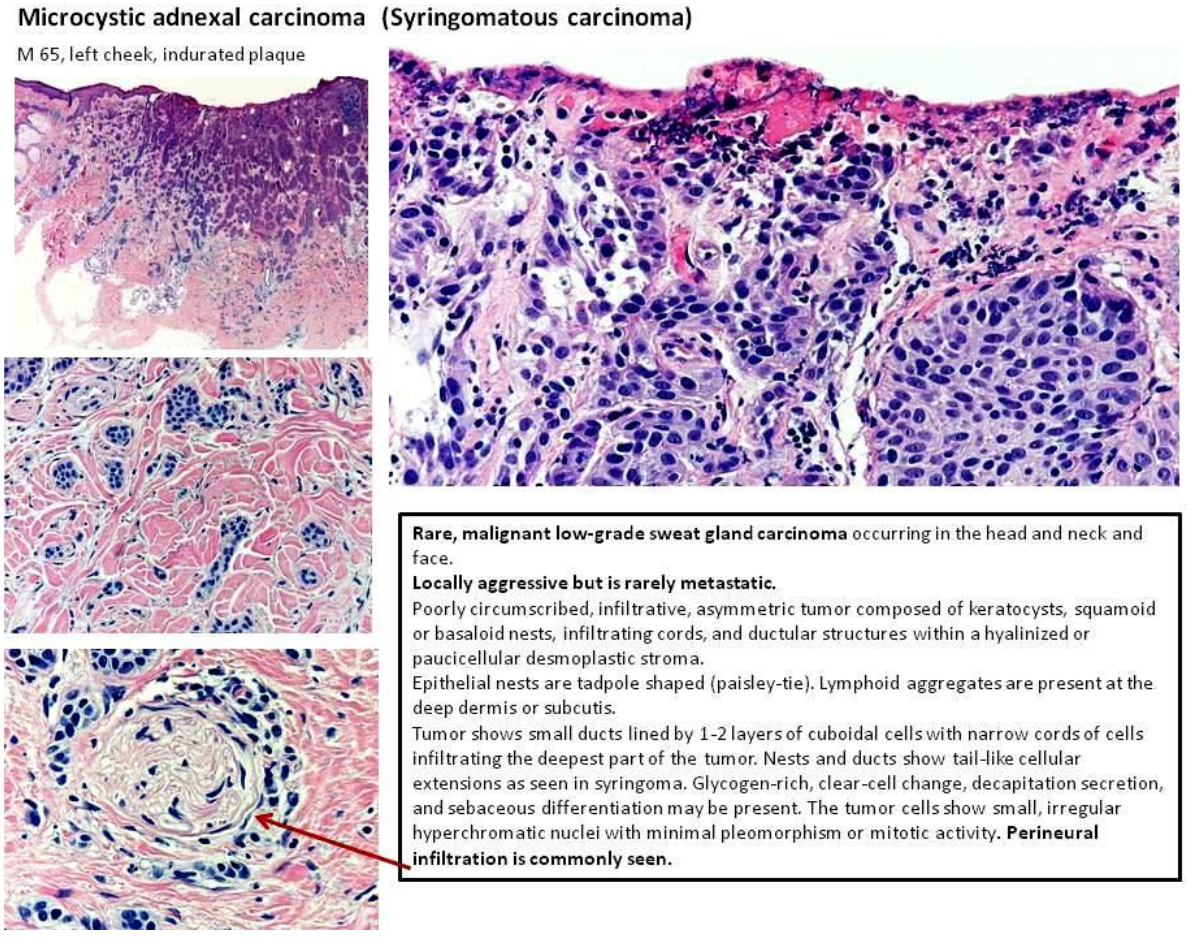
Quick diagnosis: Series I (10 cases)

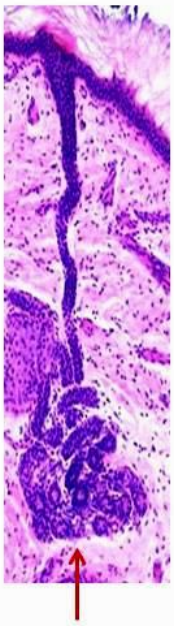
1. Microcystic adnexal carcinoma (Syringomatous carcinoma)
2. Hidradenoma
3. Glomus tumor
4. Seborrheic keratosis, reticulated type
5. Drug dermatitis (Drug eruption, Drug-induced dermatitis)
6. Dysplastic nevus
7. Spitz nevus (Epitheliod nevus)
8. Leiomyosarcoma, subcutaneous
9. Squamous cell carcinoma in situ
10. Seborrheic keratosis, clonal type

1. Microcystic adnexal carcinoma (Syringomatous carcinoma)



2. Hidradenoma

Hidradenoma



Adenoma arising from the secretory part of the sweat gland

Location: mostly head and neck, limbs, or any site.

