Uvamin® retard

Capsules

Urinary tract infections

Composition
Each capsule contains:
Nitrofurantoin (macrocrystals) (USP) 100 mg

Properties, effects
Nitrofurantoin is a substance with an antibacterial action used for the treatment of urinary tract infections. High concentrations of nitrofurantoin are produced, particularly in urine. Its effect is probably based on interference with various enzyme systems in bacteria. The type of effect is primarily bacteriostatic (bactericidal in higher concentrations). The spectrum of activity includes most organisms which cause urinary tract infections, such as E. coli, Klebsiella, Enterobacter, enterococci and Staphylococcus. Resistance never or only rarely occurs during treatment with nitrofurantoin. Cross-resistance with other antibiotics is unknown.
Sensitive organisms: enterococci, E. coli, Citrobacter spp., group B streptococci, Staphylococcus aureus, Staphylococcus epidermidis.
Salmonella spp., Bacteroides spp., Streptococcus pneumoniae (a rare cause of urinary tract infection).
Partially or moderately sensitive organisms: Klebsiella pneumoniae, Enterobacter spp., Proteus spp., Providencia spp., Serratia spp.
Resistant organisms: Pseudomonas aeruginosa, Proteus mirabilis, Pseudomonas cepacia, Acinetobacter.

Pharmacokinetics
Nitrofurantoin is almost completely absorbed after oral administration. Absorption of nitrofurantoin from the macrocrystalline form present in Uvamin retard is delayed and this improves the tolerability of the substance.
Due to the rapid renal elimination it is impossible to achieve therapeutically adequate blood and tissue levels of nitrofurantoin. Peak concentrations of 50-150 µg/ml are produced in urine normally within 30 min of ingesting a single 100 mg dose of nitrofurantoin (microcrystalline). The peak urinary concentration is reached more slowly if nitrofurantoin is taken in the macrocrystalline form but it is approximately equivalent to or slightly lower than that achieved with the microcrystalline form. The plasma half-life of nitrofurantoin is 25-35 min.
Nitrofurantoin is bound to plasma proteins to the extent of about 50%.
After a single dose of 100 mg of nitrofurantoin, the urinary concentration falls only gradually and remains above the relevant minimum inhibitory concentrations for the important causative organisms of urinary tract infection, for 8-10 hours.
Nitrofurantoin is almost completely excreted within 24 hours via the kidneys, by filtration (about 17%) and excretion in the proximal tubules (about 83%). About 50% of the substance excreted in urine appears as inactive metabolites which produce a yellowish-brown discolouration of the urine. Only 2-4% of the substance appears in faeces.
Nitrofurantoin passes the placental barrier and appears in maternal milk.

Clinical situations accompanied by changed pharmacokinetics
Anuria and renal failure with creatinine clearance values of below 40 ml/min.: on the one hand, the frequency of toxic side effects is increased under these conditions and on the other hand, an adequate antibacterially effective concentration is not achieved in urine.

Indications
For the treatment of acute and chronic infections of the efferent urinary tract caused by sensitive organisms: cystitis, pyelitis, pyelonephritis. For the prophylaxis of infection in surgical operations.

Usual dosage
Acute urinary tract infections:
Adults:
1 capsule 2 or 3 times per day for 4 to 7 and not more than 10 days.
Age 12 to 14:
1 capsule twice per day for 4 to 7 days.

Chronic urinary tract infections:
Long-term therapy for adults:
1 to 2 capsules per day.
Uvamin retard should be taken after meals.

Special dosage instructions
Suggested dosage for children: 5-7 mg/kg body weight in 24 hours, divided into 4 doses; 2.5-3 mg/kg body weight daily is adequate for long-term therapy with Uvamin retard.
In the case of babies it is recommended that a small meal is given before administering Uvamin retard. Children under 3 months should not receive Uvamin retard.

Contraindications, warnings
Nitrofurantoin is contra-indicated in: anuria, severe renal failure with blood urea values above 100 mg % and creatinine clearances below 40 ml/min.
Glucose 6-phosphate dehydrogenase deficiency (danger of haemolytic anaemia).
Hypersensitivity to nitrofurantoin.
Neuritis.
Caution is required in anaemia, diabetes mellitus, electrolyte imbalance and vitamin B deficiency since the risk of peripheral neuropathy is increased in these cases.
Due to the immaturity of the enzyme systems, there is a danger of haemolytic anaemia in the first three months of life. The preparation is therefore contra-indicated in neonates, pregnant women in the last four weeks before the calculated date of delivery, and during breastfeeding. The indications for nitrofurantoin treatment in the first trimester of pregnancy must be weighed very carefully.
Alcohol must not be consumed during treatment with nitrofurantoin.

Side effects
Gastrointestinal disorders occur in 13-15% of cases and their frequency increases at higher doses (more than 7 mg/kg/day).
Central nervous system symptoms such as headache, vertigo and nystagmus can occur.
Irreversible peripheral polyneuropathy can sometimes occur, particularly in patients with renal failure, anaemia, diabetes mellitus, electrolyte imbalance, and vitamin B deficiency. The first symptoms are mostly paraesthesia, the «burning feet» syndrome and motor weakness.
Allergic reactions (1-2%): exanthema, pyrexia, eosinophilia, cholestatic hepatitis, attacks of asthma, exudative pleuritis and anaphylactic shock. Allergic pulmonary infiltration (so-called «nitrofurantoin pneumonia») can occur in isolated cases, particularly during long-term therapy and may progress to irreversible pulmonary fibrosis.
Haemolytic and megaloblastic anaemias (particularly in patients with glucose 6-phosphate dehydrogenase deficiency) and agranulocytosis are rare.
Temporary loss of hair has been described.
Impaired spermatogenesis due to damage to the epithelium of the spermatic canals has been described.

Interactions
The concurrent administration of sulphinpyrazole can lead to a reduction in the effect and an increase in the toxicity of nitrofurantoin.
Antacids can reduce the absorption of nitrofurantoin and therefore should not be used concurrently with Uvamin retard.
Probenecid inhibits the excretion of nitrofurantoin. This leads to elevation of the plasma concentration and to an increase in the toxic potential of nitrofurantoin.

Presentation
Packings of 20 and 30 capsules
Hospital packings

The information contained here is limited. Further information can be obtained from your doctor or pharmacist.

mepha

Mepha Ltd
Aesch-Basel
Switzerland

4 02 07 1 258
5294