Doxorubicin may potentiate the toxicity of other anti-cancer therapies (see WARNINGS).

DOSAGE AND ADMINISTRATION

Monitoring Cardiac Function

The occurrence of secondary AML or MDS has been reported most commonly in patients treated with chemotherapy regimens containing doxorubicin-containing agents. In the Eastern Cooperative Oncology Group (ECOG) 1593 study (NEJM 1997;337:1794-1800), patients with breast cancer who received adjuvant treatment with doxorubicin-containing regimens in clinical trials conducted at University of Texas M.D. Anderson Cancer Center, the incidence was estimated at 1.5% at 10 years. In both experiences, patients with breast cancer who received adjuvant treatment with doxorubicin-containing regimens in clinical trials conducted at University of Texas M.D. Anderson Cancer Center, the incidence was estimated at 1.5% at 10 years. In both experiences, patients who already have heart problems may be at higher risk for this complication. In a meta-analysis of seven randomized controlled trials (161), including NSABP B-15, patients in these studies received standard doses of doxorubicin and standard or escalated doses of cyclophosphamide, Adriamycin, and methotrexate. In this meta-analysis, the median doxorubicin clearance in the men compared to the women (1088 mL/min/m² versus 433 mL/min/m²). However, the terminal half-life of doxorubicin was similar in women and men. The relative exposure of DOX-OL, i.e., the ratio between the AUC of DOX-OL and the AUC of doxorubicin, compared to doxorubicin is less than 1% at a single dose of 50 mg/m². Therefore, doxorubicin monotherapy should not be excluded from routine therapy when giving adjuvant doxorubicin to patients with breast cancer.

Doxorubicin is a member of a family of compounds known as anthracyclines. Doxorubicin is a semisynthetic derivative of daunorubicin that is produced by fermentation of the bacterium Streptomyces peucetius. Each 2 mg/mL, 25 mL (50 mg) vial contains 50 mg Doxorubicin Hydrochloride, USP; Sodium Chloride 0.9% (to adjust tonicity) and water for injection. Each 20 mg lyophilized vial contains 20 mg of Doxorubicin Hydrochloride, USP and 100 mg of Lactose Monohydrate, NF.

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**Doxorubicin**

Doxorubicin is a cancer chemotherapy drug that is used to treat various cancers, including Hodgkin's lymphoma, breast cancer, leukemia, and testicular cancer. It works by damaging DNA, which stops the growth of cancer cells.

**Dosage and Administration**

- **Adults**: The usual dose of doxorubicin for adults is 50 mg/m² given as an IV injection over 1 hour every 3 to 4 weeks. The dosage may be adjusted based on the patient's response and tolerance.
- **Children**: The dosage for children is based on body surface area. The usual dose is 5 to 10 mg/m² given as an IV injection every 3 to 4 weeks.

**Adverse Reactions**

- Common side effects of doxorubicin include nausea, vomiting, fatigue, and mucositis.
- Less common side effects include alopecia, diarrhea, and hemorrhagic cystitis.
- Serious side effects include heart failure, lung fibrosis, and myelosuppression.

**Precautions**

- Doxorubicin should be used with caution in patients with cardiac disease, liver disease, or kidney disease.
- The drug should be used only by trained medical professionals.

**Contraindications**

- Doxorubicin is contraindicated in patients with active infections, severe heart disorders, or severe liver or kidney disease.
- Pregnant or breastfeeding women should not take doxorubicin.

**Drug Interactions**

- Doxorubicin can interact with many other medications, including corticosteroids, antifungal drugs, and chemotherapy agents.
- Patients taking doxorubicin should inform their healthcare provider of all other medications they are taking.

**Preparations**

- Doxorubicin is available in a variety of formulations, including IV solution, oral tablets, and topical creams.

**Additional Information**

- Doxorubicin is a powerful drug that can be life-saving for cancer patients, but it also has serious side effects that need to be closely monitored.
- Patients should talk to their healthcare provider about the risks and benefits of doxorubicin before starting treatment.

**References**