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Doxycycline Hyclate

Doxycycline Hyclate is an oral antibiotic belonging to the tetracycline class, recognized for its broad-spectrum activity against a diverse range of bacteria, thereby serving as a critical agent in combating numerous infectious diseases. Its mechanism involves impeding bacterial protein synthesis, which is essential for the microbes' survival and replication.

- **ActiveIngredient:** Doxycycline
 - **DosageForm:** Oral tablet
 - **Dosage:** 20mg, 50mg, 75mg, 100mg, and 150mg
 - **Indications:** Treatment of a broad array of bacterial infections
 - **Manufacturer:** Produced by numerous generic pharmaceutical manufacturers
 - **Storage:** Should be kept at controlled room temperature (typically 20°C to 25°C or 68°F to 77°F), protected from exposure to light and moisture.
 - **Market Price:** 0.30
 - **Drug Status:** Prescription Only
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Description

PRECAUTIONS The main contraindication to this product use is hypersensitivity to active and inactive ingredients. This agent should not be prescribed in case of hypersensitivity to the tetracycline antibiotics. When breastfeeding the antibiotic may be found in breast milk, but it ought to be noted that it is not detected in the baby's blood serum. Therefore, doxycycline hyclate therapy during this period can be prescribed only if necessary. Direct contraindications: porphyria; severe liver failure; age under 9 y.o. In case of leukopenia and liver dysfunction the medication should be taken with care. In pregnancy, this antibacterial substance is prescribed only as a last resort. Long-term treatment with this agent requires special attention to the condition of the liver and blood-forming organs. Lactose is a part of this medication, therefore it is not recommended to patients with congenital lactose intolerance, glucose-galactose malabsorption, and Lapp's lactase deficiency. Tetracycline antibiotics tend to form persistent bonds with calcium, so when treated during the development of teeth, enamel can become permanently yellow, gray or brown. In some patients there a retarded enamel development is observed. **DOSE** Doxycycline hyclate micro doses of up to 50 mg per day are safe and do not affect the human microflora. However is there a way to protect the body against a harmful impact of large doses of doxycycline on the microflora? Recent studies have shown that the effectiveness of anticancer immunotherapy depends directly on the composition of the intestinal microflora. Micro dose of 50 mg of doxycycline per day reduces diabetic retinopathy, which is damage to the retinal vessels of the eyeball entailed by diabetes in humans. Diabetic retinopathy is one of the most severe complications of diabetes, affecting the retinal vessels of the eyeball, observed in 90% of patients with diabetes. Blindness in patients with diabetes mellitus occurs 25 times more often than among those not suffering from this disease. Micro doses of 20 mg 2 times a day are effective for the treatment of periodontitis (tooth loss due to periodontal inflammation), as well as for the prevention of bone osteoporosis in women after menopause. It is believed that 20 mg of the agent per day is a powerful tool for the prevention of many types of cancer, which is currently actively studied within a number of clinical trials in humans. Dosage for children weighing maximum 50 kg and older than 12 years should be calculated based on their body weight: 4.4 mg per kilo is prescribed on the first day and on the following days the dosage equals to 2.2 mg/kg. The drug can be taken at once or divided in two parts. In case of severe infectious diseases, the dose of 4.4 mg/kg per day can be

used during the entire therapy course. Children weighing more than 50 kg are given an adult dose of the drug.