Middle age and elderly, F>M.

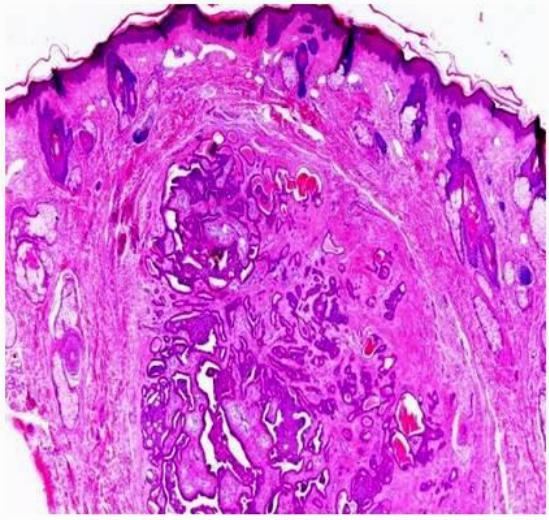
Solitary, slow-growing solid or cystic dermal nodule, 1-2 cm.

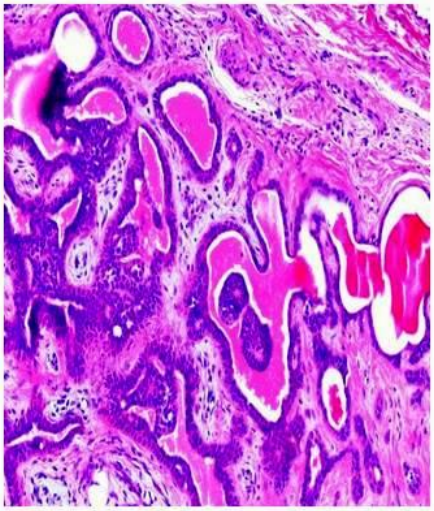
Well circumscribed, un-encapsulated solid and cystic lobular dermal tumor, 50% connected to the epidermis.

Biphasic cellular pattern: areas of round, fusiform, polygonal squamoid cells with eosinophilic cytoplasm and cells with clear cytoplasm. Duct-like structures, cystic change, focal apocrine change, squamous eddies, goblet cells etc may be present. Stroma is fibrovascular, collagenous or hyalinized.

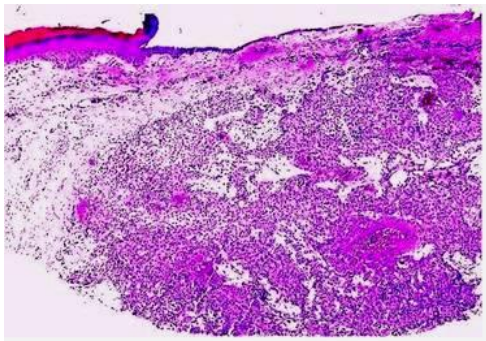
Tumor 'budding' from the periphery to the surrounding dermis should be considered as a low-grade malignant tumor.

Diffuse nuclear anaplasia, necrosis and tumor giant cells may suggest malignancy.

