Dermatopathology
We’ve Only Just Begun

General Approach to Histopathologic Diagnosis

Paul K. Shitabata, M.D.
Dermatopathology Institute
Play to Your Clinical Strengths!

- Look at the slide, is this a punch, shave, incision, excision, curetting?
- What is the age of the patient?
- Where is the biopsy site?
Type of biopsy?
Type of Biopsy-Shave

- In general, punch biopsies may be for inflammatory
- Shave biopsies for epithelial or pigmented lesion
- Curetting for fragmented or friable lesion
- Excision for neoplasm
Approximate age of this patient?
Approximate Age Pre-Adolescent

- Immature and small pilosebaceous units with undeveloped sebaceous lobules
- No solar elastosis
Location?
Location-Scalp

- Numerous hair follicles embedded within subcutaneous adipose tissue
- If biopsy is deep, may contain skeletal muscle
Location?
Location-Oral Mucosa

- Non-keratinizing squamous mucosa
- Parakeratosis normal
- Loose submucosal tissue with vascular ectasia
- May have strands of skeletal muscle
- DDX: Penile mucosa, eyelid, vagina/vulva
Find Your Reference Points

- Look for relatively normal skin, if present, and compare.

- Is the process acute, subacute, or chronic?

- Find reference cells (white cells, red blood cells, histiocytes, endothelial cells) and compare to lesional cells.
Junction of relatively normal skin and lesional skin
Which is Acute? Subacute?
Acute

Subacute
Acute

- Orthokeratotic basketweave stratum corneum
- Intra and sub-epidermal vesicles, variable inflammatory cells infiltrate

Subacute

- Parakeratotic scale-even in the absence of underlying epidermal spongiosis, this constitutes a spongiotic dermatitis
- Minimal epidermal changes
- Chronic has more epidermal hyperplasia
Reference Cells

- Red Blood Cells
- Endothelial Cells
- Neutrophil
Epithelial Neoplastic

Connected to Epidermis

Epidermal vs. adnexal

Not connected to epidermis

Cystic

Epidermal vs. adnexal

Rule out metastasis
Melanocytic Neoplasia

Cytologically Atypical or Malignant

Yes

Symmetric?

No

Melanoma

Yes

Consider nevoid melanoma
Consider Spitz nevus

No

Blue nevus
Congenital nevus

Symmetric?

Yes

Conventional nevus
Lymphoid Neoplastic

Type of Lymphoid Cells

Mast Cells

Mastocytosis

Langerhans cells

Langherans Cell Histiocytosis

Histiocytes

Consider Granulomatous Xanthoma

Lymphocytes

Distribution of Lymphocytes
Lymphoid Neoplastic

Distribution of Lymphocytes

Epidermotropism or Dermal-Epidermal junction

- T-Cell lymphoma
- Consider Leukemia cutis

Dermal Predominant or Subcutaneous Adipose Tissue

- B-cell lymphoma
- B-cell pseudolymphoma
Mesenchymal Neoplastic

Spindle Cells
- Neural
- Smooth muscle
- Fibrohistiocytic
- Vascular
- Melanocytic
- Sarcomatoid carcinoma

Mixed Spindled and Epithelioid
- Neural
- Smooth muscle
- Fibrohistiocytic
- Vascular
- Melanocytic
- Sarcomatoid carcinoma
- Synovial sarcoma
- Epithelioid sarcoma
- Liposarcoma

Epithelioid Cells
- Neural
- Smooth muscle
- Fibrohistiocytic
- Vascular
- Melanocytic
- Sarcomatoid carcinoma
Inflammatory

- Use the inflammatory algorithms
- Carefully decide what type of inflammatory cells
- Beware of mixed inflammatory patterns-esp with infections and drugs
- Always consider a malignant lymphoid infiltrate
What if I am Unsure?

- Look very closely at the cells and determine where the focus of activity is on the slide
- Look for evidence of malignancy-mitotic figures esp. atypical mitotic figures, bizarre multinucleate cells
- Compare the cells with normal histopathological landmarks