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Clinical Outcomes Associated With Melanocytic Lesions Assessed Via Ancillary Gene Expression Profiling (GEP)

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female with a non-scaly annular pink plaque with central clearing and a raised inflammatory border on the side of her nose concerning for granuloma annulare. A month ago, she had a cold, blew her nose a lot, and developed a rash with a scab that grew over the past weeks. A punch biopsy revealed compact orthokeratosis and parakeratosis with neutrophil micro-abscesses overlying an acanthotic epidermis. Within the dermis, there is a robust lymphohistiocytic infiltrate with numerous admixed plasma cells. The treponemal immunohistochemical stain highlighted numerous spirochetes. Because of the histopathology findings, syphilis serology studies were performed. Anti-treponemal antibodies and RPR titer of 1:128 (initially negative due to prozone phenomenon). The patient was treated with intramuscular penicillin, and the rash resolved gradually. It is essential to recognize the degree of histologic and clinical variability in secondary syphilis because secondary syphilis can mimic other cutaneous diseases, and a biopsy is often performed to achieve a definitive diagnosis.

Keratotic Basal Cell Carcinoma

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Basal cell carcinoma (BCC) is the most commonly diagnosed cutaneous malignancy. BCC shows different morphologic patterns that overlap with other entities. These patterns can show a variety of cell lineage differentiation, which can be diagnostically challenging. We present a case of BCC with keratotic features. A 75-year-old female presented with a recently developed 0.7 x 0.5 cm pink, pearly papule on her central chest. Histopathologic sections demonstrated a nodular proliferation of basaloid cells with peripheral palisading and tumor-stromal clefting. Admixed with the tumor cells were atypical squamous cells with keratin pearls. Immunohistochemical stains were performed which showed focal positive staining for BerEP4 and negative staining for EMA. A diagnosis of a BCC, keratotic type was rendered. Keratotic BCC is an extremely rare subtype, the differential diagnosis of which includes benign entities, such as solitary trichoepithelioma and trichoadenoma. We report this case to increase awareness of this entity, as treatment, especially in cosmetically sensitive areas, varies between BCC and benign entities.

Melanoma With Prominent Melanin Synthesis (MPMS): A Diagnostic Pitfall

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MPMS or "animal type melanoma" is a distinctive subtype of melanoma that has been noted to have a more favorable prognosis, despite a high rate of local lymph node metastasis. As visceral metastasis are uncommon and progress slowly, deaths from disease are rarely reported. MPMS mimic benign and low-grade lesions including atypical blue nevus and melanocytoma, creating diagnostic challenges. A 76-year-old male presented with a 0.9 cm black papule on the left side of his forehead. A biopsy was performed which showed a homogeneously and densely pigmented melanocytic tumor composed of nests, columns and sheets of atypical melanocytes and melanophages which extended to the deep reticular dermis and obliterated adnexal structures. There was a focal overlying epidermal component and increased dermal mitotic figures Melanocytes were positive for PRAME (90%), and had a high Ki-67 proliferation rate. Clinicopathologic findings favored MPMS. We present this case to emphasize the clinical and histologic features of this rare melanoma and highlight its more favorable prognosis.

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Aims/Objectives: Compare GEP assay prediction of 434 melanocytic lesions with dermatopathologist interpretation.
Methods: Sensitivity and specificity of assay were calculated based on disagreement of assay prediction with dermatopathologist interpretation. Histologic features were recorded in disagreeing cases.
Results: Eighty-five percent of lesions (369/434) had sufficient RNA for scoring. 74.2% 274/369 lesions were classified as "benign", 11.9% (44/369) "indeterminate", and 13.8% (51/369) "malignant". 38/51 of lesions rendered "malignant" by dermatopathologists were classified "malignant" by assay (sensitivity = 74.5%). Lesions rendered by assay as "benign" but "malignant" by dermatopathologists were more likely to have rarer cytologic features. (13/51) lesions rendered "malignant" by dermatopathologists were classified by assay as "benign," (4/13) or "indeterminate" (9/13). 270/318 lesions rendered "benign" by dermatopathologists were "benign" by assay (specificity = 84.9%). Of 44/369 "indeterminate" lesions, dermatopathologists rendered 9/44.

"Double Halo" Hemangioma: A Cherry Angioma With A Peripheral Ring of Erythema From Trauma-Induced Dermal Hemorrhage

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Background: Cherry angioma is a common cutaneous hemangioma.
Case: A 74-year-old woman presented with a 5 mm red papule with an outer erythematous ring/halo separated from the papule by a halo of pallor on the left breast. The erythematous rim appeared after hours of compression beneath a seatbelt. Histopathology revealed a dermal lobular collection of vessels. No amyloid was identified. The dermis adjacent to the angioma showed no hemorrhage (inner pale halo), but beyond showed abundant extravasated erythrocytes (outer erythematous halo).
Discussion: Cherry angioma may show a pale halo in a small subset of cases. They may rarely show a halo of erythema/purpura when involved by systemic amyloidosis. Our case displayed a "double halo sign" from peripheral dermal hemorrhage secondary to compression. We postulate that the surprising lack of dermal hemorrhage in the inner halo may be due to reduced vascularity and/or lack of connection to the vascular plexus.
Conclusion: The "double halo sign" may be seen in cherry angiomas secondary to trauma.

Diffuse Skin Eruption With Associated Vision Loss

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A 39-year-old female with a past medical history of polysubstance abuse presented with a 4-week history of a painful skin eruption and a 2-week history of progressive vision loss involving the right eye. Physical exam was notable for pink, scaly, desquamative, coalescent plaques with peripheral hypopigmentation on the face, trunk, and extremities. Initial laboratory tests revealed a normocytic anemia and leukocytosis. Patient denied recent travel. A screening HIV test was negative. Rapid plasma reagin was positive at 1:32 dilution. A punch biopsy was obtained from the right arm. Histologic sections demonstrated spongiosis and a lichenoid dermal infiltrate composed of lymphocytes and numerous plasma cells. Treponemal pallidum immunohistochemistry highlighted few spirochetes near the dermal-epidermal junction. The patient was diagnosed with neurosyphilis given the presence of ocular involvement. Treatment was initiated with intravenous penicillin G for 2 weeks followed by one dose of 2.4 million units of intramuscular benzathine penicillin. Her skin eruption gradually resolved and visual symptoms improved to 20/200 from complete vision loss.