other	
Dosage Form			
Start	25-Mar-2020		
Stop	28-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

Community-acquired pneumonia, SARS-CoV-2	
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D. PRODUCT(S)	2 of 4
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Concomitant	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?		
Type	Drug/Biologic	
Product Name	Hydroxychloroquine 400 mg	
Strength		If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
--------------	--------

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	26-Mar-2020		
Stop	27-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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D. PRODUCT(S)	3 of 4
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Concomitant	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?		

Type	Drug/Biologic		
Product Name	Hydroxychloroquine 200 mg		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	27-Mar-2020		
Stop	27-Mar-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

4 of 4

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Lopinavir-ritonavir 400 mg-100 mg		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		

CTU #: FDA-CDER-CTU-2020-39378 | Department: CDER | RCT #: RCT-801213 | CTU Triage Date: 10-Apr-2020 | AER #: 17656611 |
Total Pages: 7

Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
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Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start	26-Mar-2020			
Stop	27-Mar-2020			
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				

Diagnosis for Use (indication)	1 of 1
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E. SUSPECT MEDICAL DEVICE

Brand Name		
Common Device Name		
Procode		
Manufacturer Name		
City		
State		
Model #		
Lot #		
Catalog #		
Expiration Date		
Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		

Was this device serviced by a third party?	
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F. OTHER (CONCOMITANT) MEDICAL PRODUCTS	
CONCOMITANT MEDICAL PRODUCT DESCRIPTION	

G. REPORTER			1 of 1
Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☐ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	10-Apr-2020	CTU Received Date	10-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	68 Year(s)
Date of Birth	
Gender	Male
Weight	73.9 kg
Ethnicity (Check single best answer)	
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage
Date of Death	

CTU #: FDA-CDER-CTU-2020-39382 | Department: CDER | RCT #: RCT-801217 | CTU Triage Date: 10-Apr-2020 | AER #: 17656614 |
Total Pages: 4

Date of Event	08-Apr-2020	
Date of this Report	10-Apr-2020	

Describe Event, Problem or Product Use Error		
	Describe Event, Problem, or Product Use Error: QTc prolongation while on Hydroxychloroquine for COVID-19	

Relevant Test/Laboratory Data				1 of 1
Test Name		Test Date		
Test Result		Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments	

Other Relevant History, Including Preexisting Medical Conditions	

C. PRODUCT AVAILABILITY		
Product Available for Evaluation? (Do not send product to FDA)		
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)				1 of 1
Suspect	Yes			
Does this report involve cosmetic, dietary supplement or food/medical food?				
Primary?	Yes			
Type	Drug/Biologic			
Product Name	Hydroxychloroquine			
Strength	200 mg milligram(s)	If Other		
Manufacturer/Compounder				
NDC# or Unique ID				
Product Type(check all that apply)	☐ OTC ☐ Compounded			

CTU #: FDA-CDER-CTU-2020-39382 | Department: CDER | RCT #: RCT-801217 | CTU Triage Date: 10-Apr-2020 | AER #: 17656614 |
Total Pages: 4

		☒ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes		
Event Reappeared after Reintroduction ?			

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	31-Mar-2020		
Stop	08-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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Pneumonia (Covid-19)

E. SUSPECT MEDICAL DEVICE

Brand Name	
Common Device Name	
Procode	
Manufacturer Name	
City	
State	
Model #	
Lot #	
Catalog #	
Expiration Date	
Serial #	
Unique Identifier (UDI)#	
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other
Other	
If Implanted, Give Date	
If Explanted, Give Date	
Is this a single-use device that was reprocessed and reused on a patient?	

If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS		
CONCOMITANT MEDICAL PRODUCT DESCRIPTION		

G. REPORTER				1 of 1
Primary?	Yes			
Reporter is Patient?				
Title				
Last Name	(b) (6)			
Middle Name				
First Name	(b) (6)			
Address	(b) (6)			
City	(b) (6)			
State/Province/Region	(b) (6)			
Country	UNITED STATES	If Other		
ZIP/Postal Code	(b) (6)			
Phone				
Email	(b) (6)			
Fax				
Reporter Organization				
Department				
Reporter Speciality				
Health Professional?	Yes			
Occupation	Pharmacist	If Other		
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer			
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No			

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	10-Apr-2020	CTU Received Date	10-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	
Date of Birth	(b) (6)
Gender	Male
Weight	83 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☒ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

CTU #: FDA-CDER-CTU-2020-39404 | Department: CDER | RCT #: RCT-801235 | CTU Triage Date: 10-Apr-2020 | AER #: 17656625 |
Total Pages: 7

Date of Death		
Date of Event	05-Apr-2020	
Date of this Report	10-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: 43 year old male who admitted on (b) (6) for bilateral pneumonia, influenza B, rule out COVID. Patient presented with progressive ARDS with hypoxic respiratory failure. Patient was initiated on intravenous azithromycin 500 mg daily, intravenous ceftriaxone, as well as oral oseltamivir. On (b) (6) patient was found to be SARS-CoV-2 positive. Patient was then initiated on hydroxychloroquine 400 mg po q12h x2 doses then continued on hydroxychloroquine 200 mg q12h. On (b) (6) patient was intubated and placed on mechanical ventilation. Patient's baseline EKG on (b) (6) showed patient had a QTc of 421 msec with sinus tachycardia. Patient completed 5 days of azithromycin 500 mg IV daily on (b) (6) at 2122. Patient's QTc on (b) (6) at 0546 was 529 msec with normal sinus rhythm and went as high as 650 msec at 0759. At 1515 pt's QTc went down to 497 msec. Patient's serum potassium levels were all within normal range. On (b) (6) the patient's QTc was 479 msec at 0439. The last dose of hydroxychloroquine 200 mg was administered on (b) (6) 0 at 0840.

Relevant Test/Laboratory Data

1 of 5

Test Name	QTC	Test Date	(b) (6)
Test Result	0.529	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

2 of 5

Test Name	QTC	Test Date	(b) (6)
Test Result	0.65	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

3 of 5

Test Name	QTC	Test Date	(b) (6)
Test Result	0.497	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

4 of 5

Test Name	QTC	Test Date	(b) (6)
Test Result	0.479	Test Unit	SECONDS
Low Test Range		High Test Range	
More Information Available?			

