Benign Epidermal and Dermal Tumors

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## Further Classification of Benign Epidermal Proliferations

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<th>Multiple</th>
<th>Solitary</th>
<th>Linear</th>
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<td>- Lichenoid keratosis</td>
<td>- Epidermal nevus</td>
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<td>- Dermatosis papulosa nigra</td>
<td>- Cutaneous horn</td>
<td>- Inflammatory linear verrucous epidermal nevus</td>
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<td>- Stucco keratosis</td>
<td>- Clear cell acanthoma</td>
<td>- Linear porokeratosis</td>
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<td>- Inverted follicular keratosis</td>
<td>- Nevus comedonicus</td>
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<td>- Porokeratosis palmaris et plantaris disseminata</td>
<td>- Warty dyskeratoma</td>
<td>- Mosaic form of Darier disease or epidermolytic hyperkeratosis</td>
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<td>- Fiegel disease</td>
<td>- Acantholytic (dyskeratotic) acanthoma</td>
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<td>- Acrokeratosis verruciformis of Hopf</td>
<td>- Epidermolytic acanthoma</td>
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Seborrheic Keratosis

- Common benign growth seen after third/fourth decade of life
- Ubiquitous among older individuals
- Tan to black, macular, papular, or verrucous lesion
- Occur everywhere except palms, soles, and mucous membranes
  - Can simulate melanocytic neoplasms
- Pathogenesis: Sun exposure- Australian study found higher incidence in the head/neck
  - Alteration in distribution of epidermal growth factors
  - Somatic activating mutations in fibroblast growth factor receptor and phosphoinositide-3-kinase
Seborrheic Keratosis

**Sign of Leser-Trelat**: Rare cutaneous marker of internal malignancy

- Gastric/colonic adenocarcinoma, breast carcinoma, and lymphoma m/c
- Abrupt increase in number/size of SKs that can occur before, during, or after an internal malignancy is detected
- 40% pruritus
- M/C location is the back
- Malignant acanthosis nigricans may also appear in 20% of patients
- Should resolve when primary tumor is treated, and reappear with recurrence/mets
Seborrheic Keratosis

- 6 Histologic types
  - Acanthotic
  - Hyperkeratotic
  - Reticulated
  - Irritated
  - Clonal
  - Melanoacanthoma

- Borst-Jadassohn phenomenon
  - Well-demarcated nests of keratinocytes within the epidermis
Seborrheic Keratoses Treatment

- Reassurance
- Irritated SKs (itching, catching on clothes, inflamed)
  - Cryotherapy, curettage, shave excision
  - Pulsed CO2, erbium:YAG lasers
  - Electrodessication
Flegel Disease
Hyperkeratosis Lenticularis Perstans

- Multiple keratotic papules with a disc-like appearance in a symmetric distribution
  - Adults/Older
  - Attached scale may be prominent at peripheral margin
    - Bleed easily when removed
- Rare, possible AD
- Dorsal aspect of feet and distal extremities are preferred locations
  - Includes palms/soles (fine pits)
- Pruritus
- Absent/ altered lamellar granules (Odland bodies)
- May be a/w DM and hyperthyroidism
Flegel Disease
Hyperkeratosis Lenticularis Perstans

- DDx
  - Stucco Keratoses-
    - Do not bleed easily when removed
  - Perforating Disorders
    - Prominent central keratotic plugs
    - Transepidermal elimination of connective tissue
  - DSAP
    - Coronoid lamella
  - Lichenoid diseases
    - Use clinical criteria to differentiate
Flegel Disease
Hyperkeratosis Lenticularis Perstans

- Treatment
  - Problematic
  - 5-FU (irritation may limit utility)
  - PUVA + calcipotriol
  - Oral retinoids
Acrokeratosis Verruciformis

- Multiple skin-colored, small, warty papules on the dorsal aspect of the hands and feet
- Often seen in patients with Darier disease
  - ATP2A2 gene mutation
- Small keratin-filled depressions on the palms/soles
  - Nail involvement
- Do not confuse with epidermodysplasia verruciformis
  - HPV 2, 3, 5, 8-10, 12, 14, 15, 17
  - Malignant transformation in 50%
Acrokeratosis Verruciformis

- **Histology**
  - “Church spire” hyperkeratosis similar to hyperkeratotic SK and stucco keratosis

- **Treatment**
  - Same as SKs and stucco keratoses
Clear Cell Acanthoma
Degos’ Acanthoma

- Solitary erythematous papule/plaque m/c on lower extremity
- May look “stuck on” like SK
- Blanchable, erythematous, “water-like” scale at periphery
- Dermoscopy shows red dots in lines
  - Loop vessels within dermal papillae
- Histology- regular psoriasiform hyperplasia w/ enlarged pale keratinocytes that is well demarcated
  - Glycogen- PAS diastase-sensitive stains keratinocyte cytoplasm red
Clear Cell Acanthoma
Degos’ Acanthoma

- **DDx**
  - Pyogenic granuloma
  - Trichilemmomas
    - On the face, inward growing lobule of pale keratinocytes
  - Sebaceous neoplasm
    - Cytoplasm has lipid, stain w/ oil Red O, epithelial membrane antigen, or adipophilin
  - Dermatofibroma
  - Inflamed SK
  - Amelanotic melanoma

- **Tx** - Shave excision/curettage with electrofulguration
Inverted Follicular Keratosis

- Benign endophytic variant of irritated SK
- Firm white-tan to pink papule m/c on the face in older men
- DDx
  - Verruca
  - SK
  - Trichilemmoma
    - Clear cells, palisade of basal cells
  - NMSC
    - Overt cellular atypia absent in IFK
Warty Dyskeratoma

