**Practical Histology 2stage Lec.**

Lec.1

***Integumentary system***

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| Skin structure |

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| The skin has thr ee main layers:  **1- Epidermis** - a self-regenerating stratified squamous epithelium which produces a surface layer of the protein, ***keratin***, which is the component of skin in direct contact with external environment.  **2-Dermis** - a layer of fibrocollagenous and elastic tissue which contains blood vessels, nerves and sensory receptors.  **3-Subcutis or hypodermis** - the deepest layer of skin which is mainly adipose tissue, but also contains the larger vessels which supply and drain the dermal blood vasculature.  Basic histology of skin similar in different regions of body except in the thickness of the epidermis so that divided in to two type. |

**A--Thin skin**

The epidermis consist from thin layer(3layers)and present hair follicles' , sebaceous glands , sweat glands and Contains smooth muscles Attached to connective tissue sheath of hair follicles called arrector pili muscle.

**B--Thick skin**

The epidermis of thick skin exhibits five distinct cell layers and is much thicker than that thin skin contains numerous sweat gland ,but it lacks hair follicles ,sebaceous glands and smooth muscles.

The epidermal layers:

1. ***basal layer*** (***stratum basale*** ) this layer responsible, by repeated mitotic division, for the constant regeneration of the other layers of the epidermis. The cells are arranged as a regimented single layer of cuboidal or low columnar cells.

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1. ***stratum spinosum*** This layer consists of 2-6 rows of cells developed the inter cellular spaces between cells appear to form numerous cytoplasmic extension or spines that project from surface.
2. ***stratum granulosum*** 3-5 layers of flattened cells ,the cytoplasm of this cells contains lamellar granules formed by lipid bilayers.
3. ***Stratum*** ***lucidum*** In thick skin only ***stratum*** ***lucidum*** is translucent and barely visible, its lies superior to ***stratum granulosum*** ,the cells lack nuclei or organelles and are packed with keratin filaments.
4. ***stratum corneum*** Its superficial layers of skin all nuclei and organelles have disappeared from cell this layer contain flattened dead cells that filled with soft keratin filaments.

**Dermis**:

Is the connective tissue layer that bind to epidermis this junction between layer is irregular .The superficial layer of dermis forms numerous raised projection called (dermal papillae)that inter digitate with evaginations of epidermis called epidermal ridges. This region of skin called papillary layer of dermis. This layer(papillary) is filled with loose irregular connective tissue and connective tissue fibers ,capillaries ,fibroblast, and macrophages.

Deep layer of dermis(reticular layer)Is thicker and contains dense irregular connective tissue (No distinct boundary is seen between the two dermal layer).

**4 distinct cell types: 1) Keratinocyte, 2) Melanocyte, 3)Langerhans cells 4) Merkels cells**