Relevant Test/Laboratory Data

5 of 5

Test Name	SERUM POTASSIUM	Test Date	(b) (6)
Test Result	4.5	Test Unit	MILLIEQUIVALENTS PER LITRE
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	Yes	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)

1 of 3

Suspect	Yes	
Does this report involve cosmetic, dietary supplement or food/medical food?		
Primary?	Yes	
Type	Drug/Biologic	
Product Name	Azithromycin	
Strength	500 mg milligram(s)	If Other
Manufacturer/Compounder		
NDC# or Unique ID		
Product Type(check all that apply)	☐ OTC ☐ Compounded ☒ Generic ☐ Biosimilar	
Event Abated After Use Stopped or Dose Reduced?	Yes	
Event Reappeared after Reintroduction ?	Doesn't Apply	

Drug Therapy

1 of 1

Dose or Amount	500 mg milligram(s)	If Other	
Frequency	Daily	If Other	
Route	Intravenous (Not otherwise specified)	If Other	
Dosage Form			
Start	31-Mar-2020		
Stop	04-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		

CTU #: FDA-CDER-CTU-2020-39404 | Department: CDER | RCT #: RCT-801235 | CTU Triage Date: 10-Apr-2020 | AER #: 17656625 |
Total Pages: 7

Lot Number	
Expiration Date	
Diagnosis for Use (indication) 1 of 1	
Community-acquired pneumonia, SARS-CoV-2	

D. PRODUCT(S) 2 of 3	
Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	Hydroxychloroquine 400 mg
Strength	If Other
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy 1 of 1	
Dose or Amount	If Other
Frequency	If Other
Route	If Other
Dosage Form	
Start	01-Apr-2020
Stop	02-Apr-2020
Therapy Duration	If Other
Is therapy still on-going?	
Lot Number	
Expiration Date	

Diagnosis for Use (indication) 1 of 1	

D. PRODUCT(S) 3 of 3	
Concomitant	Yes

CTU #: FDA-CDER-CTU-2020-39404 | Department: CDER | RCT #: RCT-801235 | CTU Triage Date: 10-Apr-2020 | AER #: 17656625 |
Total Pages: 7

Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Hydroxychloroquine 200 mg		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start	02-Apr-2020		
Stop	06-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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E. SUSPECT MEDICAL DEVICE

Brand Name			
Common Device Name			
Procode			
Manufacturer Name			
City			
State			
Model #			
Lot #			
Catalog #			
Expiration Date			

CTU #: FDA-CDER-CTU-2020-39404 | Department: CDER | RCT #: RCT-801235 | CTU Triage Date: 10-Apr-2020 | AER #: 17656625 |
Total Pages: 7

Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

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G. REPORTER

1 of 1

Primary?	Yes	
Reporter is Patient?		
Title		
Last Name	(b) (6)	
Middle Name		
First Name	(b) (6)	
Address	(b) (6)	
City	(b) (6)	
State/Province/Region	(b) (6)	
Country	UNITED STATES	If Other
ZIP/Postal Code	(b) (6)	
Phone	(b) (6)	
Email	(b) (6)	
Fax		
Reporter Organization		
Department		
Reporter Speciality		
Health Professional?	Yes	
Occupation	Pharmacist	If Other
Also Reported to	☐ Manufacturer/Compounder ☐ User Facility	

		☐ Distributor/Importer	
	If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No	

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	13-Apr-2020	CTU Received Date	13-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	40 Year(s)
Date of Birth	
Gender	Female
Weight	96 kg
Ethnicity (Check single best answer)	Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage
Date of Death	

Date of Event	08-Apr-2020	
Date of this Report	13-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Patient treated with hydroxychloroquine and Kaletra for COVID-19, developed transaminitis ALT > 5 times ULN and also QT prolongation > 500 msec	
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Relevant Test/Laboratory Data 1 of 3

Test Name	ALT	Test Date	08-Apr-2020	
Test Result	136	Test Unit	UNITS PER MILLILITRE	
Low Test Range	0	High Test Range	55	
More Information Available?				

Relevant Test/Laboratory Data 2 of 3

Test Name	ALT	Test Date	09-Apr-2020	
Test Result	216	Test Unit	UNITS PER MILLILITRE	
Low Test Range	0	High Test Range	55	
More Information Available?				

Relevant Test/Laboratory Data 3 of 3

Test Name	QTC	Test Date	09-Apr-2020	
Test Result	510	Test Unit	UNKNOWN	
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

NKDA, morbid obesity,	
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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	No	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S) 1 of 3

Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?	Yes		
Type	Drug/Biologic		
Product Name	Hydroxychloroquine		
Strength	200 mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Yes		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy

1 of 1

Dose or Amount	200 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	01-Apr-2020		
Stop	07-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

COVID-19

D. PRODUCT(S)

2 of 3

Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Lopinavir/Ritonavir		
Strength	200/50 mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			

Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	Yes
Event Reappeared after Reintroduction ?	Doesn't Apply

Drug Therapy	1 of 1
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Dose or Amount	400 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	01-Apr-2020		
Stop	06-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)	1 of 1
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COVID-19

D. PRODUCT(S)	3 of 3
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Concomitant	Yes
Does this report involve cosmetic, dietary supplement or food/medical food?	
Primary?	
Type	Drug/Biologic
Product Name	Azithromycin
Strength	
Manufacturer/Compounder	
NDC# or Unique ID	
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar
Event Abated After Use Stopped or Dose Reduced?	
Event Reappeared after Reintroduction ?	

Drug Therapy	1 of 1
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Dose or Amount		If Other	
Frequency		If Other	

	Route		If Other			
	Dosage Form					
	Start	01-Apr-2020				
	Stop	05-Apr-2020				
	Therapy Duration		If Other			
	Is therapy still on-going?					
	Lot Number					
	Expiration Date					
Diagnosis for Use (indication)						1 of 1

E. SUSPECT MEDICAL DEVICE

	Brand Name		
	Common Device Name		
	Procode		
	Manufacturer Name		
	City		
	State		
	Model #		
	Lot #		
	Catalog #		
	Expiration Date		
	Serial #		
	Unique Identifier (UDI)#		
	Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
	Other		
	If Implanted, Give Date		
	If Explanted, Give Date		
	Is this a single-use device that was reprocessed and reused on a patient?		
	If Yes for the above field, Enter Name and Address of Reprocessor		
	Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS

CONCOMITANT MEDICAL PRODUCT DESCRIPTION

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G. REPORTER

1 of 1

Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6),		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	13-Apr-2020	CTU Received Date	13-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	47 Year(s)
Date of Birth	
Gender	Male
Weight	104.3 kg
Ethnicity (Check single best answer)	
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☐ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☒ Life Threatening ☐ Hospitalization (initial or prolonged) ☐ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage

