Acne Vulgaris

Acne vulgaris is a common chronic skin disease involving blockage and/or inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland).

Acne can present as noninflammatory lesions, inflammatory lesions, or a mixture of both .

Affects mostly the face but also the back and chest.

Acne, grade I; multiple open comedones.

Acne vulgaris has a multifactorial pathogenesis, of which the key factor is genetics.[2]

Acne develops as a result of an interplay of the following four factors:

1. *follicular epidermal hyperproliferation with subsequent plugging of the follicle*
2. *excess sebum production*
3. *the presence and activity of the commensal bacteria Propionibacterium acnes*
4. *inflammation*

Signs and Symptoms

Acne vulgaris is characterized by noninflammatory, open or closed comedones and by inflammatory papules, pustules, and nodules.

Acne vulgaris typically affects the areas of skin with the densest population of sebaceous follicles (eg, face, upper chest, back).

Local symptoms of acne vulgaris may include pain, tenderness, or erythema.

Diagnosis

Examination in patients with acne vulgaris includes the following features:

- Comedonal acne: Presence of open and closed comedones but usually no inflammatory papules or nodules
- Mild acne: Presence of comedones and a few papulopustules
- Moderate acne: Presence of comedones, inflammatory papules, and pustules; a greater number of lesions are present than in milder inflammatory acne
- Nodulocystic acne: Presence of comedones, inflammatory lesions, and large nodules greater than 5 mm in diameter; scarring is often evident

Laboratory Tests

Acne vulgaris is a clinical diagnosis. However, laboratory testing may be indicated in the following situations:

- Female patients with dysmenorrhea or hirsutism: Consider a hormonal evaluation with levels of total and/or free testosterone, dehydroepiandrosterone sulfate, luteinizing hormone, and follicle-stimulating hormone
- Cases refractory to treatment or when improvement is not maintained: Culture skin lesions to rule out gram-negative folliculitis

Management

Treatment of acne vulgaris should be directed toward the known pathogenic factors, including follicular hyperproliferation, excess sebum, *P acnes*, and inflammation

- The most appropriate treatment is based on the grade and severity of the acne.

Pharmacotherapy

The following medications are used in the treatment of *Propionibacterium* acne vulgaris:

- Retinoid-like agents (eg, topical tretinoin, adapalene, tazarotene, isotretinoin)
- Antibiotics (eg, tetracycline, minocycline, doxycycline, trimethoprim/sulfamethoxazole, clindamycin, topical clindamycin, topical erythromycin, daptomycin)
- Selective aldosterone antagonists (eg, spironolactone)
- Estrogen/progestin combination oral contraceptive pills (eg, ethinyl estradiol, drospirenone, and levomefolate; ethinyl estradiol and norethindrone; ethinyl estradiol and norgestimate; ethinyl estradiol and drospirenone)
- Acne products (eg, erythromycin and benzoyl peroxide, clindamycin and tretinoin, clindamycin and benzoyl peroxide, azelaic acid, benzoyl peroxide)

When a topical or systemic antibiotic is used, it should be used in conjunction with benzoyl peroxide or topical retinoid to reduce the emergence of resistance.

Nonpharmacotherapy

Diet therapy, such as a low-glycemic diet and avoidance of “junk foods,” has been suggested as a nonpharmacologic measure to manage acne vulgaris.

Procedures

Procedural treatments for acne vulgaris include the following:

- Manual extraction of comedones
- Intralesional steroid injections
- Superficial peels that use glycolic or salicylic