Dysplastic Nevus

- Histologic diagnosis
  - Dysplastic nevus (DN) versus atypical nevus
- Familial syndrome versus solitary lesion
  - Clark et al\textsuperscript{1}: B-K mole syndrome
  - Lynch et al\textsuperscript{2}: Familial atypical-multiple mole melanoma syndrome
  - Elder et al\textsuperscript{3}: Dysplastic Nevus Syndrome
Challenges

- Histologic dysplasia does not reliably correlate with clinical appearance
  - Klein et al\textsuperscript{4}: 58 benign appearing lesions
    - 88% with one histologic feature of a DN
    - 69% with two histologic features of a DN
    - 29% with three histologic features of a DN
Challenges

• Poor interobserver agreement in grading DN
  ▫ Duncan et al\textsuperscript{5}:
    • Distinguishing DN from common nevi or melanoma: 77% concordance
    • Grading lesions
      • Experienced dermatopathologists: 35 – 58% concordance
      • Inexperienced dermatopathologists: 16 – 65% concordance
Melanoma risk

- Data suggest that melanoma risk is higher for persons with DN having higher grades of histologic dysplasia
  - Arumi-Uria et al\(^6\): 6275 cases of DN
    - 40% mild, 26% moderate, 5% severe
    - History of melanoma:
      - 5.7% of mildly DN
      - 8.1% of moderately DN
      - 19.1% of severely DN
Melanoma Risk

- No evidence that dysplastic nevi will inevitably progress to melanoma
  - Difficult to study
- For a 20-year-old individual, the lifetime risk of any nevus transforming into melanoma by age 80 years is approximately 0.03% (1 in 3,164) for men and 0.009% (1 in 10,800) for women.\(^7\)
Biopsy Technique

- American Academy of Dermatology\textsuperscript{8} and National Comprehensive Cancer Network\textsuperscript{9} clinical practice guidelines for melanoma
  - Narrow excisional biopsy (1 – 3 mm margin)
- Problems with partial biopsy:
  - DN may demonstrate heterogeneous histopathology
Sampling error

- Initial biopsy: Irritated atypical lentiginous junctional nevus (architectural disorder and **mild to moderate cytologic atypia**)

- Final Pathology: **Invasive malignant melanoma** with overlapping features of lentigo maligna melanoma and superficial spreading types arising at the site of a precursor atypical nevus and prior biopsy site reaction
Reasons for re-excision

1. Partial biopsy performed initially
2. Step-sectioning slide preparation might miss melanoma in a DN
3. Pathologic interobserver variability
4. Pseudomelanoma
5. Residual cells at the DN margin could transform into melanoma
6. Patient preference
Helpful Hints

• Pseudomelanoma
  ▫ Recurrent nevi: Repigmentation within the scar, typically within 8 months.
  ▫ Melanoma: Repigmentation crossing into normal skin, more than 20 months after biopsy, and in patients older than 30.\textsuperscript{10}
## Outcomes of DN with positive margins

<table>
<thead>
<tr>
<th>Study</th>
<th># of DN with positive margins</th>
<th>Melanoma Recurrence (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abello-Poblete et al\textsuperscript{11}</td>
<td>91</td>
<td>0</td>
</tr>
<tr>
<td>Reddy et al\textsuperscript{12}</td>
<td>127</td>
<td>1.6 %</td>
</tr>
<tr>
<td>Hocker et al\textsuperscript{13}</td>
<td>115</td>
<td>0</td>
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<tr>
<td>Goodson et al\textsuperscript{14}</td>
<td>69</td>
<td>0</td>
</tr>
<tr>
<td>Kmetz et al\textsuperscript{15}</td>
<td>26</td>
<td>0</td>
</tr>
</tbody>
</table>
Management

- Severely DN: re-excite
- Mildly and Moderately DN with clear margins: observe
- Mildly and Moderately DN with positive margins: observe in most cases
  - Re-excision may be warranted: biopsy technique, patient preference, etc.
Margins

• NIH Consensus Conference\textsuperscript{16}
  ▫ Guidelines for re-excision: 2 – 5 mm margin
  ▫ Indications for re-excision were not specified
Alternative management

- Imiquimod
- 5-fluorouracil
- Tretinoin
- Isotretinoin
- Laser ablation
References