Date of Death		
Date of Event	31-Mar-2020	
Date of this Report	13-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Per clinical pharmacist internal reported event "COVID 19 patient QTc from 405 to 477 on hydroxychloroquine and azithromycin so started obtaining daily EKGs" Additional information from patient chart: -Admitted: (b) (6) -Discharged: (b) (6) (expired) -PTA home medication: Aleve 220 mg twice a day prn -No prior past medication history; Patient did have previous tobacco abuse: cessation x 15 years. Smoked 2 ppd x 5-6 years MAR (COVID-19 treatment) -azithromycin PO: 500 mg on (b) (6) (1 dose total); 250 mg PO once a day starting (b) (6) to (b) (6) (4 doses total) -ceftriaxone 1g IV q24 hours - (b) (6) to (b) (6) (5 doses total) -ceftriaxone 2 g IV q24 hours - (b) (6) (1 dose total) -hydroxychloroquine PO: 400 mg (2 doses given on (b) (6)); 200 mg twice a day given (b) (6) to (b) (6) (8 doses total) -tocilizumab 600 mg IV once: given (b) (6) (1 dose total) Other meds: -acetaminophen 650 prn mild pain q4hrs: 2 doses given on (b) (6) 2 doses given on (b) (6) -benzonatate 100 mg: 1 dose given (b) (6) 1 dose given (b) (6) -docusate 100 mg: 1 dose given (b) (6) -enoxaparin 40 mg SubQ daily: Given (b) (6) - (b) (6) -Hydrocodone/APAP 5/325 1 tablet q4 hrs prn severe pain: 3 doses given (b) (6) 6 doses given on (b) (6), (b) (6) (b) (6), and (b) (6) 5 doses given on (b) (6) -Isovue-370: 75 mL given on (b) (6) -Miralax: 1 dose given on (b) (6) and (b) (6) -Tramadol 50 mg prn moderate pain q6hrs: 1 dose (b) (6) 3 doses (b) (6) Discharge Note - Hospital Course: This is a 47 y.o. male with no PMH who presents complaining of fever, cough, shortness of breath. He was diagnosed with PNA due to Covid 19. He had completed his course of azithromycin and plaquinil. He was also on a course of rocephin for possible superimposed bacterial PNA. The patient had been reporting subjective improvement daily, but objectively was not making progress. Repeated inflammatory markers were trending up, oxygen was stable at 10L. CT chest showed Widespread bilateral ground-glass opacities diffusely throughout both lungs, but no evidence for PE. ID was consulted. The patient received a dose of tocilizumab. (b) (6) code blue was called and ACLS per protocol was administered. The patient was unable to be revived.

Relevant Test/Laboratory Data

1 of 1

Test Name		Test Date	
Test Result		Test Unit	
Low Test Range		High Test Range	
More Information Available?			

Additional Comments

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Other Relevant History, Including Preexisting Medical Conditions

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C. PRODUCT AVAILABILITY

Product Available for Evaluation? (Do not send product to FDA)	
Returned to Manufacturer on	
Do you have a picture of the product? (check yes if you are including a picture)	No

D. PRODUCT(S)

1 of 2

Suspect	Yes
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CTU #: FDA-CDER-CTU-2020-39868 | Department: CDER | RCT #: RCT-801739 | CTU Triage Date: 13-Apr-2020 | AER #: 17661903 |
Total Pages: 5

Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?	Yes		
Type	Drug/Biologic		
Product Name	plaquenil		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?			
Event Reappeared after Reintroduction ?			

Drug Therapy

1 of 1

Dose or Amount		If Other	
Frequency		If Other	
Route		If Other	
Dosage Form			
Start			
Stop			
Therapy Duration		If Other	
Is therapy still on-going?			
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

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D. PRODUCT(S)

2 of 2

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	azithromycin tablet		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC		

CTU #: FDA-CDER-CTU-2020-39868 | Department: CDER | RCT #: RCT-801739 | CTU Triage Date: 13-Apr-2020 | AER #: 17661903 |
Total Pages: 5

		☐ Compounded ☐ Generic ☐ Biosimilar	
	Event Abated After Use Stopped or Dose Reduced?		
	Event Reappeared after Reintroduction ?		

Drug Therapy				1 of 1
Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start				
Stop				
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				

Diagnosis for Use (indication)		1 of 1

E. SUSPECT MEDICAL DEVICE		
Brand Name		
Common Device Name		
Procode		
Manufacturer Name		
City		
State		
Model #		
Lot #		
Catalog #		
Expiration Date		
Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		

If Yes for the above field, Enter Name and Address of Reprocessor		
Was this device serviced by a third party?		

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS		
CONCOMITANT MEDICAL PRODUCT DESCRIPTION		

G. REPORTER				1 of 1
Primary?	Yes			
Reporter is Patient?				
Title				
Last Name	(b) (6)			
Middle Name				
First Name	(b) (6)			
Address	(b) (6)			
City	(b) (6)			
State/Province/Region	(b) (6)			
Country	UNITED STATES	If Other		
ZIP/Postal Code	(b) (6)			
Phone	(b) (6)			
Email	(b) (6)			
Fax				
Reporter Organization				
Department				
Reporter Speciality				
Health Professional?	Yes			
Occupation	Pharmacist	If Other		
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer			
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No			

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500
Priority	Urgent		
Override Auto Calculation Rule	No		
FDA Received Date	13-Apr-2020	CTU Received Date	13-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	

A. PATIENT INFORMATION	
Patient Identifier (In Confidence)	(b) (6)
Age	56 Year(s)
Date of Birth	
Gender	Male
Weight	95 kg
Ethnicity (Check single best answer)	Not Hispanic/Latino
Race (Check all that apply)	☐ Asian ☐ American Indian or Alaskan Native ☒ Black or African American ☐ White ☐ Native Hawaiian or Other Pacific Islander

B. ADVERSE EVENT, PRODUCT PROBLEM	
Type of Report (check all that apply)	☒ Adverse Event ☐ Product Use/Medication Error ☐ Product Problem (e.g., defects/malfunctions) ☐ Problem with Different Manufacturer of Same Medicine
Serious	Yes
Outcome Attributed to Adverse Event (Check all that apply)	☐ Death ☐ Life Threatening ☐ Hospitalization (initial or prolonged) ☒ Other Serious or Important Medical Events ☐ Disability or Permanent Damage ☐ Congenital Anomaly/Birth Defects ☐ Required Intervention to Prevent Permanent Impairment/Damage
Date of Death	

CTU #: FDA-CDER-CTU-2020-39912 | Department: CDER | RCT #: RCT-801805 | CTU Triage Date: 13-Apr-2020 | AER #: 17665337 |
Total Pages: 6

Date of Event	11-Apr-2020	
Date of this Report	13-Apr-2020	

Describe Event, Problem or Product Use Error

Describe Event, Problem, or Product Use Error: Patient treated with Hydroxychloroquine and Kaletra for COVID19 developed transaminitis > 5 x ULN and QT prolongation > 500 msec	
---	--

Relevant Test/Laboratory Data 1 of 4

Test Name	ALT	Test Date	11-Apr-2020	
Test Result	109	Test Unit	UNITS PER MILLILITRE	
Low Test Range	0	High Test Range	55	
More Information Available?				

Relevant Test/Laboratory Data 2 of 4

Test Name	AST	Test Date	11-Apr-2020	
Test Result	146	Test Unit	UNITS PER MILLILITRE	
Low Test Range	5	High Test Range	34	
More Information Available?				

Relevant Test/Laboratory Data 3 of 4

Test Name	ALT	Test Date	12-Apr-2020	
Test Result	261	Test Unit	UNITS PER MILLILITRE	
Low Test Range	0	High Test Range	55	
More Information Available?				