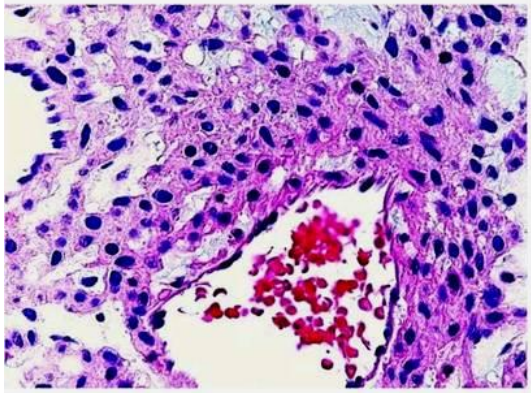




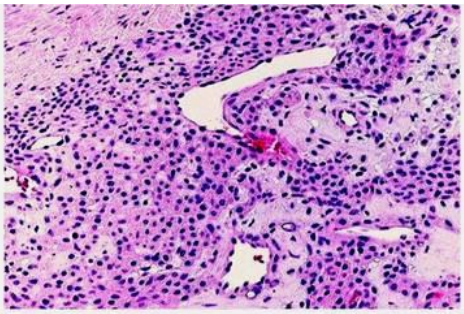
3. Glomus tumor



Solid well-circumscribed nodule by a rim of fibrous tissue



Tumor is composed of endothelium-lined vascular spaces surrounded by clusters of glomus cells. The glomus cells are monomorphous round or polygonal cells with plump nuclei and scant eosinophilic cytoplasm.



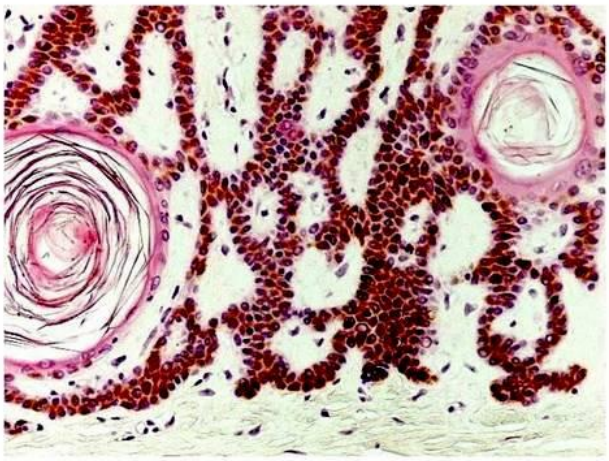
Glomus tumor

- Two types: Solitary glomus tumors and multiple glomus tumors, which are also known as glomangiomas.
- Location: Distal extremities, subungual areas.
- Glomus tumors usually painful, which can be severe and exacerbated by pressure or temperature changes.
- Solitary lesions appear as solid well-circumscribed nodules surrounded by a rim of fibrous tissue. They contain endothelium-lined vascular spaces surrounded by clusters of glomus cells. The glomus cells are monomorphous round or polygonal cells with plump nuclei and scant eosinophilic cytoplasm.
- Multiple lesions (Glomangiomas) have the overall appearance of a hemangioma. They contain multiple irregular, dilated, endothelium-lined vascular channels that contain red blood cells. Small aggregates of glomus cells are present in the walls of these channels and in small clusters in the adjacent stroma.
- Uncommon benign tumor arising from modified smooth muscle cells called glomus cells of glomus body, a specialized arteriovenous anastomosis involved in thermoregulation.

4. Seborrheic keratosis, reticulated type

Seborrheic keratosis, reticulated (adenoid) type M 70, face

A stuck-on epidermal tumor with sraight lower border composed of thin tracts of basaloid epidermal cells that are interconnected and branched.
Horn cysts are few.
Pigmentation is prominent.



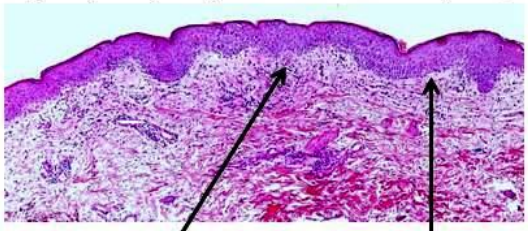
•The reticulated (or adenoid) type is characterized by numerous, thin, double rows of basaloid epidermal cells which extend from the epidermis and show branching and interweaving in the dermis.

•Hyperpigmentation is relatively common, although horn cysts and pseudocysts are not.

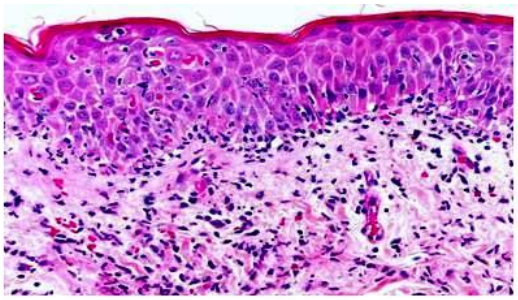
•There is clinical and histological evidence of a relationship between solar lentigo and the reticulated subtype of seborrheic keratosis; solar lentigo may even become a reticulated seborrheic keratosis through exaggerated downward budding of basal cells.

