Dermatopathology Slide Review Part 6

Paul K. Shitabata, M.D.
Dermatopathology Institute
89 y.o. M with nodule at base of right thumb
What is your differential diagnosis and what stains/IHC would you order?
Metastatic Renal Cell Carcinoma
Histopathology

- Nested or in diffuse sheets
- Clear cells with centrally placed nuclei
- Increased vascularity—lakes of blood
What is the pathogenesis of these clear cytoplasmic changes?

- Renal cell carcinoma
- Balloon cell melanoma
- Basal cell carcinoma with clear cell changes
- Granular cell tumor
- Clear cell Syringoma
What is the pathogenesis of the following clear cytoplasmic changes?

- Renal cell carcinoma - lipid and glycogen
- Balloon cell melanoma - lysozymes
- Basal cell carcinoma with clear cell changes - glycogen
- Granular cell tumor - lysozymes
- Clear cell Syringoma - glycogen
What is your differential diagnosis and what stains/IHC would you order?
Metastatic Prostate Carcinoma
Histopathology

- Glandular formation dependent upon initial grade
- May have glands with clear cytoplasmic changes
- Pleomorphic nuclei with MF
- Serum and tissue PSA
What are some names of clinical variants of metastatic malignancies to the skin?

(For example- *peau d’orange* and breast cancer)
Clinical Variants of Metastatic Malignancy to the Skin

- Paget’s disease of the nipple
- Extra-mammary Paget’s disease
- Peau d’orange
- Carcinoma en cuirasse
- Sister Mary Joseph’s nodule
- Alopecia neoplastic
- Carcinoma erysipelatoides
66 y.o. M with eroded lesions and bullae
What is your differential diagnosis and what stains/IHC would you order?
Pemphigus Foliaceus
Histopathology

- Subcorneal acantholysis ("Klingons")
- Variable eosinophils
- DIF-Intercellular IgG
- DDX: Pemphigus erythematosus, Grover’s disease, bullous impetigo
What is your differential diagnosis and what stains/IHC would you order?
Darier’s Disease
What is the inheritance pattern and genetic abnormality for Darier’s disease?
Darier’s Disease Genetic Analysis

- Autosomal dominant
- Abnormal gene ATP2A2 (12q23-24.1)
  - Gene normally encodes for the SERCA enzyme or pump (SarcoEndoplasmic Reticulum Calcium-ATPase)
  - Required to transport calcium within the cell
Histopathology

- Intraepidermal acantholysis
- Corp ronds
- Corp grains
- Clinical correlation-rule out Grover’s disease
- DIF negative
What is your differential diagnosis and what stains/IHC would you order?
Pemphigus Vulgaris
Histopathology

- Early lesions may have only eosinophilic spongiosis
- Intraepidermal acantholysis with suprabasilar preservation
- Eosinophilia
- Adnexal involvement
- Confirm with DIF/IIF
What are the expected INDIRECT IF findings?

- Pemphigus vulgaris
- Paraneoplastic pemphigus
- Pemphigus foliaceus
- Pemphigus erythematosus
What are the expected INDIRECT IF findings?

- Pemphigus vulgaris
- Paraneoplastic pemphigus
- Pemphigus foliaceus
- Pemphigus erythematosus
- Ab to dsg1 and dsg3
- P.V. and Antibodies to
  - Envoplakin
  - Periplakin
  - A2ML1
  - BP230
- IgG4 to dsg1
- Overlap with P.F.
  - Ab to dsg1
  - ANA for Ro, La, Sm, and DS DNA
What is your differential diagnosis and what stains/IHC would you order?
Bullous Drug Eruption
Histopathology

- Intraepidermal bulla with spongiosis
- Eosinophilia variable
- Rule out bullous pemphigoid or pemphigus vulgaris
- Rule out tinea
- DIF?
Name some medications associated with bullous eruptions
Drugs Associated with Bullous Eruptions

- NSAIDS
- ABX
  - Tetracycline, Sulfonamides, Penicillin, Cephalosporins, Vancomycin
- Diuretics (Thiazides, Calcium channel blockers)
- Chemotherapy (5-FU, doxorubicin)
  - Hand foot syndrome
  - PD-1 inhibitors
What is your differential diagnosis and what stains/IHC would you order?
Spindle Cell Lipoma
Histopathology

- Ropy collections of spindle cells admixed with mature adipocytes
- Myxoid background
- Clinical location
What are some clinical syndromes associated with multiple cutaneous lipomas?
Syndromes of Multiple Lipomas

- Familial multiple lipomatosis
- Dercum disease (Adiposis dolorosa)
- Bannayan-Riley-Ruvalcaba/Bannayan-Zonana
- Cowden syndrome
- MERRF / Ekbom syndrome
  - MERRF (myoclonus, epilepsy and ragged-red fibers)
- MEN 1
- Proteus syndrome
What is your differential diagnosis and what stains/IHC would you order?
Neurofibroma
Histopathology

- Partly circumscribed proliferation of wavy bland nuclei
- Myxoid background
- Nerve roots
What is Legius Syndrome?
Legius Syndrome

- Neurofibromatosis Type 1-like syndrome (NFLS)
- Mutations in the SPRED1 gene (mutations in chromosome 15)
- AD
- Multiple café-au-lait macules, freckles, lipomas, macrocephaly, learning delays
- LACKING
  - Lisch nodules, bone abnormalities, neurofibromas, optic pathway gliomas and malignant peripheral nerve sheath tumors
77 y.o. F with rapidly enlarging nodule on right arm
What is your differential diagnosis and what stains/IHC would you order?
Squamous Cell Carcinoma-Keratoacanthoma type
Histopathology

- Crateriform proliferation of glassy keratinocytes
- Epidermal buttress
- Minimal atypia
- May show regression
What are some clinical syndromes associated with multiple Keratoacanthomas?
Multiple Keratoacanthoma Syndromes

- Grzybowski eruptive keratoacanthomas
- Multiple self-healing squamous epitheliomas of Ferguson-Smith (AD with variable penetrance)
- Muir-Torre syndrome
- Drug-induced
  - BRAF inhibitors (vemurafenib, dabrafenib)
  - Checkpoint inhibitors (pembrolizumab, nivolumab, leflunomide, vismodegib, imiquimod)
What is your differential diagnosis and what stains/IHC would you order?
Endophytic Verruca Vulgaris
Histopathology

- Circumscribed appearance
- Downward invagination
- May form cyst
- Papillomatous features with koilocytes
What is your differential diagnosis and what stains/IHC would you order?
North American Blastomycosis
Histopathology

- Broad based budding of yeast organisms
- Giant cell reaction with granulomas, often caseating
- Verrucous epidermal hyperplasia
What is South American Blastomycosis?
Paracoccidioides
(brasiliensis, lutzii)
What is your differential diagnosis and what stains/IHC would you order?
Herpes Virus Infection
Histopathology

- Intraepidermal bulla with acantholysis
- Necrosis variable
- Characteristic ground glass chromatin and multinucleation
What is the name of these viral inclusions?
Warthin-Finkeldey Giant Cell of Measles
Owl Eye Inclusions of CMV
Michaelis-Gutman Bodies of Malakoplakia
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