Relevant Test/Laboratory Data 4 of 4

Test Name	AST	Test Date	12-Apr-2020	
Test Result	222	Test Unit	UNITS PER MILLILITRE	
Low Test Range	5	High Test Range	34	
More Information Available?				

Additional Comments

Also on Atorvastatin 40mg from 4/7/20 - 4/11/20	
---	--

Other Relevant History, Including Preexisting Medical Conditions

PMH of DM2 and HTN	
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C. PRODUCT AVAILABILITY

CTU #: FDA-CDER-CTU-2020-39912 | Department: CDER | RCT #: RCT-801805 | CTU Triage Date: 13-Apr-2020 | AER #: 17665337 |
Total Pages: 6

Product Available for Evaluation? (Do not send product to FDA)	No	
Returned to Manufacturer on		
Do you have a picture of the product? (check yes if you are including a picture)	No	

D. PRODUCT(S)		1 of 3	
Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?	Yes		
Type	Drug/Biologic		
Product Name	Hydroxychloroquine oral tablet		
Strength	200 mg mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Yes		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy		1 of 1	
Dose or Amount	200 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	05-Apr-2020		
Stop	10-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)		1 of 1	
COVID-19			

D. PRODUCT(S)		2 of 3	
Suspect	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			

Primary?			
Type	Drug/Biologic		
Product Name	Lopinavir/ritonavir		
Strength	200/50 mg milligram(s)	If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		
Event Abated After Use Stopped or Dose Reduced?	Yes		
Event Reappeared after Reintroduction ?	Doesn't Apply		

Drug Therapy

1 of 1

Dose or Amount	400 mg milligram(s)	If Other	
Frequency	Twice a day	If Other	
Route	Oral	If Other	
Dosage Form			
Start	05-Apr-2020		
Stop	09-Apr-2020		
Therapy Duration		If Other	
Is therapy still on-going?	No		
Lot Number			
Expiration Date			

Diagnosis for Use (indication)

1 of 1

COVID-19

D. PRODUCT(S)

3 of 3

Concomitant	Yes		
Does this report involve cosmetic, dietary supplement or food/medical food?			
Primary?			
Type	Drug/Biologic		
Product Name	Atorvastatin 40mg		
Strength		If Other	
Manufacturer/Compounder			
NDC# or Unique ID			
Product Type(check all that apply)	☐ OTC ☐ Compounded ☐ Generic ☐ Biosimilar		

CTU #: FDA-CDER-CTU-2020-39912 | Department: CDER | RCT #: RCT-801805 | CTU Triage Date: 13-Apr-2020 | AER #: 17665337 |
Total Pages: 6

Event Abated After Use Stopped or Dose Reduced?		
Event Reappeared after Reintroduction ?		

Drug Therapy	1 of 1
--------------	--------

Dose or Amount		If Other		
Frequency		If Other		
Route		If Other		
Dosage Form				
Start	07-Apr-2020			
Stop	11-Apr-2020			
Therapy Duration		If Other		
Is therapy still on-going?				
Lot Number				
Expiration Date				

Diagnosis for Use (indication)	1 of 1
--------------------------------	--------

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E. SUSPECT MEDICAL DEVICE

Brand Name		
Common Device Name		
Procode		
Manufacturer Name		
City		
State		
Model #		
Lot #		
Catalog #		
Expiration Date		
Serial #		
Unique Identifier (UDI)#		
Operator of Device	☐ Health Professional ☐ Patient/Consumer ☐ Other	
Other		
If Implanted, Give Date		
If Explanted, Give Date		
Is this a single-use device that was reprocessed and reused on a patient?		
If Yes for the above field, Enter Name and Address of Reprocessor		

Was this device serviced by a third party?	
--	--

F. OTHER (CONCOMITANT) MEDICAL PRODUCTS	
CONCOMITANT MEDICAL PRODUCT DESCRIPTION	

G. REPORTER			1 of 1
Primary?	Yes		
Reporter is Patient?			
Title			
Last Name	(b) (6)		
Middle Name			
First Name	(b) (6)		
Address	(b) (6)		
City	(b) (6)		
State/Province/Region	(b) (6)		
Country	UNITED STATES	If Other	
ZIP/Postal Code	(b) (6)		
Phone	(b) (6)		
Email	(b) (6)		
Fax			
Reporter Organization			
Department			
Reporter Speciality			
Health Professional?	Yes		
Occupation	Pharmacist	If Other	
Also Reported to	☐ Manufacturer/Compounder ☒ User Facility ☐ Distributor/Importer		
If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No		



EXPLORE

CREATE

FAVORITES

NEWSFEED

PROFILE



Case ID # 5339

Covid-19



Case ID # 5339

[texts](#)[star](#)**Disease**

Covid-19

Challenge

There is no standard/approved therapy for this disease

Unusual disease presentation

Other - Drug toxicity on recommended therapy

Drug(s)

Hydroxychloroquine

Azithromycin

Outcome

Patient died

Patient Characteristics**Age:** 51-60 years**Sex:** Male**Country Contracted:** United States**Country Treated:** United States**Treatment Began:** 2020**Co-Morbidities and
Concomitant Treatments****Co-Morbidities:** Nil prior to admission**Co-Infections:** Acute renal failure, Hepatic transaminitis

Disease Covid-19 Challenge

There is no standard/approved therapy for this disease

Unusual disease presentation

Other - Drug toxicity on recommended therapy

Drug(s)

Hydroxychloroquine

Azithromycin

Outcome Patient died

Patient Characteristics

Age: 51-60 years

Sex: Male

Country Contracted: United States

Country Treated: United States

Treatment Began: 2020

Co-Morbidities and Concomitant Treatments

Co-Morbidities: Nil prior to admission

Co-Infections: Acute renal failure, Hepatic transaminitis

Presentation

Site(s) of disease: Pneumonia

Clinical syndrome: torsades de pointes

Treatment Setting: ICU/Critical Care

Unusual

Anything else make this case unusual:

No premonitory or concurrent QT/QTc prolongation documented

Diagnosis

Etiology:

Coronavirus - covid-19

Previous Treatment: The patient was not previously treated for this infection

Treatment Details

Hydroxychloroquine

400 mg x24h then 200mg BID NG X 1 Day(s)

Start: Mar 27 2020 - End: Mar 28 2020

How new way:

To treat a disease other than the one for which the drug is approved

Azithromycin

500mg x1 then 250mg QD NG X 2 Day(s)

Start: Mar 27 2020 - End: Mar 29 2020

How new way:

To treat a disease other than the one for which the drug is approved

Adverse Events:

