ACNE

&

ROSACEA

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ACNE

WHAT IS IT ?

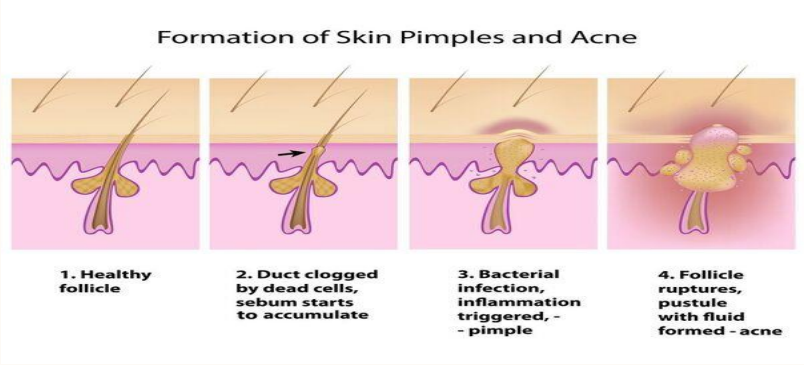
- Acne, from the Greek word ‘acme’ , which means ‘prime of life’, was seen as a disorder mainly during adolescence; this is somewhat misleading as acne can affect anyone from young infants to individuals in their 40s and 50s.
- Acne lesions develop from the sebaceous glands associated with hair follicles: face(most common) , back, chest and anogenital area .
- it is so common , studies show that 80% of people living in developed countries suffer from acne at some stage in their lives.

EPIDEMIOLOGY

- Prevalence: the most prevalent chronic skin condition in the US, affecting ~ 50 million people
- Age of onset: typically by 11–20 years but can affect any age
- Sex: more common in males during adolescence, but more common in women during adulthood

PATHOPHYSIOLOGY

- Formation of a plug in the follicle due to excess sebum, dead skin cells, and bacteria
- thickening of the keratin lining and subsequent obstruction of the sebaceous duct resulting in closed comedones (‘whiteheads’ wherether is small papules , no follicular opening , no erythema) or open comedones (‘blackheads’ whose colour is due to melanin and debris) .
- an increase in sebum secretion (due to androgens)
- an increase in Propionibacterium acnes bacteria within the duct, which uses sebum as a substrate. and produces lipases which break down the triglycerides in sebum to form free fatty acids
- inflammation around the sebaceous gland.



CLINICAL FEATURES

Localisation :sites of well developed sebaceous glands.

Non-inflammatory vs inflammatory

Non-inflammatory : Open vs closed comedones

Closed comedone (white heads) small papules , no follicular opening , no erythema

Open comedone (black heads) dilated follicular opening with core of shed keratin (colour due to melanin and lipid oxidation).

Inflammatory acne : papules , pustules , nodules.

CLINICAL FEATURES

- Severity
- ◦ **Mild acne**
- ▪ Few comedones
- ▪ Inflammatory papules and/or pustules may be present.
- ◦ **Moderate acne**
- ▪ Several comedones and inflammatory papules and pustules
- ▪ Some nodules may be present.
- ◦ **Severe acne**: extensive skin involvement
- ▪ Mulitple comedones
- ▪ Inflammatory papules and pustules
- ▪ Nodules and/or cysts (i.e., nodulocystic acne) may be present.

UNDERLYING CAUSES

- Genetic predisposition
- Hormones
- Stress
- Diet
- Seasons
- External factors
- Iatroginic factors

• Hormones

- Androgenic hormones increase the size of sebaceous glands and the amount of sebum
- Women with excess androgens (PCOS): more acne
- The change in the hormone balance is mimicked by many combined oral contraceptive pills (OCPs) resulting in increased acne.

• Stress

- It has long been observed by patients that stress leads to a worsening of their acne.
- Stress induces inflammation in the pilosebaceous unit leading to acne or acne exacerbation.

Diet

- Many patients believe their acne is exacerbated by eating certain foods. Most commonly implicated foods include dairy products, chocolate, nuts, coffee and fizzy drinks.

• Seasons

- Acne often improves with natural sunlight. Phototherapy with artificial light sources using visible blue light alone or in combination with red light has been shown in several clinical trials to be an effective treatment for acne in a proportion of patients

External factors

- Oils, whether vegetable oils in the case of cooks in hot kitchens or mineral oils in engineering, can cause ‘oil folliculitis’, leading to acne-like lesions through contact with the skin. Other acnegenic substances include coal tar
- Cosmetic acne is seen in adult women who have used cosmetics containing comedogenic oils over many years.

