Dysplastic Nevi
The Wild West of Dermatology
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Disclosures

- Founder of Your Health University
Given published data on the very low likelihood that incompletely biopsied DN will recur as melanoma, it does not seem reasonable to suggest that all DN require re-excision. Given the fact that some DN turn out to be invasive melanoma when re-excised (such as in the article in question), some DN should clearly be re-excised. As dermatologists, we all struggle with the decision regarding observation versus re-excision, particularly when the atypia has been characterized as “severe.”

Dysplastic Nevi (DN) were first reported in 1978 by Clark and colleagues. These were histologic categorizations of nevi found in patients who were “melanoma prone” due to family history. Later they were known as dysplastic nevi as they had architectural and cytologic atypia (similar concept to cervical dysplasia).
Dysplastic is more of a histologic term. Some don’t use it as there is no consensus on how to grade.

Atypia is more of a clinical term.

However, no term has universal acceptance.
How Common are Dysplastic Nevi?

- Estimated they occur in about 10% of the population of Northern European dissent (7–21%)
- Pts with a history of melanoma – 34–59% have DN

Melanomas are usually found in sun-exposed areas (chronic or intermittent). Usually in later years of life although due to tanning beds this is changing.

Dysplastic Nevi are found in sun exposed AND non sun-exposed areas.
How Do Dysplastic Nevi Relate to Melanoma?

- Very difficult question to answer.
- There is no agreement on terminology or grading among Dermatopathologists.
- Dermatopathologists do not even agree with themselves on grading.
- How do you answer the question if we do not have agreement?
- How can we agree to how far something is if one person measures a mile as 5280 feet and another as 4500 feet?
“The reliability of a diagnostic test depends on the reproducibility of the result.”

8 Expert pathologists convened (published and well recognized in the community as experts).

Each submitted 5 specimens.

37 of those specimens were used (one slide per case). Had to be “classic cases.”

Had to say “benign,” “malignant,” or “indeterminate.”

To Agree or Disagree or ...

- Given pt history but not diagnosis of slide.
- All identifying information removed from slides.
- Same slide went to each expert – rotated.
- Sign out was done in the experts “usual manner.”
Results

- Agreed with each other 62% of the time!
- 38% had 2 or more discordant interpretations.
- No expert had more disproportionate discordance.
- K statistic for 8 observers and 3 possible outcomes was 0.5 with a p value of <0.0001.
- 0.5 indicates moderate agreement.
K statistic

- $>0.81$ = excellent to almost perfect agreement
- $0.61-0.81$ = substantial agreement
- $0.41-0.6$ = moderate agreement
- $0.21-0.4$ = fair agreement
- $0.01-0.2$ = slight agreement
One off???

- Similar study found K statistic of 0.34.
How Often Misdiagnosed?

- False Positives – DN read as MIS 17.6%. DN read as Invasive Melanomas in 3.2%
- False Negatives – Melanomas read as DN in 12%.

“One Dermatolopathologist’s moderately atypical nevus may be another’s melanoma.”

Histopathology Section
“It is not necessary to perform a biopsy of a dysplastic nevus unless there is clinical suspicion for melanoma.”

Really???
Case 2
Case 3
Case 4
Case 5
Case 6
Case 7
Case 9
Case 10
Case 11
Case 12
The Point is Not All Melanomas Look Like This
In my clinic, 4% of shave removals of DN are actually melanomas!

This does not count things like the last picture which is an obvious melanoma and are biopsies, not shave removals.

We are projected to treat over 150 melanomas this year in my clinic from shave removals!
How To Biopsy

- Pathologists want excision with 1 foot margins I think.
- When comparing shave to punch, shaves had 95.5% concordance with final diagnosis. Punches had 70.7% concordance.

How do DN relate to Melanoma?

- DN do relate to a patient’s risk for developing melanoma (perhaps NOT in an individual lesion)
- Someone with one DN has a RR of 1.6
- Someone with five or more DN has a RR of 10.5. Retrospective
- Prospective RR of someone developing melanoma who has DN = 47–92!


Of course there is a lot of debate and conflicting studies on the above. One thing is clear, more DN = increased risk of developing melanoma.
Etiology

- Many theories = not exactly clear
- Environmental exposures and genetics play a role.
- Genetics – very complicated. More later on this.

Do DN Turn Into Melanomas?

- DN are a clear marker for a patient’s risk of developing melanoma later in life
- Lies, really bad lies, statistics...
- 20% of melanomas arise from DN.
- ? % of melanomas arise from regular nevi
- Rest of melanomas arise de novo

Do DN Turn Into Melanomas?

- Estimates are all over the place. Some quoted as low as 1 in 200,000.
- These estimates are fraught with so many problems that we would not allow them in any other aspect of medicine.

