Management of Atypical Pigmented Lesions

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July 29, 2017  1-4 pm
The Challenge of Managing Atypical Nevus Patients

• Patients with lots of atypical moles
• Higher risk of melanoma
• Many patients have had dozens of biopsies, each followed by an excision
• “Tired of being cut up” and scared of risk of melanoma
Signature / ugly duckling nevus

• What’s normal for this patient
• Ugly duckling is not always the biggest or darkest mole
• Doesn’t fit in with the rest of the family of moles

Suh and Bologna JAAD 2009
Grob et al Arch Derm 1998
After identifying an ugly duckling, now what?

Not every ugly duckling is a melanoma
Dermoscopy

• Noninvasive technique
• Visualizes subsurface skin structures to diagnose melanoma
• Adds to clinical exam
• Does not replace clinical judgment
• Particularly helpful with patients with many and atypical moles
A Simple Pattern Recognition System
For Dermoscopic Patterns

• Learn several easy-to-recognize patterns
• Identify key worrisome features

Don’t Be Afraid of Compound Nevi
“Fried Eggs”

• “Shoulder sign”
• Compound center
• Junctional periphery
Look at individual moles dermoscopically within the context of other moles from the same patient.
The Ugly Duckling Sign Improves Specificity

• Gaudy-Marqueste et al JAMA Dermatol 2017
• Ability to compare all of a patient’s clinical and dermoscopic nevi images reduces potential biopsy rate by a factor of 6.9
Not all lesions are clearly benign or clearly malignant
Sometimes Change can be an Important (and the Only) Clue for Detecting Melanomas

Serial Dermoscopic Monitoring
Total Body Photography

• Identify new lesions
• Helps to monitor for change
• Good for patients who have trouble keeping track of moles
• 3.8-fold reduction of biopsy rates after TBPs (Truong et al JAAD 2016)
• Downside – cost
• Privacy issues
Pros and Cons of Total Body Photography

Cons
• Cost (patient)
• Time (patient and visit)
• Patient discomfort
• Privacy issues / storage
  • Don’t store TBPs in the general electronic health record (Lakdawala et al J Am Acad Dermatol 2013)

Pros
• Helps to monitor for new / changing lesions
• Decreases biopsy rates 3.8 fold (Truong et al JAAD 1016)
• Cost (society)
• Aids in self exam
• Decrease patient worry
• Good for patients who have trouble keeping track of moles

Can be useful in the management of high risk patients
Evidence for Total Body Photography with Digital Dermoscopic Monitoring

- Moloney et al. JAMA Dermatol 2014 (Sydney)
- Salerni et al. JAAD 2012 (Barcelona)
- Banky et al. Arch Derm 2005 (Victoria)
- Rademaker and Oakley J Prim Health Care. 2010 (New Zealand)
- Melanomas are detected earlier than without imaging
Total Body Photography / Sequential Digital Dermoscopic Surveillance

• 618 high risk patients 1999-2008 – monitored 11,396 lesions (18.44 / patient), excised 1152 lesions, 1.86 per patient
• 53 melanomas were in situ (53.3%)
• invasive (45) were all less than 1 mm (median 0.5 mm) and none were ulcerated
• In a selected high risk population → early detection of melanomas with a low rate of excisions

Salerni et al J Am Acad Dermatol 2012 a and b
Total Body Photography / Sequential Digital Dermoscopic Surveillance

• Similar results reported from Australia (Moloney et al JAMA Dermatol 2014)
• Median thickness of MM during study period was MMIS
We’ve found a suspicious lesion:

How to biopsy?
How do dermatologists biopsy?

• Survey of US Chief Residents in Dermatology and International Dermoscopy Society Members
• Nearly all dermatologists (98-100%) do intend / attempt to remove entire lesion
• Good sample for pathologist, don’t want to have to go back for another procedure
• Discrepancy about whether clinician reports intent to completely remove lesion to pathologist (84% experts vs 52% novices)

Newlove and Wu et al, unpublished data
How do dermatologists biopsy?