• Iatrogenic factors

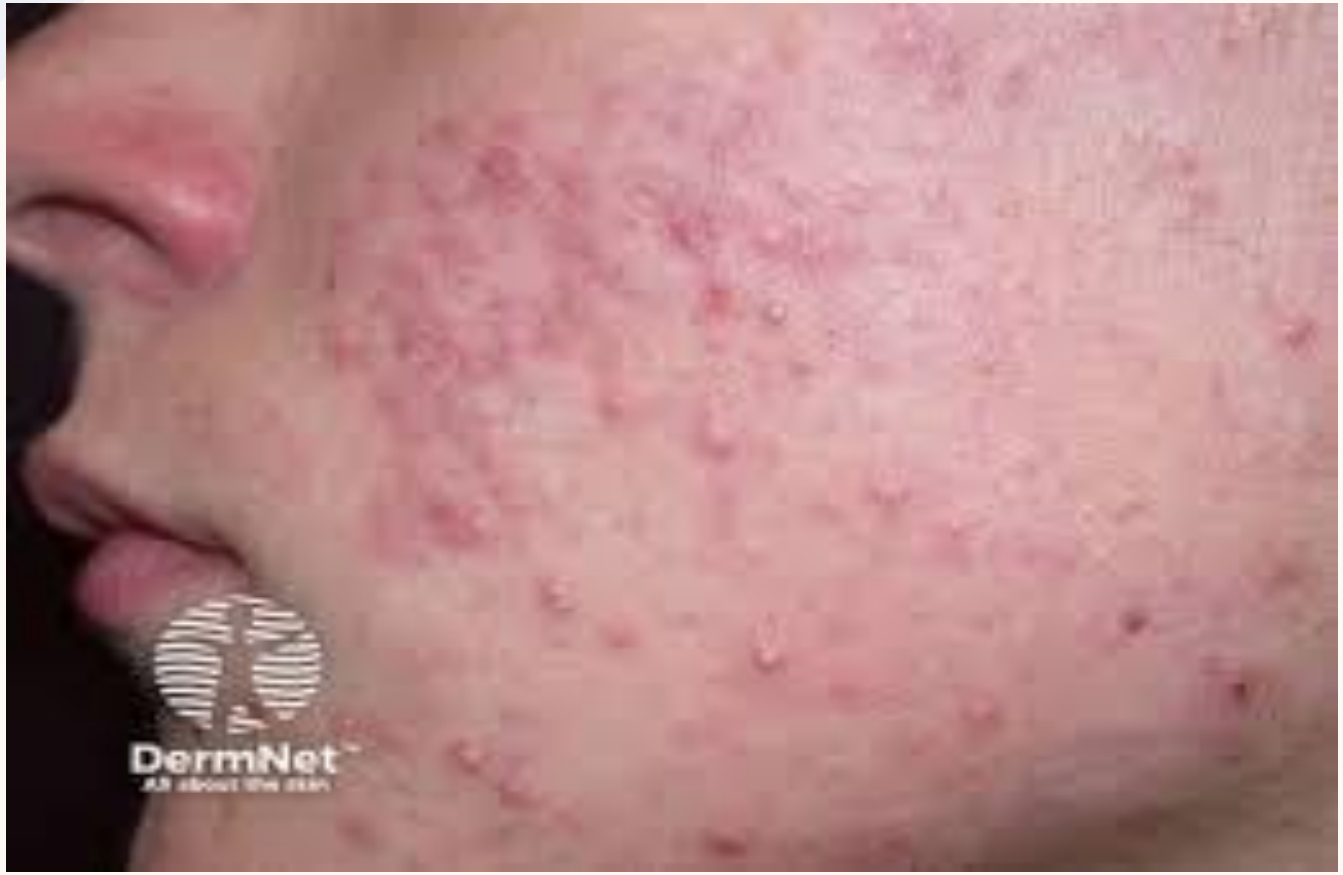
- Corticosteroids, both topical and systemic, can cause increased keratinisation of the pilosebaceous duct resulting in acne. OCPs of the combined type and antiepileptic drugs may also cause acne. However, an OCP with a high estrogen combined with low androgen can actually be used to treat acne in women.
- Some patients develop perioral dermatitis after application of topical steroids to the face, which is characterised by papules and pustules around the mouth and eyes that may mimic acne but there are no comedones .