Torsades de pointes, cardiac arrest

Surgery: No

Outcome assessed: At the time the treatment was completed

Relapse: No

Other: Covid 19 preliminary clinical reports suggest significant acute therapeutic efficacy for the combination of AZ and HC(1) above that of HC alone(2). The putative mechanism might be prevention of secondary bacterial infection in cytokine-insulted alveoli however it may be due to macrolide CYA-3A4 inhibition with elevation of hydroxychloroquine levels, perhaps unpredictably. Case Report: 52 M with no prior medical condition presenting (b) (6) with fever and dyspnea negative for influenza A and B and RSV but positive for COVID 19. Patient in moderate respiratory distress with bilateral crackles. Lab values: WBC 20.7k/ μ L with neutrophilic predominance (92%) and lymphopenia (2.8%). Lab values: PaO₂ 44 on FiO₂ 100%. Serum K (5.0mg/dL, normal 3.5–5.1 mg/dL) and Mg (1.9 mg/dL, normal 1.6–2.3 mg/dL). Serum Ca was low (7.7 mg/dL, normal 8.4-10.4 mg/dL) and phosphate high (9.0 mg/dL, normal < 4.5 mg/dL) in keeping with acute renal failure with Cr rising from 2.4 to 6.5mg/dl (normal < 1.1 mg/dL) within 24h of admission. AST (166 U/L, normal <59 U/L) and LDH (3546 U/L, normal <618 U/L) and PT/ INR 14.6s/1.3 (normal <12.9s/<1.16) but normal ALT. Imaging: CXR revealed bilateral peripheral focal consolidation and right pleural effusion. Baseline EKG sinus rhythm QT/QTc 298/403 msec figure 1a). Treatment & Outcome: Patient was admitted to ICU telemetry, intubated and started on hydroxychloroquine 400 mg BID day one then 200mg BID and azithromycin 500 mg day one then 250mg daily. Day 2 EKG revealed repeated torsades de pointes though QT/QTc remained normal (250/427 msec fig 1b). Six hours later patient experienced cardiac arrest. Resuscitation efforts were unsuccessful, despite defibrillation. Discussion: Both HC and AZ are capable of prolonging QT(3,4) and macrolide (AZ) is a well-known CYA-3A4 inhibitor which may decrease HC metabolism raising the potential for cardiotoxic accumulation and arrhythmia. Doses of HC as high as 1200mg are being suggested(1). In view of the beneficial results with HC alone(2) perhaps the initial loading dose of AZ might be omitted particularly in patients with multiorgan failure. Prophylactic mexiletine might also be considered based on the prior efficacy of quinidine mexiletine combinations(5). Notably, there was no premonitory QT prolongation documented prior to or concurrent with torsades.

textsms

Comments

12:14 PM, Apr 03 2020

(b) (6)

Thanks for sharing the case. Agree with the Cyp3A4 inhibition caused due to Azithromycin predisposing to arrhythmias due to HCQ. Did the patient have myocarditis contributing to the arrhythmia too? I feel for the first sign or suspicion of myocarditis or documented hypocalcemia (causes QTc prolongation) or AKI, Azithromycin should be stopped and renal adjusted doses given for HCQ.

12:27 PM, Apr 03 2020

(b) (6)

No objective evidence of myocyte degradation (negative troponin) despite acute renal failure (Cr 6.4) and BNP not elevated. Only aware of one case report of COVID myocarditis from China. Hypocalcemia in this case was modest at best. No LVEF assessment obtained. No hypotension or pressors administered.

01:04 PM, Apr 03 2020

(b) (6)

Thanks. Though I must add, Yang et al in Lancet report 17% patients had acute cardiac injury and 23% developed heart failure in a sample of 191 patients. ([https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30566-3/fulltext#tbl2](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30566-3/fulltext#tbl2)). While other studies report lower numbers. But this cohort with elevated Troponins have a higher associated mortality. Please keep posting. All such data is going to help make clinical decisions on the ground.

01:21 PM, Apr 03 2020

(b) (6)

Elevated troponin without attendant LVEF reduction is more likely type 2 (global watershed) infarction than myocarditis/myopathy. High output failure due to vascular (particularly pulmonary) cytokine mediated over-dilation with high (RV impairing) PEEP and sinus tachycardia more likely mechanism for secondary myocyte injury.

03:04 PM, Apr 03 2020

(b) (6)

While I agree with the possibility that elevated troponin without attendant LVEF reduction could be a type 2 infarction but given presence of abundant distribution of ACE2 – the binding site for the SARS-CoV-2 – in cardiomyocytes, it has been postulated that myocarditis might explain rise of hs-cTn. While Troponins can take up to 6 to 12 hours to rise, a bedside Echo can confirm wall motion abnormalities or a reduced LVEF much faster. Much of the published literature on this topic only mentions hypothesis or assumptions. But nevertheless, this patient sub-group has the worst prognosis. Agree with the secondary myocyte injury mechanism. Thanks again for initiating the discussion.

04:09 PM, Apr 03 2020

(b) (6)

So important to note this side effect of Torsades de pointes with hydroxychloroquine and azithromycin. It is tragic that so many are using it with no data, and without contributing to scientific knowledge as this case did. Thank you for sharing so many details.

05:20 AM, Apr 04 2020

(b) (6)

Thanks for posting this case. Although the discussion of cardiac pathology is probably of interest to some, the main message is that if you have COVID19 and you delay treatment until your PO2 is 44, you're dead. Beyond that, it is a mistake to give high-dose HCQ and Zithromax loading doses because the latter will induce toxic levels of the former. HCQ doses should be limited to 200mg BID and Zithromax should be 250 BID. Going higher on either of these meds is asking for trouble. How do I know? I have lots of experience using these drugs to treat tick-borne diseases.

12:03 AM, Apr 06 2020

(b) (6)

I also echo concern about using therapies in a vacuum; we all benefit, clinicians and patients, to learn from successes and failures. As clinicians, we should make every attempt to enroll treatment of COVID patients in a clinical trial.

All dates displayed in the report are in EST(GMT-05:00) time zone

Basic Details			
Company Unit	CDER-CTU	Originating Account	FAERS
Source Medium	MWO (Drug)	Source Form Type	E2B XML 3500B
Priority	Routine		
Override Auto Calculation Rule	No		
FDA Received Date	17-Apr-2020	CTU Received Date	17-Apr-2020
CTU Triage Date		CTU Data Entry Date	
Report Type	Spontaneous	Report Classification	Drug
Assign To	User		
User/Group			
Forward to Department	☒ CDER (CDER-OSE-RSS-CTU@fda.hhs.gov) (E2B)		
Case Priority	Direct		

Contact				
Case Reporter	First Name	Last Name	Email Address	Phone
☒	(b) (6)	(b) (6)	(b) (6)	(b) (6)

Section A - About the Problem		
What kind of problem was it? (Check all that apply)	☒ Were hurt or had a bad side effect (including new or worsening symptoms) ☐ Used a product incorrectly which could have or led to a problem ☐ Noticed a problem with the quality of the product ☐ Had problems after switching from one product maker to another maker	
Date the problem occurred	07-Apr-2020	
Serious	No	
Did any of the following happen? (Check all that apply)	☐ Hospitalization - admitted or stayed longer ☐ Required help to prevent permanent harm ☐ Disability or health problem ☐ Birth defect ☐ Life-threatening ☐ Death ☐ Other serious/important medical incident(Please Describe Below)	

4. Tell us what happened and how it happened (Include as many details as possible FDA may reach out to you for any additional documents if necessary)	
I contracted COVID 19. As a result of the virus, I developed bilateral pneumonia. I went to the emergency room and was admitted into the hospital. I was given hydrochloriquine and azithromycin. While taking the hydrochloriquine I started to experience side affects such as breathing problems, chest pains, fast or irregular heartbeat and palpitations. This is a dangerous drug to prescribe. Maybe it was the dosage being so high not sure but it should have more clinical testing before having doctors use it to treat the COVID 19 virus.	