HOW TO TAKE? In case of such diseases as the rectum and uterine cervix infections, urethral, the agent must be taken two times a day during a week. In case of diagnosis of venereal lymphogranulomatosis, this agent should be administered two times a day. Treatment can last longer than three weeks, which depends on the disease severity. There are two schemes in treating primary and secondary syphilis. The first scheme: three tablets per day during ten days. The second scheme: 100 mg twice a day for 14 days. In post-gonococcal urethritis, the agent should be coadministered with macrolides. A complicated gonorrhea is treated with 800-900 mg which is 6-7 doses (300 mg at the first and 100 mg during the next 6-hour intervals). Cervicitis should be treated with 100-200 mg during 10 days. In case of chlamydia, they prescribe 100-200 mg during 1-2 weeks. As for adnexitis, you must take 200 mg every twelve hours. In case of endometritis, you have to take two tablets two times a day during 10-14 days. 100 mg during 5 days must be taken in case of cystitis. In case of acute cystitis it is recommended to take 200 mg on the first day, then 100 mg daily. Doxycycline hyclate is taken orally during or after meal. In order to reduce the irritation of the esophagus, you should wash down a pill with plenty of water. It is recommended to take this antibiotic with food or milk in case of the irritated esophagus. When treating infections in the old people there is no need of dosage adjustment. This drug does not worsen the patient's condition suffering from renal failure, but those who suffer from liver dysfunction and take hepatotoxic medicines should use doxycycline hyclate with caution. It is necessary to adjust diet when undergoing antibiotic therapy with this pharmaceutical product. The diet helps to facilitate healing and minimize the effect of the antimicrobial drugs on the liver, intestinal microflora and vagina. Antimicrobial therapy requires rejection of fried, smoked and spicy foods, dairy products and sour fruits. The patient should stop drinking alcoholic and carbonated beverages. After the treatment is completed, the intake of probiotics is strictly recommended, which will contribute to the restoration of a healthy microflora.

SIDE EFFECTS As far as the nervous system is concerned, there were records of increased intracranial pressure, vomiting, headaches, appetite loss, optic nerve head swelling and faintness. As for hearing organs, there might be manifestations of the tinnitus. Cardiovascular system can suffer because of swelling, pericarditis, tachyarrhythmia, hypotension. As for the digestive system, there can be such manifestations as nausea and vomiting, diarrhea or constipation, abdominal pain, gastritis, ulcer, esophagitis, dysphagia, glossitis. There also records of such allergic reactions as redness of the skin, rash, itching, urticaria, anaphylactic shock, angioedema, lupus erythematosus, Stevens-Johnson syndrome. The hematopoietic gland can be observed as anemia, thrombocytopenia, neutropenia, porphyria. Moreover, there can be other side effects like liver failure, hepatitis, jaundice, erythema, myalgia, toxic necrolysis, dermatitis, colitis, candidiasis, discoloration of the tooth enamel, dysbiosis, stomatitis, vaginitis, arthralgia.

OVERDOSE Symptoms of overdose are as follows: with high doses, especially in patients with impaired liver function, neurotoxic reactions may develop, manifested with convulsions, dizziness, vomiting, impaired consciousness (due to an increase in intracranial pressure). Overdose treatment includes drug withdrawal, gastric lavage, taking sorbents (activated carbon), antacids, magnesium sulfate aimed at prevention of further medicine absorption, symptomatic and supportive therapy. There is no specific antidote. Hemodialysis and peritoneal dialysis are considered ineffective.

INTERACTIONS Doxycycline hyclate is able to contribute to the concentration of cyclosporine increase. It is evidenced that the combination of tetracyclines and methoxyflurane can result in acute renal disease. This drug should never be coadministered with metal ions (antacids with aluminum, calcium and magnesium salts, preparations with manganese and zinc ions, products with iron). Cholestyramine suspends antibiotic absorption. The concentration of the medication decreases under the effects of barbiturates, phenytoin, and carbamazepine. The pharmaceutical product itself inhibits penicillins and oral contraceptives. Simultaneous treatment with doxycycline and anticoagulants requires control of blood clotting. The drug is not prescribed in combination with bactericidal antibiotics (penicillin, cephalosporins) since the latter act as antagonists of such bacteriostatic drugs as doxycycline. The antibiotic is not compatible with products that are alkaline by nature. The discussed substance is not prescribed together with drugs, which are unstable in an acidic environment, like Erythromycin, Aminophylline, and Hydrocortisone. It is impractical to take this medicine together with other means of the tetracycline group.

ALCOHOL INTERACTION Since the medicine is able to affect the central nervous system, its combination with alcohol enhances the toxic effects on the body. In addition to headache and dizziness, there may be a migraine, vomiting, and problems with coordination. With all this, alcohol can both enhance the effect of the antibiotic and weaken it. Since drugs and alcohol decompose in the liver, their combination leads to a strong

load on organs and increases the risk of hepatitis.

Side Effects

Uses

Interactions

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Other Details