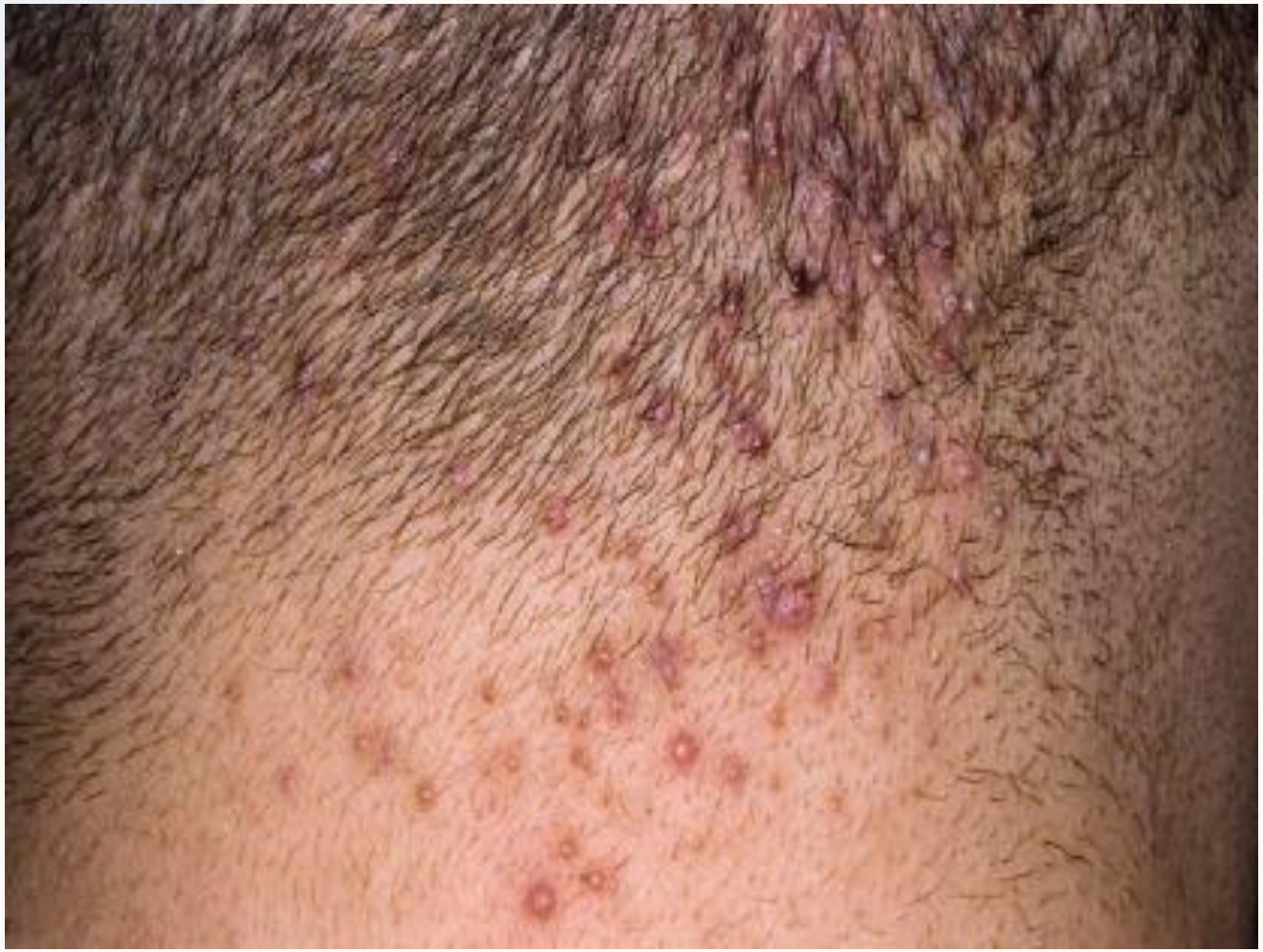
TYPES OF ACNE

- Acne vulgaris
- Acne excoriée
- Infantile acne
- Acne conglobata/fulminans
- Occupational acne
- Drug induced acne
- Cosmetic acne