5. Drug dermatitis (Drug eruption, Drug-induced dermatitis)

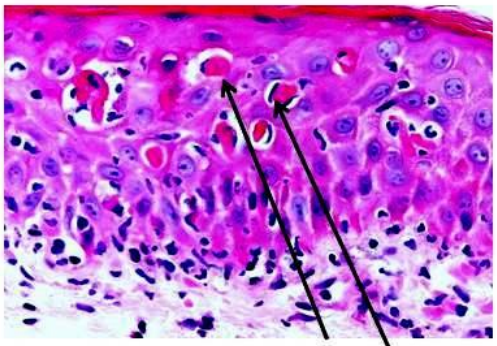
Drug eruption (Drug-induced dermatitis) F 42, L wrist



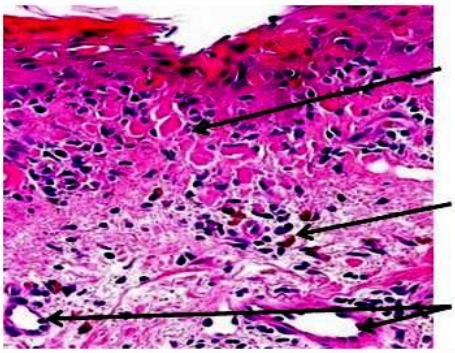
Interface inflammation, papillary dermal edema



Interface acute and lymphocytic and neutrophilic infiltrates, papillary edema, dyskeratoic keratinocytes, lymphocytic and neutrophilic exocytosis



Dyskeratotic and individual necrotic keratinocytes, interface dermatitis, papillary edema, no vasculitis



Numerous hyaline bodies at the interface, dermal pigmentary incontinence

No vasculitis

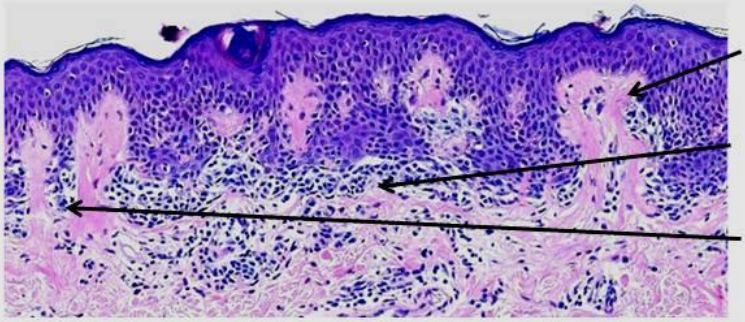
Features to look for in drug eruption:

- Interface inflammation, papillary dermal edema.
- Interface lymphocytic and neutrophilic infiltrates, papillary edema, dyskeratoic keratinocytes, lymphocytic and neutrophilic exocytosis.
- Intraepidermal dyskeratotic and individual necrotic keratinocytes, no vasculitis.
- Hyaline bodies at the interface, dermal pigmentary incontinence.
- Such features may also be seen in Erythema multiforme, which in many cases are drug-induced. Correlate with clinical findings.

6. Dysplastic nevus

Dysplastic nevus (Atypical nevus)

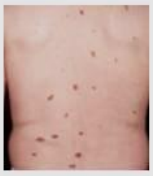
A junctional or compound nevus with architectural and cytologic atypia



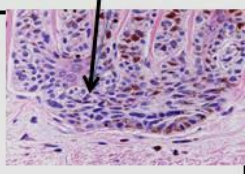
Subepidermal fibroplasia

Bridging of the rete ridges by transverse proliferation of the nevocytes

Shouldering by intraepidermal nevus cells lateral to the dermal nevus nests



Cytologic & nuclear pleomorphism



Microscopic diagnostic criteria

Architectural changes (Recognized under scanning or low power)