Relevant Test/Laboratory Data				1 of 1
Test Name		Test Date		
Test Result		Test Unit		
Low Test Range		High Test Range		
More Information Available?				

Additional Comments

--	--

Section B - Product Availability

Do you still have the product in case we need to evaluate it?		
Do you have a picture of the product? (check yes if you are including a picture)	No	

Section C - About the Products

1 of 1

Suspect	Yes		
Primary?	Yes		
Type	Drug/Biologic		
This report is about	Drug		
Name of the product as it appears on the box, bottle, or package (Include as many names as you see)	Hydrochloriquin e		
Name of the company that makes (or compounds) the product			
Product Type(check all that apply)	☐ Over-the-Counter ☐ Compounded by a Pharmacy or an Outsourcing Facility ☐ Generic ☐ Biosimilar		
Strength		If Other	
NDC number			
Did the problem stop after the person reduced the dose or stopped taking or using the product?	Yes		
Did the problem return if the person started taking or using the product again?	Doesn't Apply		

Drug Therapy

1 of 1

Expiration date			
Lot number			
Dosage Form			
Quantity		If Other	
Frequency		If Other	
How was it taken or used		If Other	
Date the person first started taking or using the product	03-Apr-2020		
Date the person stopped taking or using the product	07-Apr-2020		
Give best estimate of duration			

CTU #: FDA-CDER-CTU-2020-41618 | Department: CDER | RCT #: RCT-803630 | CTU Triage Date: 17-Apr-2020 | AER #: 17685294 |
Total Pages: 5

Is therapy still on-going?	
Why was the person using the product? (such as what condition was it supposed to treat) 1 of 1	
COVID 19	

Returned to Manufacturer On	
-----------------------------	--

Section D - About the Medical Device

Name of medical device	
Name of the company that makes the medical device	

Other identifying information (The model, catalog, lot, serial, or UDI number, and the expiration date, if you can locate them)

Model Number	
Catalog Number	
Lot Number	
Serial Number	
UDDI Number	
Expiration date	
Was someone operating the medical device when the problem occurred?	

For implanted medical devices ONLY (such as pacemakers, breast implants, etc.)

Date the implant was put in		Date the implant was taken out (If relevant)	
-----------------------------	--	--	--

Section E - About the Person Who Had the Problem

Person's Initials	(b) (6)
Gender	Male
Age (specify unit of time for age)	
Date of Birth	(b) (6)
Weight	103.5 kg
Ethnicity (Choose only one)	Hispanic/Latino
Race (Check all that apply)	☐ American Indian or Alaskan Native ☐ Native Hawaiian or Other Pacific Islander ☐ Asian ☐ White ☒ Black or African American

List known medical conditions (Such as diabetes, high blood pressure, cancer, heart disease, or others)

--	--

Please list all allergies (such as to drugs, foods, pollen or others)

Pollen, sulfur	
----------------	--

List any other important information about the person (such as smoking, pregnancy, alcohol use, etc.)

--	--

List all current prescription medications and medical devices being used.

--	--

List all over-the-counter medications and any vitamins, minerals, supplements, and herbal remedies being used.

--	--

Section F - About the Person Filling Out This Form

1 of 1

Primary?	Yes	
Reporter is Patient?		
Title		
Last name	(b) (6)	
Middle Name		
First name	(b) (6)	
Number/Street	(b) (6)	
City	(b) (6)	
State/Province	(b) (6)	
Country	UNITED STATES	
ZIP or Postal code	(b) (6)	
Telephone number	(b) (6)	
Email address	(b) (6)	
Fax		
Reporter Organization		
Department		
Reporter Speciality		

	Today's date	17-Apr-2020	
	Did you report this problem to the company that makes the product (the manufacturer/compounder)?	No	
	If you do NOT want your identity disclosed to the manufacturer, please mark this box (Confidentiality Requested):	No	

Printer: CDPEDQ5

User: STEPPERH

Date - Time: 28-Apr-2020 11:42 AM

Total Number of Cases: 1

Total Number of Pages: 15

Print Job Number: 21992

Disclaimers:

Submission of a safety report does not constitute an admission that medical personnel, user facility, importer, distributor, manufacturer or product caused or contributed to the event. The information in these reports has not been scientifically or otherwise verified as to a cause and effect relationship and cannot be used to estimate the incidence of these events.

Please Note: Even though the attachments cover page may cite a particular image, there may be some exceptions where attachments will print without a case ID identifier because of font or text irregularities. Also similar literature attachments may appear numerous times because they had been submitted under multiple image or electronic case submissions.

Processed Case Id's for Attachments:

17666068

Failed Case Id's for Attachments:

Total Failed Cases: 0

Message Subject : FW: Pharmacyclics LLC. Initial Adverse Event Report for
IMBRUVICA (ibrutinib): US20-001959 (b) (6)

Received Time : Tue Apr 07 11:30:03 CDT 2020

Sender Address : AEIntakePM@abbvie.onmicrosoft.com

Receiver Address : POP-pv_postmarketing@abbvie.onmicrosoft.com

Cc Address :

No. of Attachments Received : 2

Case Snapshot.PDF

BTK-inhibitors in COVID-19 04062020.docx

No. of Attachments Embedded to Source Document : 0

Message content follows :

Forwarded from AEIntakePM@abbvie.onmicrosoft.com

From: AE-IRMS <ae-irms@pcyc.com>

Sent: Tuesday, April 7, 2020 4:21:43 PM

To: AEIntakePM <AEIntakePM@abbvie.onmicrosoft.com>

Subject: Pharmacyclics LLC. Initial Adverse Event Report for IMBRUVICA (ibrutinib):
US20-001959 (b) (6)

Attached please find an Adverse Event report regarding IMBRUVICA (ibrutinib)
received by Medical Information.

The reference number for this report is US20-001959.

PC Number (If Applicable): <<PCNumber>>

Instructions for Pharmacyclics LLC, an AbbVie Company, to acknowledge
receipt of this report:

Please reply to this e-mail and send the e-mail which is generated.

