MINOCYCLINE

Indications/Uses

Listed in Dosage.

Dosage/Direction for Use

Adult : PO Susceptible infections 200 mg/day in divided doses. Acne 50 mg bid or 100 mg/day. Asymptomatic meningococcal carriers 100 mg 12 hrly for 5 days, followed by a course of rifampicin. Nongonococcal urethritis 100 mg 12 hrly for at least 7 days. Uncomplicated gonorrhoea Initially, 200 mg, followed by 100 mg 12 hrly for a min of 4 days. Uncomplicated urethral gonorrhoea in men 100 mg 12 hrly for 5 days. Mycobacterium marinum infections 100 mg 12 hrly for 6-8 wk. Syphilis 200 mg initially, followed by 100 mg 12 hrly for 10-15 days. IV Susceptible infections Initially, 200 mg followed by 100 mg 12 hrly. Max: 400 mg/day. Topical/Cutaneous Periodontitis As extended-release powder: Insert the unit-dose cartridge subgingivally into the base of periodontal pocket.

Dosage Details

Intravenous

Susceptible infections

Adult: Initially, 200 mg followed by 100 mg 12 hrly. Max: 400 mg/day.

Child: >8 yr Initially, 4 mg/kg, then 2 mg/kg 12 hrly not to exceed the usual adult dose.

Oral

Susceptible infections

Adult: 200 mg daily in divided doses.

Oral

Mycobacterium marinum infections

Adult: 100 mg 12 hrly for 6-8 wk.

Oral

Asymptomatic meningococcal carriers

Adult: 100 mg 12 bid for 5 days, followed by a course of rifampicin.

Oral

Acne

Adult: 50 mg bid or 100 mg once daily. ≥45 kg: 1 mg/kg once daily as modified-release preparation.

Oral

Syphilis

Adult: 200 mg initially, followed by 100 mg 12 hrly for 10-15 days.

Oral

Nongonococcal urethritis

Adult: 100 mg 12 hrly for at least 7 days.

Oral

Uncomplicated gonorrhoea

Adult: Initially, 200 mg, followed by 100 mg 12 hrly for a min of 4 days, follow-up cultures should be done w/in 2-3 days after completion of therapy.

Oral

Uncomplicated urethral gonorrhoea in men

Adult: 100 mg 12 hrly for 5 days.

Topical/Cutaneous

Periodontitis

Adult: As extended-release powder: Insert the unit-dose cartridge subgingivally into the base of periodontal pocket as an adjunct to scaling and root planing. Each cartridge contains 1 mg of minocycline. This should be done by a dental healthcare provider and is not meant for self administration.

Renal Impairment

Oral, Intravenous:

Reduce dose or increase dosing interval. Max: 200 mg/day.

Administration

May be taken with or without food. May be taken w/ meals to reduce GI discomfort.

Pellet-Filled Cap: Should be taken on an empty stomach. Take w/ a full glass of water on an empty stomach at least 1 hr before or 2 hr after meals.

Reconstitution

Intravenous:

Add 5 mL of sterile water for inj and immediately further dilute to a vol of 500-1,000 mL w/ NaCl inj, dextrose inj, dextrose and NaCl inj, Ringer's inj, or lactated Ringer's inj.

Incompatibility

Ca-containing soln except lactated Ringer’s, allopurinol, amifostine, soln containing ACTH, aminophylline, amobarbital Na, amphotericin B, bicarbonate infusion mixtures, carbenicillin, cephalothin Na, cefazolin Na, chloramphenicol succinate, colistin sulfate, hydromorphone, iodine Na, methicillin Na, meperidine, morphine, novobiocin, pemetrexed, propofol, penicillin, pentobarbital, phenytoin Na, polymyxin, prochlorperazine, Na ascorbate, sulfadiazine, sulfisoxazole, thiotepa, thiopental Na, vitamin K (Na bisulfate or Na salt), whole blood.