• Disagreement about what biopsy margin to use
• Chiefs: <1 mm
• Experts: 2 mm
• Prospective study to look at clinical biopsy margin

Newlove and Wu et al, unpublished data
Practical biopsy considerations

- Shave, saucerization, punch, excision
- Small lesion can fit nicely into a punch
- What to do with big lesions?
- Many dermatologists aren’t set up for a quick excision in the middle of practice day
- Don’t want to send patient home and make them come back for bx if you’re really worried about it
- Bigger lesions are more likely to go to the margin

1. 73.1% clear by scoop-shave vs 91% by standard excision, 18.1% by shave biopsy, and 78.6% by punch excision

What predicts a positive biopsy margin?

- Reddy et al - 580 DN biopsies – nearly all shave with 1-2 mm margin
  - 34% reported positive margin
- Strazulla et al – 1809 mild and mod DN biopsies
  - 42.3% had positive margins
- Positive margin more often with gross pathologic size\(^1\), intradermal component\(^2\), location on head/neck\(^1,2\) and worse atypia\(^1,2\)

\(^1\)Reddy et al JAMA Dermatol 2013
\(^2\)Strazzula et al J Am Acad Dermatol 2014
The biopsy comes back as dysplastic nevus

When do we re-excise?
When to re-excise?

• What’s the goal of “conservative re-excision”
• To make sure there’s not a focus of MM left behind that wasn’t evaluated in the original biopsy
• Because you’re not sure it wasn’t actually a melanoma all along
  • Cannot rule out early evolving melanoma
  • Severely atypical...
  • Spitz nevus/tumor with atypical features
Degree of atypia and margin status strongly influences decision to re-excise

- Duffy et al Arch Dermatol 2012 - Survey of Chicago Derm Society
- Comfere et al JAAD 2013 - Margin comments in dermatopathology reports on dysplastic nevi influence re-excision rates
- Similar results in Reddy et al JAMA Dermatol 2013 and in NYU survey (unpublished)
Limitations of Margin Interpretation

- Many dermatologists don’t really understand how margins are checked in a shave biopsy
- Interpret “Margins in the sections examined are free” as “I got the whole thing out”
Do we really need to re-excise?

• J Am Acad Dermatol. 2013 Apr, Hocker et al
• Mayo – pre-1990’s did not use term DN or report margins
• Retrospectively reviewed 115 nevi diagnosed in 80’s – those that now would be called DN and approached margin (66 mild, 42 mod, 7 severe)
• Mean follow-up was 17.4 years, 71% > 10 years
• None of the DNs that approached a microscopic border progressed to melanoma, and no patient developed metastatic melanoma
Upgrade from DN to MMIS on excision

• Mildly and moderately dysplastic nevi did not show any clinically significant change from biopsy diagnosis nor any evidence of melanoma upon surgical excision
Low utility of re-excising mild and moderately dysplastic nevi

- Strazzula et al J Am Acad Dermatol 2014
- 1809 biopsies of mild and moderate DN 2010-2011 at MGH
- 765 (42.3%) had positive margins on biopsy, 495 (64.7% of the 765) were re-excised
- Residual lesion only found in 18.2%
- 1 / 495 (0.2%) cases had change in diagnosis - upgraded to severe DN – no MM
What about severe DNs?

- JAAD 2017, retrospective study of 451 patients with severe DN, 36.6% were re-excised
- 2 MM were diagnosed in re-excision
- 7 developed met MM, all of whom had h/o MM
My algorithm

• Must have an understanding with your own pathologist
• Severe – treat like MMIS (5 mm margin)
• Moderate – get recommendations from pathologist – usually re-excise with 2 mm margin
  • Consensus statement said observation may be OK (Kim et al. JAMA Dermatol 2015)
• Mild – do nothing, though ask the patient to show me the site if it re-pigments
Summary

• Total body skin exams, especially for high risk patients, look for the ugly duckling
• Use dermoscopy
• Short term monitoring on patients you trust will come back
• Biopsy the entire lesion
• Not all atypical nevi need re-excision
• Recurrent pigmentation – watch for pigment beyond scar
June 7th and 8th, 2018

NYU Langone Medical Center
http://dermatology.med.nyu.edu/events-conferences/advances-dermatology
Thank you!

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