If you need additional assistance, please reference the case number and

e-mail medinfo@pcyc.com.

Thank you.

Sincerely,

(b) (6)

Medical Information Department

Pharmacyclics LLC

This e-mail, including any attachments, is a confidential business communication, and may contain information that is confidential, proprietary and/or privileged. This e-mail is intended only for the individual(s) to whom it is addressed, and may not be saved, copied, printed, disclosed or used by anyone else. If you are not the intended recipient, please immediately delete this e-mail from your computer system and notify the sender. Thank you.

Pharmacyclics**Case: US20-001959**

Page 1 of 2 Run on Tuesday, April 07, 2020

Run By (b) (6)

Contacts

Name & Address	Steven Treon MD Dana Farber Cancer Institute 450 Brookline Ave Boston, MA 02215 United States	Gender Male	Primary
Class MD		Phone	(b) (6)
Type Healthcare Professional		FAX	
Specialty		E-Mail steven_treon@dfci.harvard.edu	
Misc		Greeting	
		Salutation Dr.	
		Degree MD	
		Natl ID	
		Account	

Case Information

Language English	Case Type AE	Service Rep (b) (6)
Division US	Priority Urgent	Call Center (Blank)
Department Medical Information	Source Email	Referred To (b) (6)
Status Open	Entry Period After Hours	Misc Data
Request Via AbbVie	Handling Other	QA Severity Not QA'd
Rep/Terr#	Case Prod IMBRUVICA	Time To...
Rep Name	SP Case #	1st Resp
Rep Type	Transfer	Complete
Rep Contact	Trans Date	

Notes

Entered 04/07/2020 8:30:43
Received 04/06/2020 23:43:43
Completed
First Resp

Email Date: 4/7/2020 8:25:30 AM
From: "medinfo-irms" <medinfo-irms@abbvie.onmicrosoft.com>
Subject: FW: For ICSR creation

-----Original Message-----
From: (b) (6)]
Sent: Monday, April 06, 2020 11:43 PM
To: MBX-MedInfo
Subject: For ICSR creation

Hi there,

This is a publication Dr. Steven P. Treon had just submitted to NEJM therefore we don't have a literature citation for this publication. You may please consider for creating ICSRs based on this publication.

Thanks,

(b) (6)

Attachments

File Name / Notes	Date Added	Date Received	Date Sent	MI	AE	PC
BTK-inhibitors in COVID-19 04062020.docx	04/07/2020 8:25:43	04/07/2020 8:25:43		☐	☐	☐

Product

Product	Trade Name	Generic Description
IMBRUVICA	IMBRUVICA®	Ibrutinib
NDC/DIN	Category	Topic
	Safety	Adverse Event Report

Pharmacyclics**Case: US20-001959**

Page 2 of 2 Run on Tuesday, April 07, 2020

Run By (b) (6)

QuestionForwarded by Abbvie
Subject: For ICSR creation**Response**

Ibrutinib may be protective against pulmonary injury in COVID-19 patients.

Abstract

4/7/2020, (b) (6) AE filed

Classification

(b) (6)

Resolution

AE-Yes

Sub Classification N/A**Document**

Triage to Safety

Q Status

Open

Completed**Case Log**

When	By User	Type	Transaction	Notes	Electronic Signature
04/07/2020 8:30:43	SYSTEM	Case	Insert Electronic Request	Case has been created by (b) (4) Import process.	
04/07/2020 8:34:10	(b) (6)	Case	Transfer Case	Transfer Case - Ref To changed to (b) (6) Reason: (b) (6) took ownership of the Case.	
04/07/2020 9:02:39	(b) (6)	Case	Change Service Rep	Change Service Rep from _DLSS Support to (b) (6) .	
04/07/2020 9:03:15	(b) (6)	Case	Transfer Case	Ref To changed from (b) (6) to (b) (6) Reason: DLSS Support Entry Complete.	
04/07/2020 9:03:21	(b) (6)	Case	Change Case		

Ibrutinib may be protective against pulmonary injury in COVID-19 patients.

We report the course of 4 patients receiving ibrutinib, an FDA approved BTK-inhibitor for the indication of Waldenstrom's Macroglobulinemia (WM). Their median age was 63 (range 58-72) years, and three were male. Three patients were on the recommended treatment dose of 420 mg/day; the fourth patient was on a reduced dose of 140 mg/day because of arthralgias. The median time on ibrutinib for WM was 69 (range 39-85) months. All 4 patients experienced fever, cough and sore throat prompting testing that lead to the diagnosis of COVID-19. The median time from the COVID-19 diagnosis to this report was 11 (range 9-14) days. Patients on ibrutinib at 420 mg/day experienced no shortness of breath or hypoxia and required no hospitalization. Their course was marked by steady improvement. The patient on reduced dose ibrutinib experienced progressive dyspnea and hypoxia prompting hospitalization. Chest CT showed bilateral groundglass opacities and a pleural effusion on admission prompting a hold on ibrutinib during which his hypoxia acutely worsened necessitating supplemental oxygen use. Hydroxychloroquine (HCQ) and azithromycin were administered. Azithromycin was stopped after 3 days due to wide QRS complex tachyarrhythmia, HCQ was given for a total of 5 days. Hypoxia worsened and fever persisted during HCQ course. Ibrutinib was restarted at 140 mg/day and tocilizumab 400 mg was co-administered on day 5 of hospitalization with improved oxygenation, and decreased C-reactive protein (CRP) levels (83 to 9 mg/L). Intravenous immunoglobulin was also given on hospital days 6-10. On day 10 of hospitalization, the patient experienced worsening hypoxia accompanied by increased CRP (28 mg/L) and required mechanical ventilation. Given the lack of hypoxia in the other COVID-19 infected WM patients on full dose ibrutinib, ibrutinib was increased to 420 mg/day on days 11 and day 12. A rapid improvement in oxygenation followed and the patient was successfully extubated later on day 12. He continues on 420 mg/day of ibrutinib, on 3 liters/min supplemental oxygen by nasal cannula, and with oxygen saturations of 94-96% on day 13.

