Pyrazinamide is widely distributed in body tissues and plasma concentrations in the liver are significantly higher than in the blood. After oral administration, the peak plasma concentrations are achieved within 2 hours. Plasma concentrations of pyrazinamide are approximately equal to those of its metabolite, pyrazinoic acid. The drug is excreted in the urine, primarily as the glutathione conjugate, and also as the pyrazinoic acid metabolite. The half-life (t1/2) of pyrazinamide is approximately 7 hours in patients with normal renal function. In patients with reduced renal function, the t1/2 may increase, and in patients with severe hepatic impairment, pyrazinamide may accumulate. The plasma protein binding of pyrazinamide is approximately 10%.

Pyrazinamide is used in the treatment of tuberculosis. It is generally well tolerated, but side effects such as gastrointestinal disturbances, skin reactions, and other adverse effects have been reported. Care should be taken in patients with preexisting hepatic or renal impairment. Pyrazinamide is contraindicated in patients with preexisting liver disease or those at increased risk of hepatic injury. Patients started on pyrazinamide should be monitored closely for signs of hepatotoxicity. Pyrazinamide may interact with other drugs, such as antacids, which may affect its absorption.

Pyrazinamide is indicated for the initial treatment of active tuberculosis, particularly in situations where the disease is difficult to control, such as in patients with HIV infection. It is also indicated after treatment failure with other primary drugs in any form of active disease. It is also used as a component of such therapy.

Clinical pharmacology: Pyrazinamide is well absorbed from the gastrointestinal tract and attains peak plasma concentrations. It is widely distributed in the body with higher concentrations in the liver and spleen. The drug is excreted in the urine, primarily as the glutathione conjugate, and also as the pyrazinoic acid metabolite. The half-life (t1/2) of pyrazinamide is approximately 7 hours in patients with normal renal function. In patients with reduced renal function, the t1/2 may increase, and in patients with severe hepatic impairment, pyrazinamide may accumulate. The plasma protein binding of pyrazinamide is approximately 10%.
**Pyrazinamide Tablets USP**

**DESCRIPTION:**

Pyrazinamide Tablets USP contain the antitubercular agent pyrazinamide dibasic dihydrate. Each tablet contains 500 mg of pyrazinamide. Pyrazinamide is 1-methyl-4-pyrazinamide. The empirical formula is C<sub>4</sub>H<sub>9</sub>N<sub>2</sub>O<sub>2</sub>·2H<sub>2</sub>O. The molecular weight is 148.17. The structure formula is:  

**INDICATIONS:**

Pyrazinamide is used in combination with other antituberculosis drugs as treatment for tuberculosis infections. It is particularly useful in the treatment of drug-resistant tuberculosis. Pyrazinamide is also used prophylactically in individuals who are at increased risk of tuberculosis, such as those with HIV infection or those who have had a previous infection with Mycobacterium tuberculosis.

**CONTRAINDICATIONS:**

Pyrazinamide is contraindicated in patients with a history of allergy to pyrazinamide or any component of the formulation. It should also be used with caution in patients with pre-existing liver disease or renal dysfunction.

**PHARMACOTHERAPY:**

Pyrazinamide is an antimicrobial agent that interactive with thiosemicarbazones, thiocarbamates, and other compounds containing a thiosemicarbazone moiety. It is converted in the body to pyrazinoic acid, which has a longer half-life and is more toxic than pyrazinamide.

**PRECAUTIONS:**

Pyrazinamide should be used cautiously in the elderly and in children, as it may have different effects in these groups. It is also recommended to monitor liver function and renal function in patients taking pyrazinamide, as it may cause hepatotoxicity and nephrotoxicity.

**HOW SUPPLIED:**

Pyrazinamide Tablets USP are supplied as white, round, scored tablets debossed with “MK” and “13”. They are available in the following strengths:

- 500 tablets NDC# 61748-012-06, in containers of 90 tablets
- 60 tablets NDC# 61748-012-01, in containers of 100 tablets
- 500 tablets NDC# 61748-012-09, in containers of 10 tablets

**ADMINISTRATION:**

Pyrazinamide can be administered orally or intramuscularly. The recommended regimen is one to two grams per day, divided into two to four doses. However, the dose may be higher or lower depending on the patient's needs. It is important to note that pyrazinamide should not be administered as a single daily dose.

**ADVERSE REACTIONS:**

Adverse reactions to pyrazinamide are common and include gastrointestinal symptoms such as nausea, vomiting, and diarrhea. Other adverse reactions include pruritus, rash, and fever. Overdosage of pyrazinamide can lead to severe liver and renal damage.

**REFERENCES:**

8. Ethambutol 50 mg/kg 50 mg/kg
9. Isoniazid 20 to 40 mg/kg 15 mg/kg
10. Rifampin 600 mg
11. Pyrazinamide 50 to 70 50 to 70
12. Streptomycin 20 to 40 15mg/kg
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