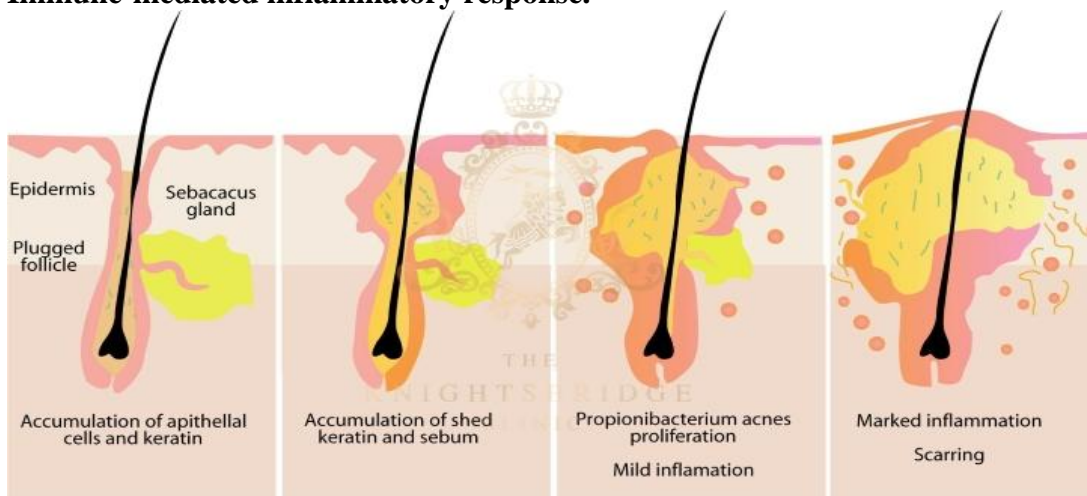




- **Acne vulgaris:** it is a long-term (chronic) skin disease that occurs when hair follicles become clogged with dead skin cells and oil from the skin (sebum). It occurs due to the following:



- **Increased sebum production.**
- **Abnormal skin keratinization.**
- **Propionibacterium (gram positive rods).**
- **Immune-mediated inflammatory response.**



- **There are three types of acne:**

- **Non-inflamed:** which are further subdivided into:
 - ✓ **Closed-comedons (white heads):** the pore is completely blocked and no air can enter the plugged follicle. The debris that's trapped in the pore remains white, or in some cases light yellow, until it drains from the blemish. They tend to be larger, more swollen and a bit more sensitive than blackheads.
 - ✓ **Open-comedons (black heads):** blackheads develop when pores fill with oil and dead skin cells, but remain open on top. The air exposure causes the debris to oxidize and darken, giving the blemish the appearance of being filled with a dark ball of dirt.
- **Inflamed:** which are further subdivided into:
 - ✓ **Erythematous papules.**
 - ✓ **Pustules.**
 - ✓ **Cysts.**
 - ✓ **Nodules.**
- **Lesions:** which are classified as being mild, moderate or severe and lead to scarring.



- **What are the targets of acne preparations?**

- Normalize keratinization (retinoids).
- Decrease sebum secretion (retinoids and anti-androgens).
- Anti-bacterial drugs (benzoyl peroxide and antibiotics).



- Prevention of inflammation (tretinoin/ isotretinoin, tetracycline or clindamycin).
- Keratinolysis (azelaic acid or salicylic acid).

- **Details about the drugs mentioned above:**

- **Benzoyl peroxide:**

- ✓ It is a topical Over-The-Counter drug (given without prescription).
- ✓ It is an anti-bacterial.
- ✓ Adverse effects include: dry skin, irritation and allergic dermatitis.
- ✓ Pregnancy use: category C.

- **Retinoids (vitamin A derivatives):**

- ✓ Tretinoin:

- ❖ Needs prescription.
- ❖ Used to treat blackheads.
- ❖ *Adverse effects include:* erythema (initial flare when used for the first time), skin peeling and irritation.

- ✓ Isotretinoin:

- ❖ Used to treat cystic, severe acne.
- ❖ *Mechanism of action:* normalize keratinization, decrease sebum secretion and acts as an anti-bacterial.
- ❖ *Adverse effects include:* cheilitis, dry skin, alopecia, dry eyes and hepatotoxicity.
- ❖ *Pregnancy use:* category X (teratogenic ☹).

- **Tetracyclines:**

- ✓ Examples on 1st generation: tetracycline, chlortetracycline, oxytetracycline.
- ✓ Examples on 2nd generation: doxycycline and minocycline.
- ✓ They are broad-spectrum, bacteriostatic, acting by inhibiting bacterial protein synthesis, but their effect is slow (takes a period 2-6 weeks to be manifested).
- ✓ Adverse effects include: fetal bone malformations, discoloration of teeth, nausea and vomiting, diarrhea and vertigo.
- ✓ Pregnancy use: category X (teratogenic).