• Acne vulgaris

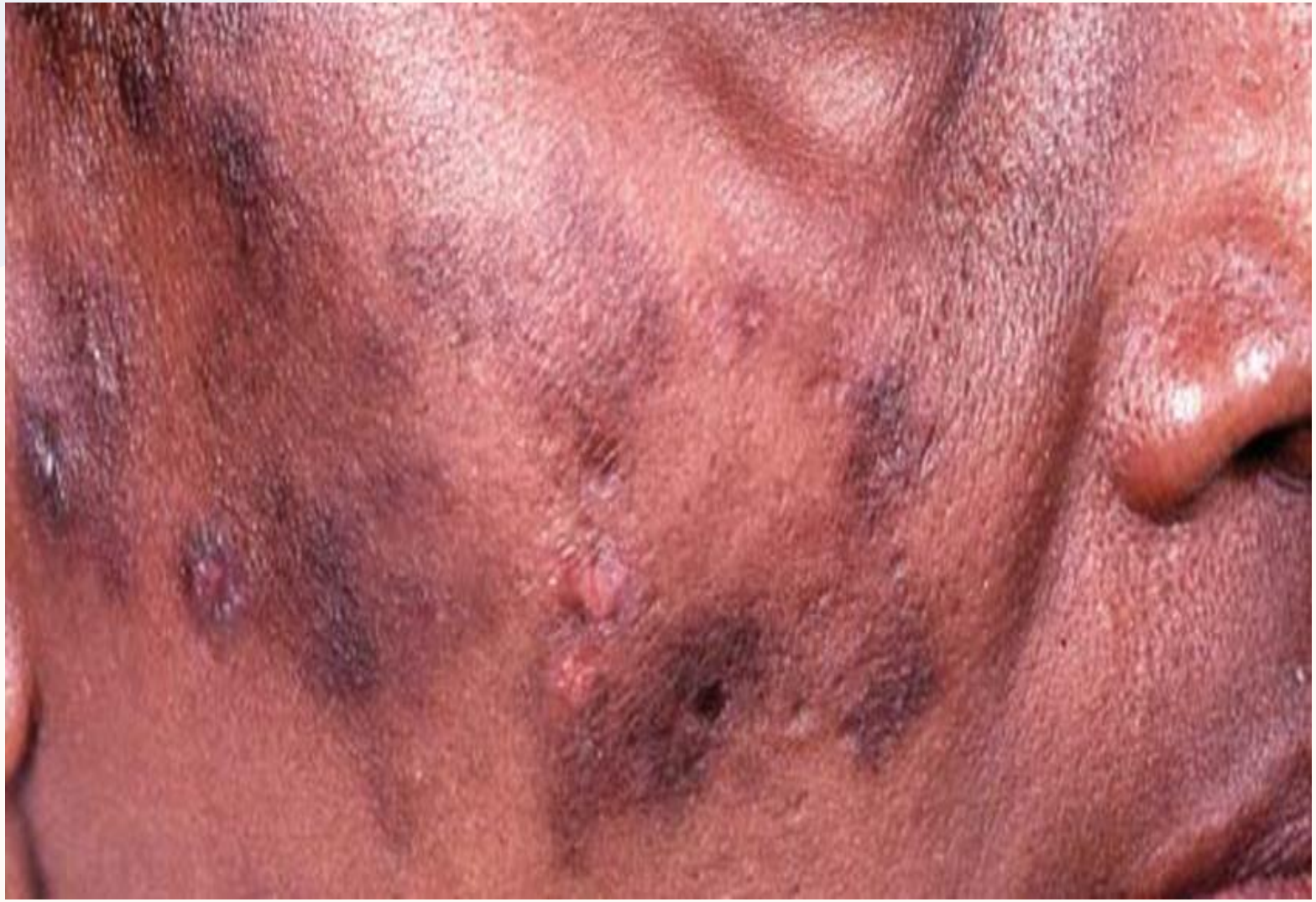
- the most common type of acne, occurs during puberty and affects the comedogenic areas of the face, back and chest. There may be a familial tendency to acne. Acne vulgaris is more common in males , 30–40% of whom develop acne between the ages of 18 and 19
- In females , the peak incidence is between 16 and 18 years
- Acne keloidalis is a type of scarring acne seen on the neck in men