Pulmonary failure is the main cause of mortality related to COVID-19 infection.^{1,2} Up to 80% of patients hospitalized for COVID-19 infection require supplemental oxygenation

for an average of 13 days.³ Furthermore 30-40% of those hospitalized for pulmonary distress may require mechanical ventilation.^{1,4} SARS-CoV-2 binds via the ACE2-receptor that is highly expressed on Alveolar Type II (ATII) cells in the lung.⁵ ATII cells constitute 5-15% of the lung epithelium. While Alveolar Type I cells are highly adapted for gas exchange, Alveolar Type II cells have a specialized role in innate immune response.⁶⁻⁸ ATII cells express Toll receptors (TLRs) and can trigger inflammatory cytokines and chemo-attractants in response to viral and bacterial pathogens that recruit and activate other immune cells including macrophages and neutrophils.⁶⁻⁸ Highly relevant to coronavirus infection, expression of pro-inflammatory and chemo-attractant cytokines IL1-B, IL6, IP10/CXCL10, MCP-1 and TNF-a were identified in the ACE2-positive cells from autopsy tissue of SARS-CoV-1 infected patients, that appeared causally related to the acute lung injury and pathogenesis observed with SARS-CoV-1.⁹ A similar profile of elevated cytokine levels was also reported in the plasma of SARS-CoV-1 patients during the progressive and end stage of infection,¹⁰ a profile consistent with an M1 polarized macrophage response.¹¹

SARS-CoV-1 shares 86% homology with SARS-CoV-2. SARS-Cov-2 patients requiring intensive care also showed elevated plasma levels of inflammatory cytokines and chemo-attractants such as IL-2, IL-6, IL-7, IL-10, G-CSF, IP-10/CXCL-10, MCP-1/CCL2, MIP-1a/CCL3, and TNF-a.¹² The importance of inflammatory cytokines to lung injury in SARS-CoV-2 infected patients has been suggested by reports of benefit with IL-6 and IL6-receptor blocking antibodies, and clinical trials to examine their use have been initiated (NCT04317092, NCT04306705, NCT04315298).

In previous studies, we and others showed an important role for the TEC family member BTK, and its upstream activator, HCK, a SRC family member in triggering TLR- mediated signaling.¹³⁻¹⁵ Both BTK and HCK can be triggered by MYD88, a TLR-adaptor protein that signals for all Toll receptors except TLR3 in response to viral and bacterial pathogens, including coronaviruses.¹⁶ ATII cells express TLRs, as do alveolar macrophages that coordinate inflammatory responses with ATII cells.⁶⁻⁸ As components of TLR/MYD88 signaling, BTK and HCK can drive inflammatory cytokine production through ERK1/2.¹⁷

In a transgenic mouse model, overexpression of activated HCK promoted extensive pulmonary inflammation and enhanced innate immune response characterized by extensive eosinophilic and mononuclear cell infiltration within the lung parenchyma, alveolar airspaces, and around blood vessels, as well as marked epithelial mucus metaplasia in conducting airways.¹⁸ Lungs from these mice showed inflammatory changes, particularly in older mice.¹⁸ Elevated levels of TNF- α were also identified in the bronchoalveolar lavage fluids of these mice following LPS challenge. The pulmonary pathology findings from these mice show great overlap with those described in the lungs of patients with COVID-19 infection which showed serous and fibrin exudation with alveolar infiltration consisting majorly of macrophages and monocytes. The blood vessels of alveolar septum were also congested, edematous and widened, with modest infiltration of monocytes and lymphocytes.¹⁹

Ibrutinib is a highly potent, covalent inhibitor of BTK (biochemical IC₅₀ 0.5 nM). Ibrutinib is also a potent reversible inhibitor of HCK (IC₅₀ 49 nM). The IC₅₀ levels for BTK and HCK are well within the pharmacologically attainable dosimetry of orally administered ibrutinib.¹⁵ Serially collected blood samples from patients with chronic lymphocytic leukemia (CLL), Waldenstrom's Macroglobulinemia (WM), and chronic graft versus host disease (cGVHD) on ibrutinib monotherapy showed marked reductions in pro-inflammatory and chemo-attractant cytokines that greatly overlapped with those reported elevated in the plasma of SARS-Cov-1 and SARS-COV-2 patients, and in ACE2+ cells from lung tissue of SARS-CoV-1 patients (**Table 1**).^{9,10,12,20-22} In the iLLUMINATE randomized study, CLL subjects treated with ibrutinib immediately prior to infusion with obinutuzumab also showed significantly decreased levels of inflammatory cytokines associated with infusion related reactions (a cytokine release syndrome).²³ These findings are consistent with a shift from an M1 to M2 polarized macrophage response following ibrutinib, and are supported by pre-clinical and clinical studies showing dependence of macrophage lineage commitment on BTK function.²⁴

The potential for ibrutinib to abrogate lung injury and death was also demonstrated in an

experimental model wherein mice challenged with a lethal intranasal inoculum of a mouse adapted strain of H1N1 influenza virus were protected against lung injury. Control mice that received phosphate buffered saline (PBS) developed respiratory failure, along with histological and CT findings consistent with lung injury in sharp contrast to the mice that received ibrutinib.²⁵ Mice treated with PBS also lost weight and died, whereas those treated with ibrutinib recovered their weight after a brief loss and all survived.²⁵ Notably, mice treated with ibrutinib also showed decreased inflammatory cell infiltration as well as pro-inflammatory cytokines in lung tissues that included pro-inflammatory and chemo-attractant cytokines such as IL-1 β , IL-6, KC/CXCL1, TNF α , and MCP-1 observed in SARS-Cov-1 and SARS-CoV-2 patients.²⁵

The findings provide a compelling rationale that an exaggerated cytokine release syndrome triggered by ATII cells and resident macrophages by SARS-CoV-2 may be etiological for the pulmonary injury associated with COVID-19. Ibrutinib and possibly other BTK-inhibitors may therefore provide protection against lung injury, and even improve pulmonary function in patients with COVID-19 as was observed in our case series. Ibrutinib and other BTK-inhibitors should be urgently evaluated in clinical trials for patients with COVID-19 related pulmonary distress.

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Table: 1

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Table 1. Summary of pro-inflammatory and chemo-attractant cytokine patterns in patients infected with SARS-CoV-1 and SARS-CoV-2 (highlighted in red), and following ibrutinib treatment in patients with CLL, WM, and cGVHD (highlighted in green).

	HE ⁹	JIANG ¹⁰	HUANG ¹ 2	NIEMANN ²⁰	GREIL ²³	VOS ²¹	MIKLOS ²²
PATIENTS	CoV-1	CoV-1	CoV-2	CLL ON IBRUTINIB	CLL ON IBRUTINIB	WM ON IBRUTINIB	cGVHD ON IBRUTINIB
TISSUE	ACE2 + cells	Plasma	Plasma	Plasma	Plasma	Plasma	Plasma
GMCSF			↑				↓
IL1B	↑						
IL2			↑				↓ (IL2RA)
IL6	↑	↑		↓	↓	↓	
IL7			↑				
IL8		↑		↓	↓	↓	↓
IL10			↑	↓	↓	Variable	
IP10/CXCL1 0		↑	↑	↓		↓	↓
MCP-1/CCL2	↑	↑	↑	↓	↓		↓
MIP- 1A/CCL3			↑	↓			↓
MIP1B/CCL4			↑	↓		↓	↓
TNF-a	↑			↓	↓	↓	↓

Table 1. Summary of pro-inflammatory and chemo-attractant cytokine patterns in patients infected with SARS-CoV-1 and SARS-CoV-2 (*highlighted in red*), and following ibrutinib treatment in patients with CLL, WM, and cGVHD (*highlighted in green*).