Genetics Studies Section
Guidelines

- “We excise too many DN.”
- “Most do not turn in melanoma.”
- Moderate–severe and Severe – excise
- All others monitor
6177 Dermatologists Surveyed between 2001–2015. 703 responded with data.
Margins in 2001 were 1.9mm.
Margins in 2015 were 2.3mm.
What Is Excised With + Margins?

- Severe – 98% excise!!!
- Moderate – 67% excise
- Mild –12% excise
- 2% do not excise regardless!!!
What Is Excised With – Margins?

- Severe – 49%
- Moderate – 10%
- Mild – 1%
- 51% do not re-excise
What % of margin seen with shave Removals?

- A) Less than 1%
- B) 1–5%
- C) 5–15%
- D) 15–25%
- E) More than 25% but likely less than 30%
Experienced vs New

- Older Dermatologists do not excise as frequently and use smaller margins
- Average RTC is 6–12 months

Shave remove everything that I consider is likely a DN.

Biopsy anything that I think is a melanoma

Mild, Mild–Moderate – recommend monitoring. Can have excision if desires. (2mm)

Moderate – recommend excising. Can have excision if desires. (3mm)

Moderate–severe. Excise (4mm)

Severe. Excise (5 mm)
Recurrent DN

- What do you do with a recurrent DN?
Send specimens to the best
Videos to explain to patients
RTC 3 months after initial sampling
Yearly if 1 DN
Q6 months is >1 DN
Scripts we read from. Templates we use
Ophthalmology if DNS. 1 in 200 risk of ocular melanoma
Questionnaire for melanoma
“Until a simple and accurate genetic test can be applied to tissue specimens that is characterized by high specificity and sensitivity, the best the physician can do is to minimize the potential sources of error.”

Dr. Glen Bowen
Mild and Mild–Moderate Dysplastic Nevus–
General consensus among Dermatologists is
that we monitor these lesions. If any pigment
returns we usually recommend excising the
area. These lesions can be excised as primary
form of treatment but this is usually not
necessary.
Moderate Dysplastic Nevus—There is some debate among Dermatologist about the treatment for these atypical moles. Our recommendation, due to their unknown biologic potential, is to excise them. Some Dermatologists would just monitor these lesions and while this is not usually our preferred way of addressing these lesions, it is still acceptable. If you choose this option it is very important that you look at the area every month in the mirror to see if it looks like the mole is returning (darkness or pigment appearing, change in the scar, ...).
Moderate–Severe and Severely Dysplastic Nevus–We recommend excising these lesions. These lesions can be monitored but this is against our medical advice and we highly discourage this approach as these have a fairly reasonable chance of turning into the skin cancer called Melanoma.
I understand that I need to have routine full body skin exams, at least yearly, by a Dermatologist. I understand I should perform monthly self-skin exams of my skin in order to help spot concerning lesions early and I should call immediately for an appointment if I find a concerning lesion or if anything on my body is growing, changing, or not healing.
I hereby authorize Colorado Dermatology Institute providers/residents/associates/assistants to perform the procedure(s). The procedure, its purpose, as well as alternative therapeutic options have been explained to me (including the option to not having any treatment performed at all.) Although every attempt will be made to minimize the chance of complications, I understand that the following complications are possible:
1. Allergic reaction to anesthesia, antibiotics, or bandages.
2. Bleeding from the surgical site.
3. Bruising at or around the surgical site.
4. Scar formation will occur, and on rare occasions unsightly or thickened scars (keloid, hypertrophic, or pink/ red scars) can form.
5. Wound infection
6. Ulcerations, necrosis (tissue death), or dehiscence (separations of the edges of the suture wound).
7. Post–operative discomfort and/or pain.
8. Skin color changes (lightening or darkening), which may be permanent.
9. Recurrence (regrowth) of the lesion at the surgical location or elsewhere in the body.
10. Loss of or decreased sensation (feeling), which may be permanent.
11. In rare instances loss of movement around the surgical site which may be permanent.
I have had the opportunity to speak with the medical/pathology staff at Colorado Dermatology Institute and have been given the link to educational videos the Colorado Dermatology Institute has published. I understand that it is highly encouraged to watch the videos that pertain to my diagnosis and treatment so that I can better understand the diagnosis and proposed treatment. All of my questions have been addressed and I understand the diagnosis and treatment options and recommendations.
I understand it is my responsibility to make sure I take proper care of my treatment site to ensure the best healing. Post-operative instructions are provided to minimize the chance and severity of many of the potential complications. I acknowledge that no guarantee or assurance has been given by anyone as to the end result of the procedure(s).
YHU Video
Panel Discussion