DermNet



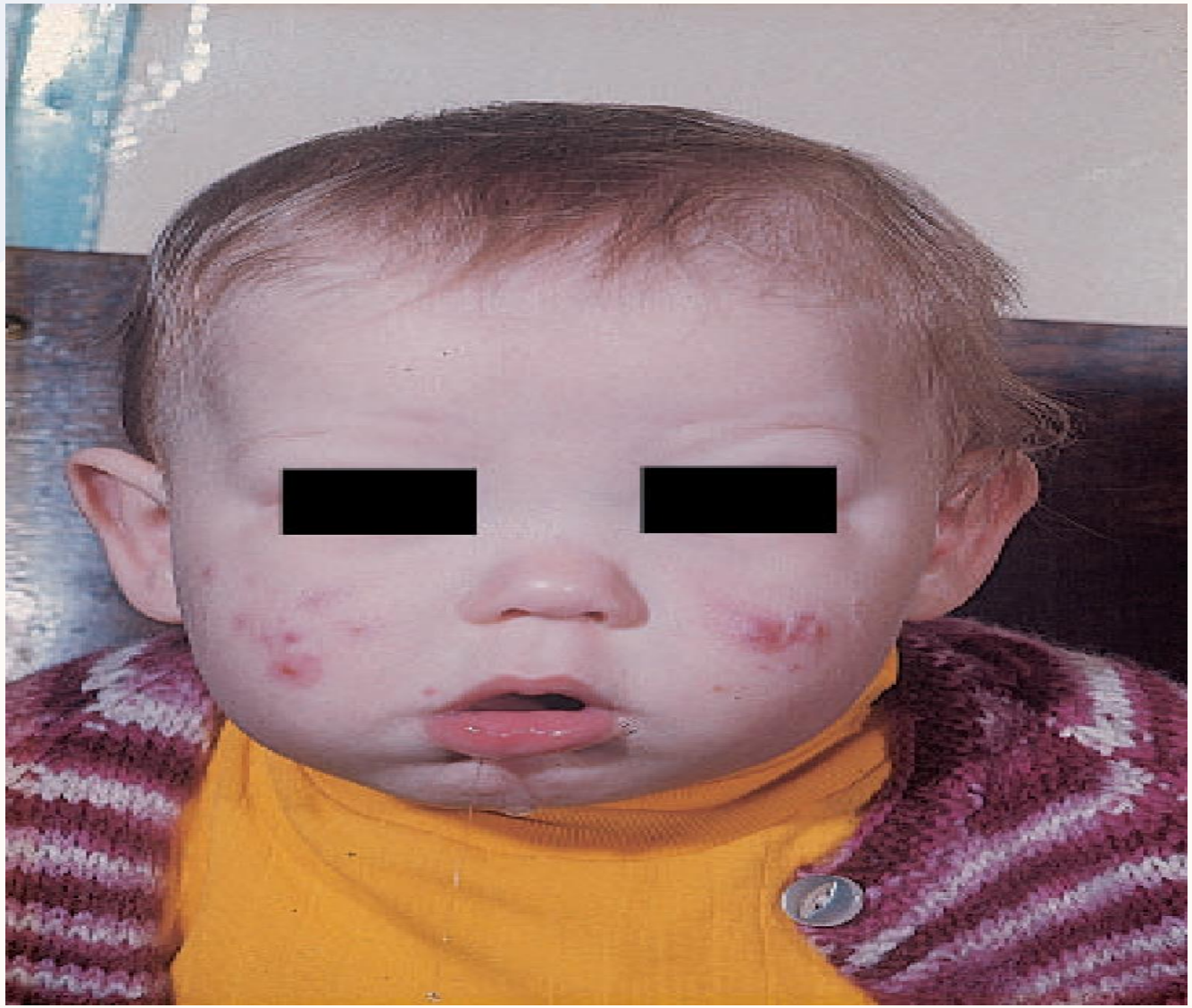
• Acne excoriée (Skin picking disorder)

- In this variant of acne, the patient picks at the skin producing disfiguring erosions . The acne itself is usually mild but tends to be persistent as it is often very difficult to help the patient break this habit.



