



SUBCUTANEOUS FAT

- Consists of adipocytes.
- Functions:
 - Shock absorber
 - Facilitates mobility of skin over structures that underlie it.
 - Cosmetic role
 - Stores triglycerides which serve as fuel for energy
 - Insulator for heat

BLASCHKO'S LINES

- The lines of Blaschko were delineated over 100 years ago; First described by Blaschko in 1901.
 - The pattern is attributed to the lines of migration and proliferation of epidermal cells during embryogenesis (i.e. the bands of abnormal skin represent clones of cells carrying a mutation in a gene expressed in the skin).
- The lines do not correspond to any known nervous, vascular or lymphatic structures, but **represent the developmental growth pattern of the skin.**
- Generally longitudinally oriented on the limbs and circumferential on the trunk, but not perfectly linear.
- Implies a mosaic disorder (e.g. incontinentia pigmenti, inflammatory linear verrucous epidermal nevus).

QUESTIONS FROM PREVIOUS EXAMINATIONS

- | | |
|--------------------------------|----------------------------------|
| 1. Blood supply of the skin | – Biopsy procedures |
| 2. Functions of skin | – Basophilic degeneration |
| 3. Complement system of skin | – Epidermopoiesis |
| 4. HP of psoriasis, TV, EMF | – HPE of Bowen's disease |
| 5. Pallisading granulomas | – Dermoepidermal junction |
| 6. Mast cells | – Permeability of skin |
| 7. Apocrine glands | – Lamina lucida |
| 8. Civatte bodies | – Wood's lamp |
| 9. Process of keratinization | – Immunofluorescence testing |
| 10. Function of eccrine glands | – Patch test |
| 11. Langerhans' cells | – S-100 protein |
| 12. Cutaneous innervations | – Normal cutaneous flora |
| 13. Odland bodies | – X-linked recessive inheritance |

Secondary Lesions

- These lesions are due to subsequent changes which take place on the primary lesions.
 - **Erosion:** Superficial ulceration involving epidermis only which heals without scarring.
 - **Ulcer (of skin):** A loss of dermis and epidermis, often with loss of the underlying tissues.
 - **Crust:** Dried up exudate like serum, pus or blood.
 - **Scale:** A flat plate or flake of stratum corneum.

Type of scale	Features	Example
<i>Collarette scale</i>	is a fine, peripherally attached and centrally detached scale at the edge of an inflammatory lesion.	Pityriasis rosea
<i>Annular scaling</i>	is also seen in porokeratosis.	
<i>Furfuraceous or pityriasisform</i>	scales are fine and loose.	
<i>Ichthyotic scales (fish-like)</i>	are large and polygonal.	
<i>Silvery scales</i>	are characteristic of processes involving parakeratosis, especially psoriasis.	
<i>Greasy adherent scales</i>	are seen in seborrheic dermatitis.	

- **Excoriation:** Superficial erosion or ulcer caused by scratching.
- **Fissure:** Linear crack in the skin which may be superficial or deep to the dermis.
- **Lichenification:** Thickening of skin with increased skin markings and pigmentation.
- **Scar:** Replacement by fibrous tissue of another tissue that has been destroyed by injury or disease. An atrophic scar is thin and wrinkled. A hypertrophic scar is elevated, with excessive growth of fibrous tissue. A cribriform scar is perforated with multiple small pits.
- **Sclerosis:** Diffuse or circumscribed induration of the subcutaneous tissues. It may also involve the dermis, when the overlying epidermis may be atrophic. It is characteristically seen in scleroderma.

Special Lesions

- **Comedones:** It is a plug of keratin and sebum formed in the follicular canal of pilosebaceous unit. It may be open or closed.

14. Cytokines in dermatology
15. Cell adhesive molecule in dermatology
16. Keratin: Origin, site, function of keratinocyte and discuss keratinization
17. What is Melanin? Discuss origin, site, function of melanocyte and discuss melanization
18. Discuss microanatomy and physiology of mast cells
19. Percutaneous absorption, routes of percutaneous absorption, factors influencing. What are penetration enhancers? Properties of penetration enhancers
20. Lipid interaction, protein modification, partitioning promoter's concept
21. Structure of the lower part of the hair shaft
22. Biosynthesis of keratin
23. Phototoxic vs photoallergic response
24. Anatomy of nail
25. Dermal connective tissue
26. Melanogenesis and racial differences in the skin
27. Structure of peripheral nerve
28. Merkel cells
29. Dendritic cells of the epidermis
30. Antigen presenting cells of the epidermis
31. Structure of apocrine gland and hidradenitis suppurative
32. Acantholysis
33. DEJ + mention the lines of cleavage and pathogenetic factors in blistering disorders
34. Barrier functions of the skin
35. Write note with diagram of normal skin
36. Dermatological purpura
37. Epidermal growth factors
38. Epidermal cell kinetics
39. Pharmacological control of sebum
40. Discuss role of immunofluorescence in diagnosis of dermatological disorders
41. Subcutaneous tissue
42. Sunlight and skin
43. Epidermal melanin unit
44. Basal cell degeneration

TZANCK SMEAR

A Tzanck smear is a cytologic technique most often used in the diagnosis of herpesvirus infections (simplex or varicella-zoster) and also done in vesicular and bullous lesions. The material is placed on a glass slide, air-dried, and stained with Giemsa or Wright's stain. Multinucleated epithelial giant cells suggest the presence of herpes, but culture or immunofluorescence testing must be performed to identify the specific virus.

Procedure

- An early vesicle, not a pustule or crusted lesion, is unroofed, and the base of the lesion is scraped gently with a scalpel blade.
- The material is placed on a glass slide, air-dried, and stained with Giemsa or Wright's stain.
- Smear is examined under oil immersion field.

Results

- Multinucleated epithelial giant cells suggest the presence of herpes, but culture or immunofluorescence testing must be performed to identify the specific virus.
- Pemphigus demonstrates acantholytic cells. These are rounded cells with large nuclei, peripheral condensed cytoplasm and perinuclear halo. Pemphigus vulgaris and Hailey-Hailey disease show plenty of rounded acantholytic cells with large nuclei, whereas in pemphigus foliaceus and pemphigus erythematosus the acantholytic cells are fewer, oval with smaller nuclei.
- Molluscum contagiosum lesions show intracytoplasmic inclusion bodies known as **Henderson-Patterson bodies**.

DIASCOPY (VITROPRESSION)

Diascopy is designed to assess whether a skin lesion will blanch with pressure as, for example, in determining whether a red lesion is hemorrhagic or simply blood-filled. For instance, urticaria will blanch with pressure, whereas a purpuric lesion caused by necrotizing vasculitis will not. Diascopy is performed by pressing a microscope slide or magnifying lens against a lesion and noting the amount of blanching that occurs. Granulomas often have an "apple jelly" appearance on diascopy.

Useful in

- **Lupus vulgaris:** Granulomatous nodules have translucent brownish color ("apple jelly nodules").
- To differentiate **nevus anemicus** from nevus depigmentosus.



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