Mechanisms of Human Disease

Dermatopathology – Diseases of the skin I, II, III
Date: Tuesday, February 19th, 2018 – 9-11am I, II
Wednesday, February 20th, 2018 – 10am III

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Reading Assignment: Histology for Pathology of the Skin (Lumen), Robbins Basic Pathology, Ninth Edition Chapter 23; pg 851-870.

Learning Objectives
General

1. List the three (3) main layers of the skin and the major cell types found in each layer.
2. List and be able to identify the layers of the epidermis (in order from superficial to deep). List the major cells of the epidermis and their general function.
3. Be able describe the following macroscopic terms – macule, papule, vesicle, pustule, patch, plaque, bulla, wheal, scale, crust
4. Be able to describe and histologically identify the following microscopic features:
   acanthosis, hyperkeratosis, parakeratosis, spongiosis and acantholysis and be able to recognize them histologically.

Epithelial Neoplasms and Conditions:

1. Describe the clinical and histologic features of ichthyosis and its pathogenesis
2. Describe the clinical and histological features of the following benign lesions: seborrheic keratoses, acanthosis nigricans, fibroepithelial polyp.
3. Describe the Leser-Trélat sign and its malignant association
4. Describe the malignant association of acanthosis nigricans
5. Describe the clinical and histological features and understand the diagnostic importance of the following adnexal tumors: trichilemmomas, cylindroma, sebaceous adenoma.

6. Describe the histological and clinical features of actinic keratosis, squamous cell carcinoma in situ (including Bowen’s disease and bowenoid papulosis), squamous cell carcinoma, and basal cell carcinoma.

7. Describe the relationship between actinic keratosis and squamous cell carcinoma.

8. What is gene is associated with basal cell carcinoma?

9. Describe the genetics (pattern of inheritance) and clinical implications of Gorlin’s syndrome (Nevoid basal cell carcinoma syndrome).

**Melanocytic Neoplasms:**

1. Compare and contrast the pigment disorders: vitiligo, albinism, melasma

2. Compare and contrast the histologic and clinical findings of a freckle (ephelis), lentigo, and melanocytic nevus.

3. What are the histologic features of a dysplastic nevus, what gene is associated with the dysplastic nevus syndrome, and what is the clinical implication of multiple dysplastic nevi?

4. List the clinical and histological features of melanoma.

5. What are the prognostic histologic features of melanoma?

6. Name the two most important predisposing factors for melanoma.

7. Compare and contrast familial and sporadic melanoma (especially genetic alterations).
8. Understand the difference between the radial and vertical growth phase of melanoma and how the correlate with the subtypes of melanoma (lentigo maligna, superficial spreading, nodular, acral lentiginous)

**Important Dermal Neoplasms**
1. Be able to name the clinical and histologic features of trichilemmoma, cylindroma, sebaceous adenoma
2. Name the genetic syndromes associated with trichilemmoma, cylindroma and sebaceous adenoma.
3. Compare and contrast the clinical and histologic features of vascular lesions (age, site, benign/malignant, associations)

**Inflammatory Dermatoses**
1. Describe or draw the following inflammatory patterns: lichenoid, psoriasiform, spongiotic and bullous.
2. Compare and contrast the clinical and histologic findings in different conditions with a lichenoid reaction pattern: lichen planus, erythema multiforme, SJS/TEN, cutaneous T cell lymphoma (MF)
3. Describe the clinical and histological findings in psoriasis and compare it with the process of normal skin maturation.
4. Describe the clinical and histological findings in eczema.
5. Compare and contrast the clinical and histologic findings in different conditions with a bullous reaction pattern (clinical appearance of blister, anatomic areas of involvement,
location of blister, predominant inflammatory cell, and immunofluorescence findings):

Bullous pemphigoid, pemphigus vulgaris, dermatitis herpetiformis.

**Infections:**

1. Be able to identify a verruca on histologic sections and name the etiology.
2. What are the clinical and histological features of molluscum? What is the etiology?
3. Compare and contrast the clinical and histologic findings of bacterial infections of the skin (clinical presentations, culture results, causative agents, superficial versus deep): impetigo, SSSS, erysipelas, cellulitis, necrotizing fasciitis
4. List the types of superficial (corneal) fungal infections of the skin. What stain can be used to identify them?
5. List the types of deep (dermal) fungal infections of the skin. What stain can be used to identify them?
6. Be able to identify the following on histology: scabies, tinea, cell with herpes virus, Henderson-Peterson bodies, and koilocytes.
7. Understand the clinical difference and histologic similarity between varicella, herpes zoster, herpes labialis, and genital herpes.
8. Why is Hutchinson’s sign important to recognize?