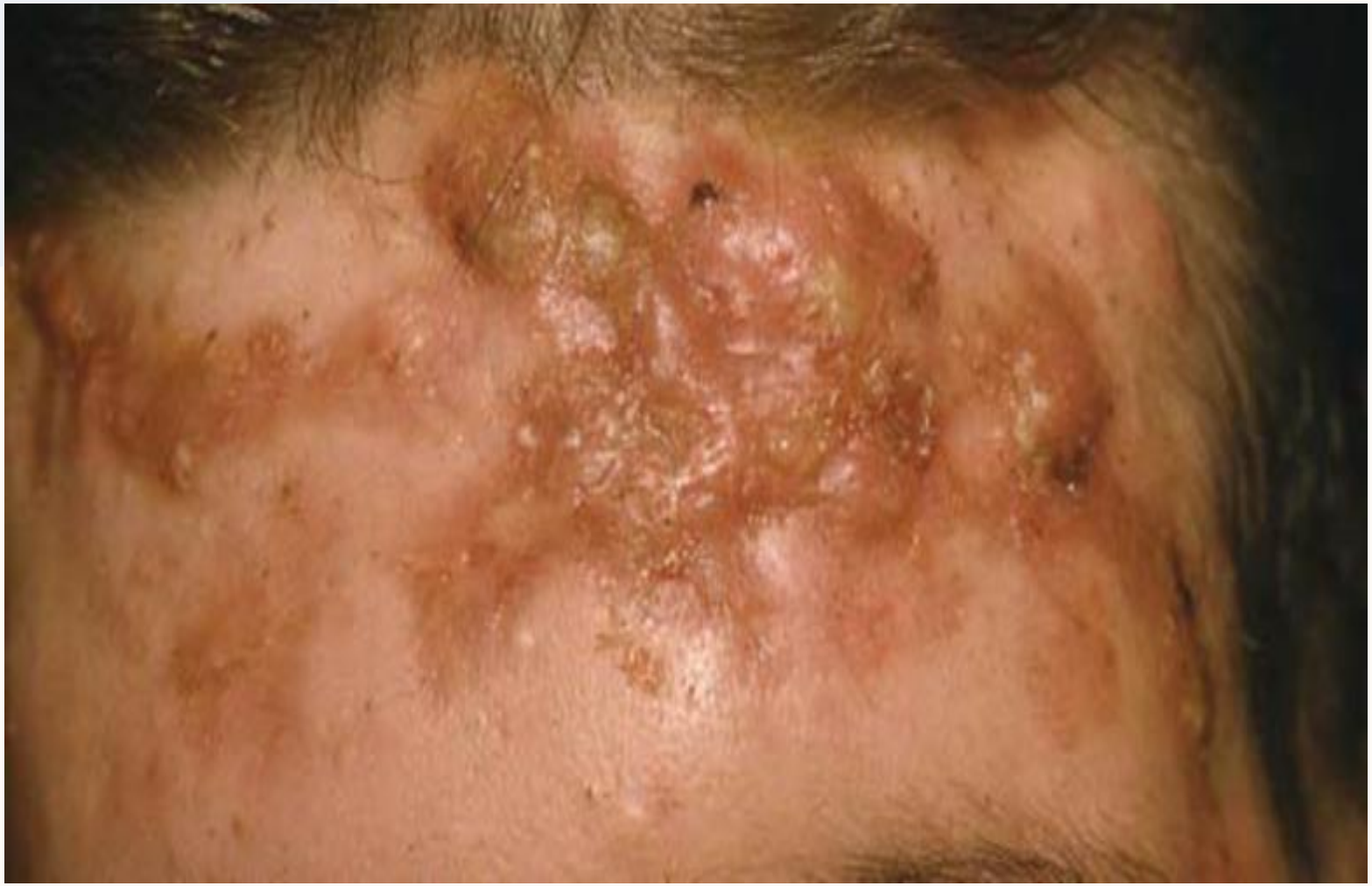
• Infantile acne

- Localized acne lesions occur on the face in the first few months of life. Infantile acne may require topical or systemic therapy although it will resolve spontaneously it may last up to 5 years and can cause scarring. There is an association with severe adolescent acne



Acne conglobata/fulminans

- severe form of acne, more common in boys and in tropical climates. There is extensive, nodulocystic acne and abscess formation affecting the trunk, face and limbs
- Acne fulminans is similarly severe but is associated with systemic symptoms of malaise, fever and joint pains (It appears to be associated with a hypersensitivity to Propionibacterium acnes.)