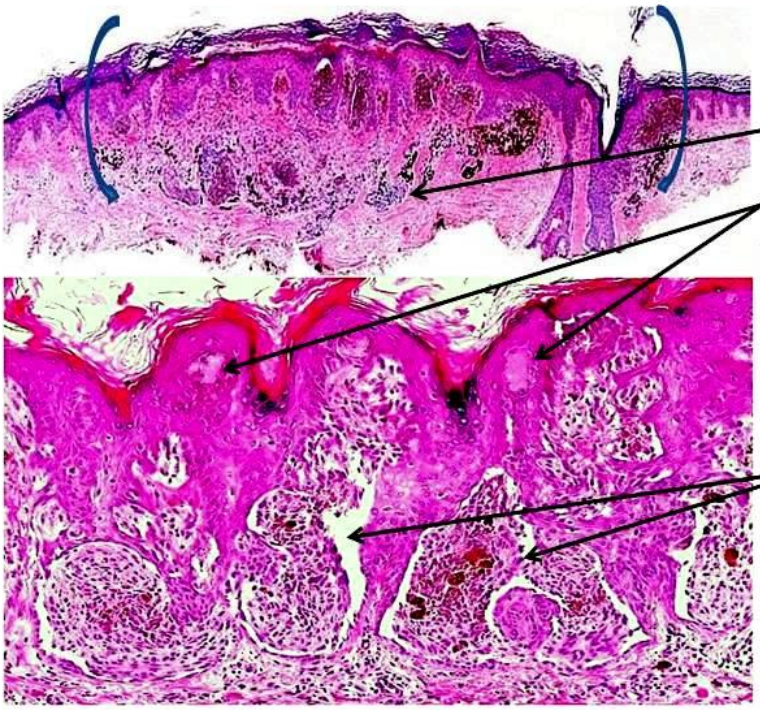
1. Asymmetry
2. Subepidermal fibroplasia, concentric eosinophilic / lamellar
3. Lentiginous melanocytic hyperplasia
4. Spindle or epitheloid melanocytes aggregating in nests and fusing with adjacent rete ridges to form bridges
5. "Shouldering" phenomenon- single or nests of intraepidermal melanocytes extending beyond the main dermal component.
6. Variable dermal lymphocytic infiltration

Melanocytic nuclear changes

1. Increased nuclear size, nuclear membrane irregularity, prominent nucleoli. nuclear and cytoplasmic pleomorphism, variable hyperchromatism. Single or nest of atypical cells are seen in lacuna due to fixation artifact.
2. Cytologic atypia is random (normal and atypical cells are admixed in a nevus) in contrast to confluent atypia in in-situ melanoma.

An unusual melanocytic nevus that is often large (> 5 mm), flat and asymmetrical instead of round or oval in shape with indistinct edge.
Dysplastic nevus may occur anywhere on the body (scalp, breast, below waist), but it is usually seen in areas exposed to the sun, such as on the back.
Most dysplastic nevi are sporadic and do not turn into melanoma . Most remain stable over time.
Chance of melanoma is about ten times higher for someone with > 5 dysplastic nevi than for someone who has none, and the more dysplastic nevi a person has, the greater the chance of developing melanoma.

7. Spitz nevus (Epitheliod nevus)



Spitz nevus (Epitheliod nevus)

Striking symmetry, sharp lateral demarcation

Maturation of nevus cells in the deeper dermis

Eosinophilic and periodic acid-Schiff (PAS)–positive globules (Kamino bodies)

Most Spitz nevi are compound nevus with spindle-shaped and /or epitheliod melanocytes, usually in nests.

Striking symmetry, sharp lateral demarcation. Absent (or rare) mitoses, absence of atypical mitoses.

Vertically oriented spindle and epitheliod junctional nests with peripheral clefts .

Eosinophilic and periodic acid-Schiff (PAS)–positive globules (Kamino bodies) in the epidermis are typical for Spitz nevus.

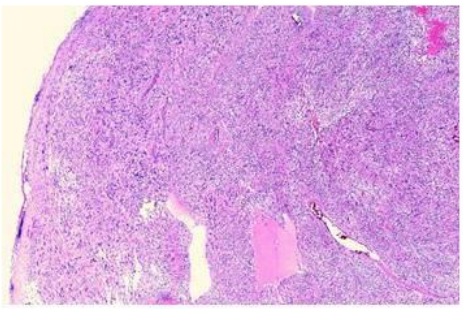
Maturation of nevus cells in the deeper dermis is an important diagnostic finding.

