

treatment with topical benzoyl peroxide or azelaic acid may also be required.

Tetracyclines should not be given to children under 12 years. In children over 12 years, either oxytetracycline p. 383 or tetracycline p. 384 is usually given for acne. If there is no improvement after the first 3 months another oral antibacterial should be used. Maximum improvement usually occurs after 4 to 6 months but in more severe cases treatment may need to be continued for 2 years or longer. Doxycycline p. 381 and lymecycline p. 383 are alternatives to tetracycline in children over 12 years.

Although minocycline p. 383 is as effective as other tetracyclines for acne, it is associated with a greater risk of lupus erythematosus-like syndrome. Minocycline sometimes causes irreversible pigmentation.

Erythromycin is an alternative for the management of moderate to severe acne with inflamed lesions, but propionibacteria strains resistant to erythromycin are becoming widespread and this may explain poor response. In cases of erythromycin-resistant *P. acnes* in infants, oral isotretinoin may be used on the advice of a consultant dermatologist.

Concomitant use of different topical and systemic antibacterials is undesirable owing to the increased likelihood of the development of bacterial resistance.

Hormone treatment for acne

Co-cyprindiol below (cyproterone acetate with ethinylestradiol) contains an anti-androgen. It is no more effective than an oral broad-spectrum antibacterial but is useful in females of childbearing age who also wish to receive oral contraception.

Improvement of acne with co-cyprindiol probably occurs because of decreased sebum secretion which is under androgen control. Some females with moderately severe hirsutism may also benefit because hair growth is also androgen-dependent.

Oral retinoid for acne

The retinoid isotretinoin p. 809 reduces sebum secretion. It is used for the systemic treatment of nodulo-cystic and conglobate acne, severe acne, acne with scarring, or for acne which has not responded to an adequate course of a systemic antibacterial. Isotretinoin is used for the treatment of severe infantile acne resistant to erythromycin p. 355.

Isotretinoin is a toxic drug that should be prescribed **only** by, or under the supervision of, a consultant dermatologist. It is given for at least 16 weeks; repeat courses are not normally required. The drug is **teratogenic** and must **not** be given to females of child-bearing age unless they practise effective contraception (oral progestogen-only contraceptives not considered effective) and then only after detailed assessment and explanation by the physician. They must also be registered with a pregnancy prevention programme.

Although a causal link between isotretinoin use and psychiatric changes (including suicidal ideation) has not been established, the possibility should be considered before initiating treatment; if psychiatric changes occur during treatment, isotretinoin should be stopped, the prescriber informed, and specialist psychiatric advice should be sought.

Rosacea

The adult form of rosacea rarely occurs in children. Persistent or repeated use of potent topical corticosteroids may cause periorificial rosacea (steroid acne). The pustules and papules of rosacea may be treated for at least 6 weeks with a topical metronidazole p. 775 preparation, or a systemic antibacterial such as erythromycin, or for a child over 12 years, oxytetracycline p. 383. Tetracyclines are **contra-indicated** in children under 12 years of age.

6.1 Acne

ANTI-ANDROGENS

Co-cyprindiol

02-Mar-2017

● INDICATIONS AND DOSE

Moderate to severe acne in females of child-bearing age refractory to topical therapy or oral antibacterials | Moderately severe hirsutism

► BY MOUTH

► Females of childbearing potential: 1 tablet daily for 21 days, to be started on day 1 of menstrual cycle; subsequent courses repeated after a 7-day interval (during which withdrawal bleeding occurs), time to symptom remission, at least 3 months; review need for treatment regularly

● CONTRA-INDICATIONS Acute porphyrias p. 652 · gallstones

· heart disease associated with pulmonary hypertension or risk of embolus · history during pregnancy of cholestatic jaundice · history during pregnancy of chorea · history during pregnancy of pemphigoid gestationis · history during pregnancy of pruritus · history of breast cancer but can be used after 5 years if no evidence of disease and non-hormonal methods unacceptable · history of haemolytic uraemic syndrome · migraine with aura · personal history of venous or arterial thrombosis · presence or history of liver tumours · sclerosing treatment for varicose veins · severe or multiple risk factors for arterial disease or for venous thromboembolism · systemic lupus erythematosus with (or unknown) antiphospholipid antibodies · transient cerebral ischaemic attacks without headaches · undiagnosed vaginal bleeding

● CAUTIONS Active trophoblastic disease (until return to normal of urine- and plasma-gonadotrophin concentration)—seek specialist advice · arterial disease · gene mutations associated with breast cancer (e.g. BRCA 1) · history of severe depression especially if induced by hormonal contraceptive · hyperprolactinaemia—seek specialist advice · inflammatory bowel disease including Crohn's disease · migraine · personal or family history of hypertriglyceridaemia (increased risk of pancreatitis) · risk factors for venous thromboembolism · sickle-cell disease · undiagnosed breast mass

CAUTIONS, FURTHER INFORMATION

► Venous thromboembolism There is an increased risk of venous thromboembolism in women taking co-cyprindiol, particularly during the first year of use. The incidence of venous thromboembolism is 1.5–2 times higher in women using co-cyprindiol than in women using combined oral contraceptives containing levonorgestrel, but the risk may be similar to that associated with use of combined oral contraceptives containing third generation progestogens (desogestrel and gestodene) or drospirenone. Women requiring co-cyprindiol may have an inherently increased risk of cardiovascular disease.

● **INTERACTIONS** → Appendix 1: combined hormonal contraceptives

● SIDE-EFFECTS

► **Common or very common** Abdominal pain · breast abnormalities · depression · headaches · mood altered · nausea · weight changes

► **Uncommon** Diarrhoea · fluid retention · sexual dysfunction · skin reactions · vomiting

► **Rare or very rare** Contact lens intolerance · erythema nodosum · thromboembolism · vaginal discharge

► **Frequency not known** Amenorrhoea (on discontinuation) · angioedema aggravated · chorea exacerbated · hepatic function abnormal · hepatic neoplasm · hypertension ·