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SAFER USE OF HIGH RISK MEDICINES

Waitemata District Health Board
Best Care for Everyone

DOXYCYCLINE & MINOCYCLINE – SAFE PRESCRIBING – DON'T GET BURNT

- WARN ABOUT RISK OF OESOPHAGITIS
- ADVISE ABOUT SUN PROTECTION - PHOTOSENSITIVITY IS COMMON
- BEWARE OF HYPERSENSITIVITY REACTIONS
- DO NOT PRESCRIBE WITH ISOTRETINOIN
- AVOID DURING PREGNANCY, BREASTFEEDING AND IN CHILDREN UNDER 12 YEARS
- MONITOR ANTICOAGULANT THERAPY CLOSELY

Tetracyclines are broad spectrum antibiotics often used for skin, chest, sinus, ophthalmic and pelvic infections. Tetracyclines also have anti-inflammatory effects, which make them useful for acne and rosacea, but they may need to be continued for weeks or months.

WARN ABOUT RISK OF OESOPHAGITIS

If doses are taken immediately before bedtime, or without fluids, there is a high risk of oesophagitis; this is especially problematic with doxycycline. Symptoms include pain on swallowing and severe chest pain. In some cases, recovery may take several weeks.

Advise to take tetracyclines with a large glass of water, and remain upright (standing or sitting) for at least 30 minutes afterwards.

ADVISE ABOUT SUN PROTECTION - PHOTOSENSITIVITY IS COMMON

Doxycycline is one of the most commonly reported medicines associated with photosensitivity in New Zealand. Advise to avoid excessive sunlight and sun lamps. Photosensitivity reactions are dose-related and usually appear as unexpected or exaggerated sunburn on sun-exposed skin.

Minocycline can cause greyish discolouration of teeth in about 5% of people, especially with doses over 100mg per day. Bluish discolouration of the skin, especially on scars, can occur particularly with prolonged courses, at high doses, and with older people. Discontinue treatment if symptoms occur. Minocycline and doxycycline can both cause nail discolouration.

BEWARE OF HYPERSENSITIVITY REACTIONS

Tetracyclines are associated with potentially serious hypersensitivity reactions. Reported reactions include rash, exfoliative dermatitis, Stevens-Johnson syndrome, and anaphylaxis. Minocycline is associated with Drug Hypersensitivity Syndrome (DHE) which is a rare but severe multi-system reaction including fever, rash and internal organ involvement, typically occurring within 8 weeks of exposure. Avoid re-exposure and inform first-degree relatives because genetic factors are suspected.

DO NOT PRESCRIBE WITH ISOTRETINOIN

Isotretinoin and tetracyclines are both associated with benign intracranial hypertension (BIH), so the combination of tetracyclines with oral vitamin A or retinoids is contraindicated. BIH is a very rare but potentially serious condition, usually presenting as a pulsatile headache but visual disturbance and pulsatile tinnitus have also been reported. Symptoms generally occur within the first 4 weeks of treatment. If BIH is suspected, discontinue treatment and seek neurological advice.

Dizziness, light-headedness, vertigo and reduced hearing have also been associated with tetracyclines, especially minocycline. Advise caution with driving if these symptoms occur.

AVOID DURING PREGNANCY, BREASTFEEDING AND IN CHILDREN UNDER 12 YEARS

During the period of mineralisation of a child's teeth (from 2nd trimester of pregnancy up to 12 years of age) tetracyclines can cause discolouration of the child's teeth, hypoplasia of the enamel, and can accumulate the in the growing skeleton.

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DOXYCYCLINE & MINOCYCLINE

Tetracyclines are considered pregnancy category D, so should be used with extreme caution, if at all, during pregnancy and are contraindicated in children under 12 years.

Tetracyclines are excreted at very low concentrations into breastmilk, so they may be used during breastfeeding, but preferably for no more than 10 days.

MONITOR ANTICOAGULANT THERAPY CLOSELY

If patients are receiving anticoagulant therapy, and are unwell enough to require an antibacterial, it is advisable to monitor coagulation status closely, ideally within 3 days of starting the antibacterial.

There is some evidence to suggest that tetracyclines depress plasma prothrombin activity, but a pre-emptive dose reduction of anticoagulants is not required.

How long to treat for acne?

Oral antibiotics are generally appropriate for moderate acne that has not responded to 2 months of topical therapy.

Improvement is expected to occur over 4-6 months. Start with doxycycline 50-100mg daily for 4-6 months. If effective after 4 months, taper down to alternate day treatment. If this dose is ineffective, the dose may be increased to a maximum of 200mg per day, if tolerated.

Review regularly to encourage compliance and discuss adverse effects. After the course, continue with topical therapy as maintenance.

Combination therapy with a topical benzoyl peroxide or retinoid may enhance response. To reduce the risk of antibiotic resistance, limit the duration of oral antibiotic therapy; short-term courses are now preferred.

Note: Patient expectation is usually for complete clearance; inform them from the first visit that this may not be realistic.

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KEY REFERENCES

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CLICK HERE FOR FURTHER INFORMATION ON DOXYCYCLINE & MINOCYCLINE AND A FULL REFERENCE LIST

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