Spitz nevi constitute less than 1% of all childhood melanocytic nevi, 70% occurs in pts < 20 yrs.
Single, dome-shaped, red or pigmented papule or nodule typically appear on the face or legs. Misdiagnosis of Spitz nevi as melanomas and misdiagnosis of melanomas as Spitz nevi is a possibility. Histopathologic differentiation from melanomas is equivocal in up to 8% of cases.
Criteria in favor of a Spitz nevus in any given case include a young patient, a well-demarcated and symmetrical lesion, maturation of melanocytes at its base, and vertically oriented epitheloid junctional nests with peripheral clefts; but no criterion is absolutely reliable.

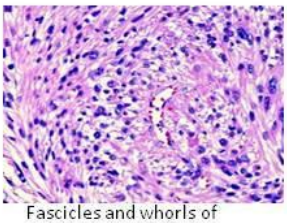
8. Leiomyosarcoma, subcutaneous

Leiomyosarcoma, subcutaneous

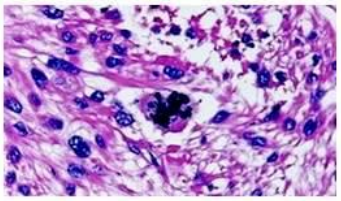
M 68, 2.5 cm subcutaneous nodule, L thigh



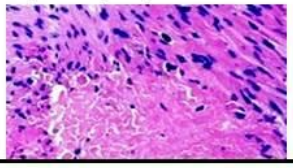
Well-circumscribed cellular spindle cell tumor with prominent vascularity, consistent with origin from vascular wall



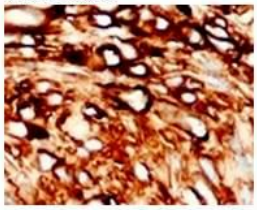
Fascicles and whorls of pleomorphic spindle cells



