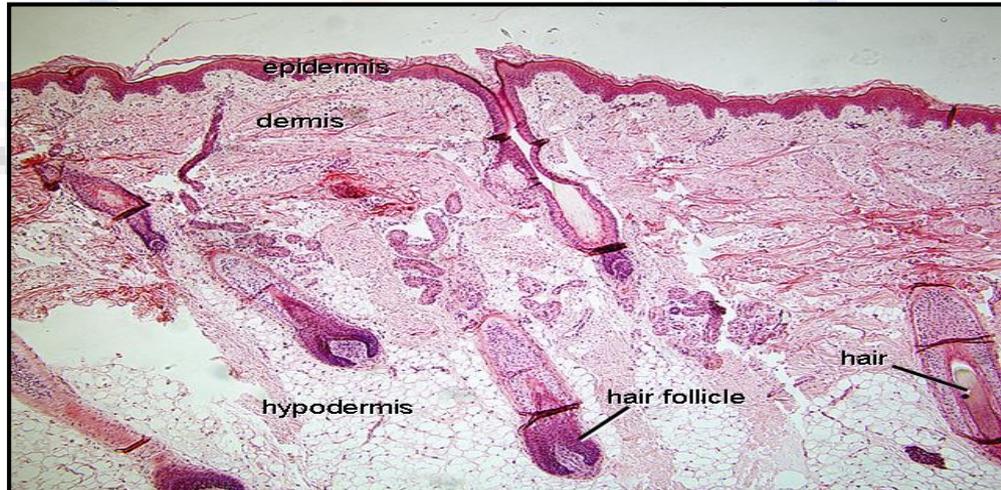


| | |
|---|----------------------------------|
| الصيدلة | الكلية |
| العلوم المختبرية السريرية | القسم |
| Histology | المادة باللغة الانجليزية |
| علم الانسجة | المادة باللغة العربية |
| الاولى | المرحلة الدراسية |
| م.م عذراء بشير راضي | اسم التدريسي |
| Skin System | عنوان المحاضرة باللغة الانجليزية |
| الجلد | عنوان المحاضرة باللغة العربية |
| السابعة | رقم المحاضرة |
| Junqueira's Basic Histology: Text and Atlas | المصادر والمراجع |
| | |
| | |

محتوى المحاضرة

- ❑ Skin covers the entire outer surface of the body. Structurally, the skin consists of two layers which differ in function, histological appearance and their embryological origin.
- **The outer layer or epidermis** is formed by an epithelium and is of ectodermal origin.
- **The underlying thicker layer the dermis**
 - Consists of connective tissue and develops from the mesoderm.
 - Beneath the two layers we find a subcutaneous layer of loose connective tissue. the hypodermis, which binds the skin to underlying structures. Hair, nails and sweat and sebaceous glands are of epithelial origin and collectively called the appendages of the skin.



The epidermis is a **keratinised stratified squamous epithelium**. The main function of the epidermis is to protect the body from harmful influences from the environment and against fluid loss. □

Five Structurally Different Layers can be Identified:

1. The Stratum Basale

Is the deepest layer of the epidermis (closest to the dermis). It consists of a single layer of columnar or cuboidal cells which rest on the basement membrane. The renewal of the human epidermis takes about 3 to 4 weeks.



2. The Stratum Spinosum

the cells become irregularly polygonal. the cells are often separated by narrow, translucent clefts. These clefts are spanned by spine-like cytoplasmic extensions of the cells (hence the name of the layer and of its cells: spinous cells), which interconnect the cells of this layer. Spines of cells meet end-to-end and are attached to each other by desmosomes. In addition to the usual organelles of cells, EM shows membrane bound lamellar granules in the cytoplasm of the spinous cells.

3. The stratum granulosum

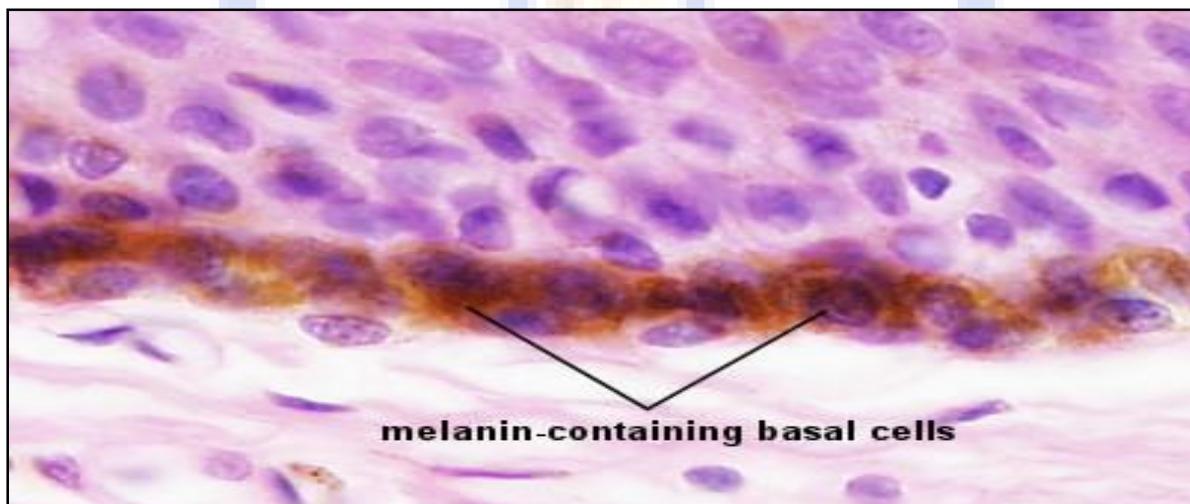
consists in thick skin of a few layers of flattened cells. Only one layer may be visible in thin skin. The cytoplasm of the cells contains numerous fine grains, keratohyalin granules. The keratohyalin is not located in membrane-bound organelles but forms "free" accumulations in the cytoplasm of the cells. The cells begin to release the contents of the lamellar granules. The lipids contained in the granules come to fill the entire interstitial space, which is important for the function of the epidermis as a barrier towards the external environment

4. The stratum lucidum

consists of several layers of flattened dead cells. Nuclei already begin to degenerate in the outer part of the stratum granulosum. In the stratum lucidum, faint nuclear outlines are visible in only a few of the cells. The stratum lucidum can usually not be identified in thin skin.

Melanocytes

The brown colour component is due to melanin, which is produced in the skin itself in cells called melanocytes. These cells are located in the epidermis and send fine processes between the other cells. In the melanocytes, the melanin is located in membrane-bound organelles called melanosomes. The cell bodies of melanocytes are difficult to distinguish in ordinary LM preparations because the melanosomes are located mainly in the processes of the cells.



Apocrine

- sweat glands occur in for example, the axilla. They are stimulated by sexual hormones and are not fully developed or functional before puberty. Apocrine sweat is a milky, proteinaceous and odorless secretion. The odour is a result of bacterial

decomposition and is, at least in mammals other than humans, of importance for sexual attraction.

- The histological structure of apocrine sweat glands is similar to that of merocrine sweat glands, but the lumen of the secretory tubules is much larger and the secretory epithelium consists of only one major cell type, which looks cuboidal or low columnar. Apocrine sweat glands as such are also much larger than merocrine sweat glands.