Contraindications

Hypersensitivity to minocycline and other tetracyclines. Concurrent use w/ methoxyflurane. Lactation.

Special Precautions

Patient w/ history of predisposition to oral candidiasis, pre-existing SLE and myasthenia gravis. Hepatic and renal impairment. Pregnancy.

Adverse Reactions

Haemolytic anaemia, thrombocytopenia, neutropenia, brownish-black microscopic discolouration of thyroid tissue, thyroid cancer, hyperaesthesia, paraesthesia, headache, dizziness, vertigo, ataxia, bulging fontanelles in infants and benign intracranial HTN in adults, discolouration of the conjunctiva and lacrimal secretions, impaired hearing, tinnitus, pericarditis, pulmonary infiltration, pulmonary eosinophilia, anorexia, nausea, vomiting, diarrhoea, dyspepsia, dysphagia, oesophagitis, oesophageal ulceration, increases in LFT values, hepatitis, acute hepatic failure, jaundice, hyperbilirubinaemia, erythema multiforme, exfoliative dermatitis, photosensitivity, alopecia, hyperpigmentation, rash, acute renal failure, discolouration of teeth, buccal mucosa and tongue.

Potentially Fatal: Drug Rash w/ Eosinophilia and Systemic Symptoms (DRESS), Stevens-Johnson syndrome, Clostridium difficile-associated disease, hypersensitivity syndrome (comprising eosinophilia, fever, rash), lupus-like and serum sickness-like syndrome (both comprising arthralgia, fever, joint stiffness or swelling).

Pregnancy Category (US FDA)

IV/PO: D

Patient Counseling Information

May impair ability to drive or operate machinery. Avoid prolonged exposure to sunlight.

MonitoringParameters

Monitor LFT, BUN, renal function, CBC. If treatment continues for longer than 6 mth, monitor every 3 mth for hepatotoxicity, pigmentation and SLE.

Overdosage

Symptoms: Dizziness, nausea and vomiting. Management: Symptomatic and supportive treatment.

Drug Interactions

Impaired absorption by concomitant admin w/ Ca-containing antacids and other divalent or trivalent cations (e.g. Al, bismuth, Fe, Mg, Zn). May decrease effectiveness of oral contraceptives. May interfere w/ the bactericidal action of penicillins. May potentiate the effect of anticoagulants. Increased risk of nephrotoxicity w/ diuretics. Increased risk of pseudotumour cerebri w/ retinoids (e.g. isotretinoin). Increased risk of ergotism w/ ergot alkaloids.

Potentially Fatal: Concurrent use w/ methoxyflurane may result to fatal renal toxicity.

Lab Interference

May cause false elevations in urinary catecholamine levels due to interference w/ fluorescence test.

Action

Description: Minocycline inhibits protein synthesis by binding to 30S and possibly 50S ribosomal subunits of susceptible bacteria. It is active against Streptococcus aureus, Neisseria meningitidis, various enterobacteria, Acinetobacter, Bacteroides, Haemophilus and Nocardia spp., and some mycobacteria.

Pharmacokinetics:

Absorption: Readily and almost completely absorbed from the GI tract. Time to peak plasma concentration: W/in 1-4 hr.

Distribution: Widely distributed in body tissues and fluids w/ high concentrations in the hepatobiliary tract, lungs, sinuses and tonsils, as well as in tears, saliva and sputum. Relatively poor CSF penetration, crosses the placenta and enters breast milk. Plasma protein binding: Approx 75%.

Metabolism: Undergoes minimal hepatic metabolism, converted mainly to 9-hydroxyminocycline.

Excretion: Via urine (approx 8-13%) and faeces (approx 20-30%) as unchanged drug. Elimination half-life: 15-23 hr (IV), 11-22 hr (oral).

Storage

Store between 20-25°C. Protect from light, moisture and excessive heat.

MIMS Class

Acne Treatment Preparations / Tetracyclines / Topical Antibiotics