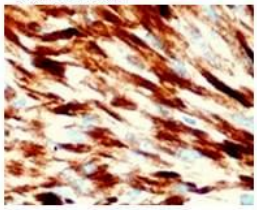
Atypical mitosis



Focal necrosis



SMA: Positive

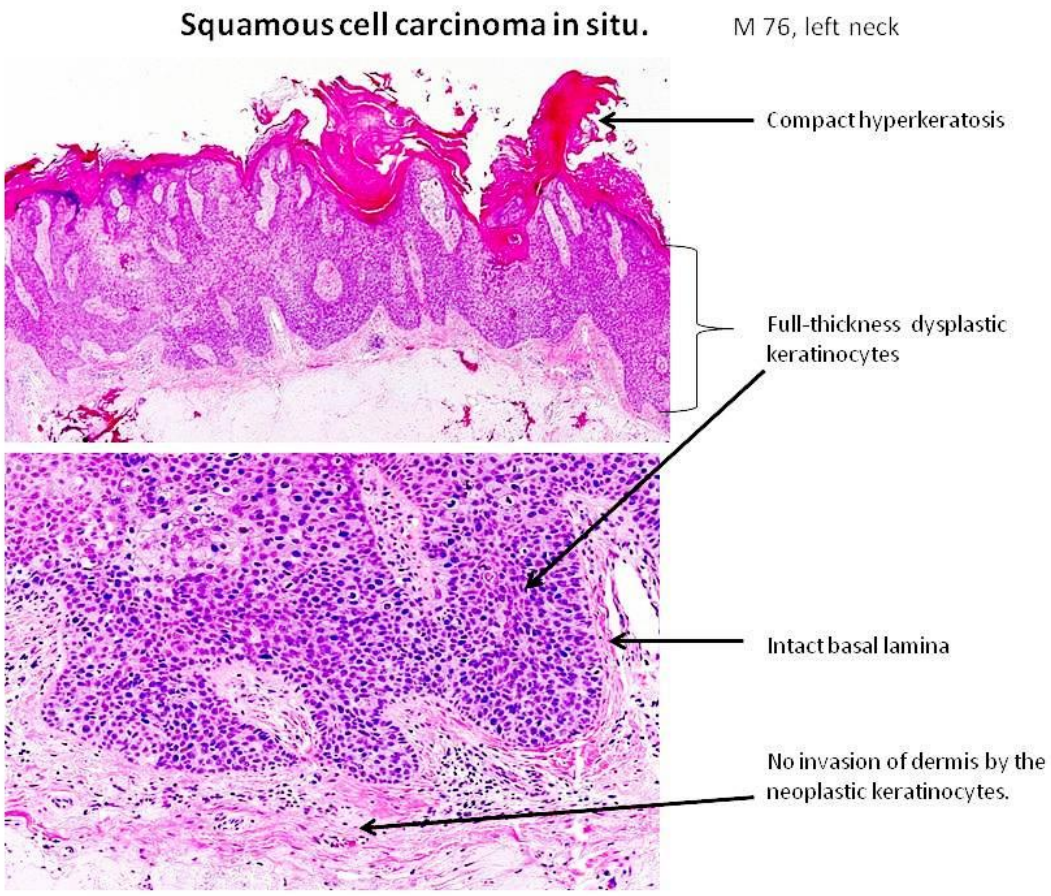


Desmin: Positive

- Cutaneous leiomyosarcomas are either dermal or subcutaneous tumors occurring mostly in the limbs of middle-aged or older patients.
- Subcutaneous leiomyosarcomas are well-circumscribed spindle cell neoplasm with prominent vascularity. The tumor cells are arranged in fascicles and whorls and show nuclear pleomorphism, hyperchromacity, increased mitotic activity with atypical mitosis and necrosis.
- Tumor cells are positive for vimentin, smooth muscle actin (SMA) and Desmin.
- Tumor size and depth of invasion rather than the tumor grade are critical prognostic indicators.
- Dermal tumor behaves benign regardless of the tumor grade whereas the subcutaneous tumors are more aggressive. Tumor larger than 5 cm is associated with poor survival.

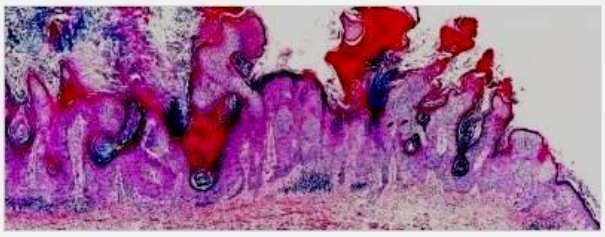
Moon TD, **Sarma DP**, Rodriguez FH(1989): Leiomyosarcoma of the scrotum. J Am Acad Dermatol 20:290-292
Landry MM, **Sarma DP**, Boucree JB(1991): Leiomyosarcoma of the buttock. J Am Acad Dermatol 24:618-620
Sarma DP, Santos EE, Wang B (2007). Leiomyosarcoma of the skin with osteoclast-like giant cells: a case report. J Med Case Reports 1(1):108.

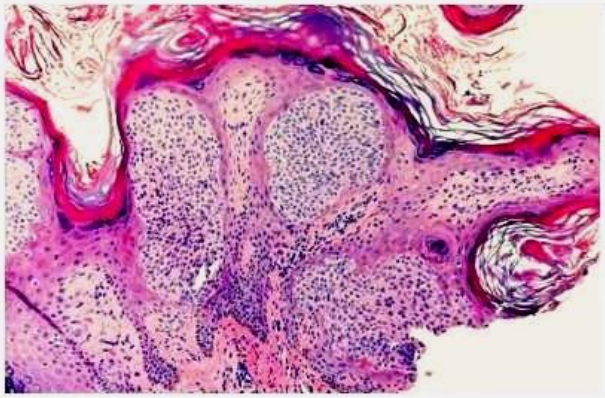
9. Squamous cell carcinoma in situ



10. Seborrheic keratosis, clonal type

Seborrheic keratosis: Clonal type





Diagnostic features:

1. Elevated , dark epidermal tumor above the skin surface.
2. Base of the tumor is relatively straight.
3. Acanthosis (proliferation of keratinocytes).
4. Hyperkeratosis (on the surface).
5. Papillomatosis.
6. Keratin-filled cysts

The hallmark of the clonal (nested) seborrheic keratosis subtype is the proliferation of sharply demarcated intraepithelial nests of basaloid or pale cells (Borst-Jadassohn phenomenon).

In some cases the nests are composed of larger cells with conspicuous intercellular bridges, with nests separated by strand of cells with small dark nuclei.

REF:
D Sarma, S Repertinger. Seborrheic Keratosis: A Pictorial Review of the Histopathologic Variations. The Internet Journal of Dermatology. 2008 Volume 7 Number 2.