COMPLICATIONS

- • Resolving lesions leave post-inflammatory pigment changes and scarring.
- • Scars may be atrophic and pitted, deep, (‘ice pick’), rolling, and boxcar or they may be more hypertrophic or even keloid.
- • Scars may also be hyper/hypopigmented and erythematous.
- • Treatment of acne scarring does depend on the severity and scar type

TREATMENT OF ACNE

- Although acne can be very painful and may result in pigment change and scarring, it is the psychological impact of the condition that is often the most debilitating for those affected.
- Although most acne will settle with time , early intervention for those seeking medical advice results in a significant improvement in their quality of life
- When choosing a topical formulation to prescribe for a patient with acne it is worth bearing in mind the patient's skin type: for dry/sensitive skin, prescribe creams; for oily skin, use solutions or gels; and for combination skin and hair-bearing sites, lotions are well tolerated.
- When treating patients with acne it is important to warn them that they may not see any improvement in their acne for several months and that treatment may need to continue for months or years.

TREATMENT OF ACNE

- Cleansers
- Topical treatments
- Systemic treatments

• Cleansers

- Mild acne may respond well to simple measures such as cleansing the skin with proprietary keratolytics; these dissolve the keratin plug of the comedones. Cleansers need to be used with care as they can cause considerable dryness and scaling of the skin.

• Topical treatments

- Benzoyl peroxide has been available for the treatment of acne for many years; it has bacteriostatic effects against P. acnes and is mild comedolytic.
- Salicylic acid promotes desquamation of follicular epithelium and therefore inhibits the formation of comedones.
- Topical retinoids are vitamin A derivatives that are anti inflammatory and comedolytic. Treatments currently available include tretinoin , adapalene and tazarotene.

• Systemic treatments

- Oral antibiotics. Tetracyclines remain the mainstay of treatment in those over the age of 12 years
- Hormone therapies. These include certain types of OCPs that increase sex hormone-binding globulin and consequently reduce free testosterone levels.
- Oral retinoids. Isotretinoin (Accutane) is the drug of choice to treat severe acne.

ISOTRETINOIN

- Roaccutane is made by Roche and has been available in the UK
- In the USA, Isotretinoin was branded as Accutane by Roche co.
- Decreases keratin production in follicles
- Less follicular occlusion
- Highly teratogenic
- pregnancy test prior to Rx
- common side effects of isotretinoin capsules happen in more than 1 in 100 people. They include dry skin , eyes and nose . As well as headaches , back pain and arthralgia .

