Clinical Pearls

Clinical Pearls will help prepare residents for the future by providing them with pearls about what they should know about a specific subject area by the time they complete their residency.

Melanocytic lesions

By Vikas Shrivastava, MD, FAAD

1. Understand the report.
Histopathologic reports for melanocytic lesions can be complicated. One must understand what is being said and what testing was performed. You must agree with the pathologist's interpretation before discussing management and prognosis.

2. Establish a relationship.
Histopathologic analysis via H+E staining is the gold diagnostic standard[i] [ii]. Key features include cytologic atypia, lentiginous hyperplasia, Pagetoid scatter, lack of maturation, and inflammation.

Borderline lesions are challenging. Panels of immunohistochemical stains can help establish a diagnosis and include SOX10 (or other sensitive melanocytic stain), HMB-45 (lack of deep staining reassuring), p16 (retention reassuring) and Ki67 (low proliferation index reassuring)[iii]. Furthermore, p53, has been shown to help distinguish desmoplastic melanoma from neurofibroma (negative reassuring)[iv].

If you do not agree with your pathologist, frank discussion is paramount.

3. Don't over-rely on PRAME.
Nuclear immunoreactivity for PRAME is seen in up to 90% of melanomas and may be used to identify precursor nevus, highlight residual melanoma, and delineate background melanocytic hyperplasia.

That said, desmoplastic melanoma is typically PRAME negative and benign lesions may have some staining. Interpretation must account for intensity (weak-strong) and number of nuclei staining (1-25%, 26-50%, 51-75%, 76-100%).

Spitzoid lesions are difficult to classify using PRAME alone. McAfee et al showed the combined utility of p16 (positive reassuring) and BRAF V600E (negative reassuring) in this group while Boutko et al described a role for TERT-promoter mutation analysis (negative reassuring)[vi, vii].

For concerning lesions with discordant staining, FISH or CGH may be performed[viii].

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DR

Vikas Shrivastava, MD, FAAD, is a dermatopathologist and the dermatology residency program director at the Naval Medical Center in San Diego.

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