The Pathology of Atypical Moles

The Pathologist’s perspective

Thaddeus Mully, MD
Professor
University of California San Francisco
Introduction

- Pathologic challenges
- Historical perspective and controversies
- Concept of “special site” nevi
- What you can do to help you pathologist
Introduction

- Melanoma is the most lethal tumor in people
- The best chance at cure is early detection and definitive surgical treatment
- Clinical vigilance by dermatologists produces innumerable biopsies of clinically pigmented or otherwise atypical lesions
- Pathologists interpret these lesions
- This diagnosis implies a degree of certainty (assessment of risk)
- Pathologists and clinicians have aligning interests (and fears) of missing/misdiagnosing melanoma
- Pathologist anxiety influences diagnosis
Sample of criteria for melanocytic neoplasms

- Size
- Symmetry
- Circumscription
- Nesting Pattern
- Cytology
- Maturation
- Pigment distribution
- Mitotic figures
- Pagetoid spread
- Cellularity
- Fibroplasia
- Presence of nucleoli
- Epidermal changes
- Relationship to adnexae
- Presence of solar elastosis
Melanocytic Pathology is complicated

- Each nevus is a unique combination of these features and this combination lends itself to the diagnostic possibility of a “spectrum” of nevi
- Individual pathologists weigh criteria differently in a complex synthesis
- Good agreement at polar ends of spectrum (i.e. totally benign and totally malignant)
- Lack of reproducibility among pathologists in intermediate lesions
- Specimen issues (i.e. partial biopsies)
- Proposed intermediate stages as bona fide categories: SAMPUS, PIMP, MELTUMP
- Concept of “dysplastic nevi”
Clark’s nevus history

- 1978 Clark published paper describing families of patients that had hundreds of nevi with distinctive histopathologic features
- These patients and their families were likely to develop melanoma
- BK-mole syndrome after the initials of the affected
- 1980 Elder renamed this concept the “dysplastic nevus syndrome”
- These nevi were thought to be a melanoma precursor or markers of risk for developing melanoma
Clark’s nevi

- Shoulder
- Bridging
- Lamellar fibroplasia
- Random cytologic atypia
- Patchy lymphocytic infiltrates
- Vertically oriented blood vessels
Dysplasia as a Pathology concept was popular

- abnormal growth or development of cells, tissue, bone, or an organ

“Histologically, the sine qua non of these lesions is the presence of cytological atypia, or dysplasia, of melanocytes. A lymphocytic infiltrate and lamellar fibroplasia are also invariably seen. These lesions fit nicely into the schema of progression from hyperplasia to dysplasia to neoplasia that is accepted in many epithelial tumour systems, both experimental and human.”
Dysplasia has an appeal

- If you believe in dysplasia you can state that there is a progression from normal tissue to malignancy.
- Careful pathologic examination can identify characteristic histopathologic changes and determine where on the “road to cancer” the tissue is located.
- Action can be taken before it’s too late! I.e. we don’t “miss” a melanoma.
- Danger is in “pathologizing” everything.
Grading

- Mild
- Moderate
- Severe
- Grade is related to the degree of cytologic atypia
- Indicates the risk that this is not really a nevus, but rather a MM masquerading as one or turning into one
- Experience of pathologists and clinicians mediates treatment
- Not reproducible
- Some pathologists give a default grade as “mild”
Nevi with the histopathology described by Clark were very common and observed sporadically. Some studies documented 80% of population had such nevi. Patients with a few such nevi did not have the B-K mole syndrome and therefore were not at a greatly increased risk of melanoma. These nevi were so common that he proposed the term “common nevi” to describe them.
Do you think that dysplastic nevi exist?

1. Yes
2. No
3. In patients with syndromes such as the B-K mole syndrome
Clark’s (Dysplastic) nevi controversy

- Do they exist?
  - Maybe
- Can they be recognized reproducibly?
  - Sometimes
- Should they be graded in some way?
  - Many do
- Do they evolve into melanoma at a greater rate than “normal” nevi?
  - NO
- How should treat them?
  - Re-excision or observation
Treatment

- Many atypical nevi are treated with excision
- Most studies indicate a low rate of residual nevus (2%).
- Most studies indicate a low rate of finding MM in an excision (<1%)
- Residuum is often related to type of biopsy performed shave/punch
- Over treatment is an issue
- Clinical follow up as an alternative
- Wide variability in the community
- Treatment ranges from re-shave to excision à la MIS
Do you re-excise atypical nevi?

1. Yes
2. No
3. Depends on grade of atypia
4. Depends on pathologist’s recommendation
Do you want re-excision recommendations?

1. Yes
2. No
3. As a phone call, but not written in report
Nevi and MM

- A subset (30%) of MM associated with a pre-existent nevus. No distinction between Clark’s and common nevus.
- Most melanomas arise de novo and so prophylactic removal of nevi is not likely to help much.
Does your pathologist grade nevi?

1. Yes
2. No
3. Sometimes
Nevi of Special sites

- Nevi from a variety of body sites have a characteristic and reproducible appearance which overlaps with features of dysplastic nevi
- Common sites are breast, genitalia, and scalp
- We need to recognize this and not overdiagnose these lesions
- Other external features such as trauma or prior biopsy may also alter the appearance of putatively benign nevi
Final thoughts

- We should move to “high” and “low” grade lesions
- The vast majority of atypical nevi appear to be “low grade”
- Some cases defy routine light microscopic diagnosis
- Re-excision may be for the clinician/pathologist and not the patient
How to help your pathologist

- Give the clinical size of the lesion!
- Shave biopsies whenever possible
- Healthy skepticism
References

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