ROSACEA

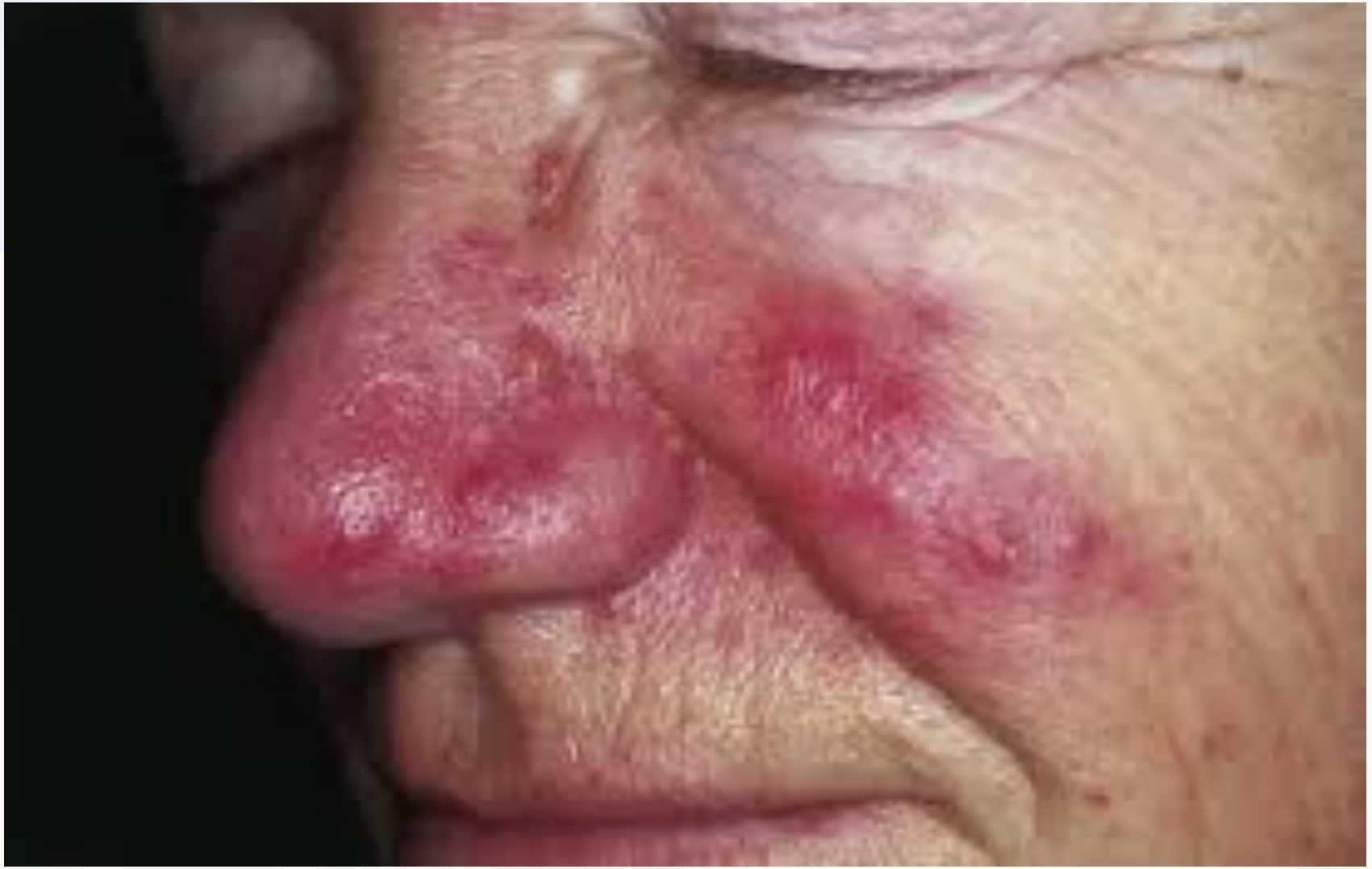
- Rosacea is a chronic inflammatory skin disease that may be triggered by a number of factors (e.g., alcohol, stress).

UNDERLYING CAUSES

- The cause of rosacea is not entirely understood. It involves chronic inflammation of skin and is especially associated with triggers that increase body temperature.
- Trigger factors
- Hot weather
- hot drinks
- spicy food
- Stress,
- alcohol
- nicotine
- Demodex mites

CLICNICAL FEATURES

- Characterized by key components (Facial flushing, persistent facial erythema, telangiectasia, and inflammatory papules/pustules and edema).
- Facial flushing and erythema are frequently exacerbated by: - Heat - Exercise - Hot food/drinks - Spicy food - Emotion - Alcohol - Sunlight.



CLINICAL TYPES

- 1. Erythematotelangiectatic : flushing, facial erythema + - telangiectasia
- 2. papulopustular: centrofacial eruption multiple small papules
- 3. Phymatous : thickened hypertrophic nodular skin, prominent pores, can affect nose (rhinophyma), chin, forehead, ears, eyelids
- 4. Ocular: dry gritty, eyelid edema, blepharitis, conjunctivitis.

DIFFERENTIAL DIAGNOSIS OF ROSACEA:

- • Acne, in which there are comedones, a wider distribution, and improvement with sunlight.
- • Seborrhoeic eczema, in which there are no pustules and eczematous changes are present.
- •Perioral dermatitis, which occurs in women with pustules and erythema around the mouth and chin. This may be precipitated by the use of potent topical steroids

MANAGEMENT

- 1)Lifestyle modifications: avoid trigger factors
- 2)Medical therapy For erythema, flushing, skin sensitivity, xerosis:
- • Topical preparations seem to be more effective at treating the papules and pustules than the erythema and flushing. • However, α-adrenoreceptor agonists have recently been evaluated for the treatment of diffuse facial erythema e.g. Oxymetazoline/xylometazoline, and brimonidine tartrate
- 3) Laser therapy: for erythema, telangiectasias, and phymatous rosacea
- 4) Surgical therapy: for phymatous rosacea; includes electrocautery and dermabrasion

any questions ?

Sources :

1) ABC of dermatology sixth edition
2) Dr rand`s slides
3) BNB dermatology module
4) Amboss