- Solitary verrucous crusted skin-colored to red-brown papule/nodule
  - Central pore and keratotic plug
  - Head and neck
- Histology - central cup-like invagination lined with epithelium displaying acantholysis
  - Research ongoing, probably a related entity to Darier disease
- Treatment - Excision
Epidermolytic Acanthoma

- Pigmented keratotic papules that can resemble verrucae or SKs
- Isolated vs. disseminated
  - Disseminated form predilection for the back
- Histology- epidermolytic hyperkeratosis
  - Typically more papillomatosis than in other conditions with this pattern
  - Pattern seen in epidermolytic ichthyosis, epidermal nevi, Vorner’s palmoplantar keratoderma, SKs, AKs, cutaneous horns
Epidermolytic Acanthoma

- Clear spaces surrounding nuclei in the stratum spinosum/granulosum
- Compact hyperkeratosis
- Normal basal layer

- Treatment - observe, destruction, shave excision, linear excision
  - Can recur with superficial removal
Cutaneous leiomyoma

- Reddish-brown, pink or skin colored papules
- Solitary or multiple
- Can be painful
- Adolescents and young adults
- DDx:
  - Dermatofibroma
  - Neurofibroma (solitary)
  - Glomangioma
Cutaneous Leiomyoma

- **Histology**
  - Bland appearing myocytes with eosinophilic cytoplasm
  - "cigar shaped" nuclei

- **Reed’s Syndrome** (Multiple cutaneous and uterine leiomyoma syndrome)
  - Increased risk of renal malignancy
  - Mutation: *fumarate hydratase*
Cylindroma

- Single or multiple erythematous to bluish nodules
- Firm to rubbery
- +/- pain
- Typically on the scalp and face
- Middle-age to elderly
Cylindroma

- Multiple cylindromas seen in CYLD gene mutation
  - Cylindromatosis
  - Brooke-Spiegler Syndrome

- Histology:
  - Basaloid proliferation of “jigsaw” pattern lobules of cells
  - Hyalinized droplets within lobules
Neuroma

- Two subtypes
  - Traumatic neuroma (amputation neuroma)
  - Palisaded encapsulated neuroma
- Skin-colored to erythematous papules
- +/- pain
Neuroma

- Multiple mucocutaneous neuromas are associated with MEN2B
- Recently described in syndromes associated with mutations of the PTEN tumor suppressor gene
  - Cowden Syndrome
  - Bannayan-Riley-Ruvalcaba Syndrome
  - Lhermitte-Duclos Syndrome
  - Proteus Syndrome

Neurothekeoma

- Pink, red to brown papule or nodule
- Often on head, neck, upper extremities
- Twice as common in women
- Two subtypes:
  - Myxoid (classic)
    - AKA “nerve sheath myxoma”
    - Middle age adults
  - Cellular
    - Young adults
Neurothekeoma

- Histology
  - Myxoid (classic)
    - Nests of epithelioid and spindle cells arranged in a concentric whirling pattern
    - Abundant myxoid stroma
    - S100 positive
  - Cellular
    - Similar to myxoid variant, but myxoid stroma is sparse or absent
    - S100 negative
Neurothekeoma

- 62 yo F with 5 month h/o enlarging nodule
- Dermoscopy revealed thick, arborizing vessels
- Pathology revealed cellular neurothekeoma
- Point: cellular variant may resemble BCC clinically and dermoscopically.

Eccrine Poroma

- Erythematous papule, plaque or nodule
- “Moat” surrounding lesion
- Palm, sole and scalp
- Ulceration may occur on points of pressure
- Eccrine poromatosis - >100 poromas, may be widely distributed or confined to palms and soles
Eccrine poroma

- Well-circumscribed tumor in lower epidermis, extending into dermis
- Small, cuboidal epithelial cells
- Small sweat ducts
- Sharp demarcation between paler "poroid" cells and surrounding keratinocytes
Granular Cell Tumor

- Skin-colored to red-brown papule or nodule (or yellowish on tongue)
- F>M
- Head and neck (esp tongue)
- Histology:
  - Poorly demarcated nodule in dermis
  - Pale cells with granular cytoplasm
  - Intracytoplasmic inclusions (pustulo-ovoid bodies of Milian)
Angiolipoma

- Looks like a lipoma
- Usually trunk, upper extremities
- 2nd and 3rd decade, rare in children and elderly
- Renal angiolipomas may be seen in tuberous sclerosis
- May be painful
- Histology:
  - Well-circumscribed
  - Mature lipocytes
  - Capillaries 5-50% of tumor
  - Scattered fibrin thrombi
Acquired Digital Fibrokeratoma

- Solitary exophytic papule with hyperkeratosis
- Acral skin, usually fingers
- Collarette of slightly raised skin may encircle the base of the lesion
- Middle aged adults
Acquired Digital Fibrokeratoma

- Histology:
  - Polypoid on low power
  - Hyperkeratosis and acanthosis
  - Coarse, vertically oriented collagen bundles
  - Compare to supernumerary digit, which has increased number of nerves
Dermatofibroma

- Common, benign skin neoplasms composed of collagen, macrophages (histiocytes), capillaries, and fibroblasts

- Histology
  - Epidermal hyperplasia or atrophy
  - Spindle cells in loose, storiform pattern
  - Collagen trapping

- Multiple dermatofibromas seen in lupus erythematosus, atopic dermatitis and immunosuppression
Syringocystadenoma Papilliferum

- Pink to red papule or plaque
- Head and neck
- About half present at birth and about a third arise from nevus sebaceous (most common tumor associated with a nevus sebaceous)

**Histology**

- Papillated fronds of apocrine epithelial cells associated with a cystic space
- Basilar cuboidal cells and columnar cells compose epidermis
- Epidermal connection
- Plasma cells in the stroma