F005: Case-based challenges for PA/NPs: Dermatologic Surgery

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DISCLOSURE OF RELATIONSHIPS WITH INDUSTRY

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DISCLOSURES

I do not have any relevant relationships with industry.
Question 1

60 year old woman with a history of NMSC presents with a 1.6 x 1.5 cm asymmetric, irregular, light and dark brown patch on her right anterior thigh that has been present for many years.
Question 1: What is the most appropriate way to biopsy this pigmented lesion?

A. Partial punch biopsy
B. Partial shave biopsy
C. Complete excision
D. Shave removal
E. Multiple scouting punch or shave biopsies
Question 1: What is the most appropriate way to biopsy this pigmented lesion?

A. Partial punch biopsy
B. Partial shave biopsy
C. **Complete excision**
D. Shave removal
E. Multiple scouting punch or shave biopsies
## Table IV. Recommendations for biopsy

<table>
<thead>
<tr>
<th>Preferred biopsy technique is a narrow excisional biopsy that encompasses the entire breadth of the lesion with clinically negative margins to a depth sufficient to ensure that the lesion is not transected, which may be accomplished by elliptical or punch excision with sutures, or shave removal to a depth below the anticipated plane of the lesion.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partial sampling (incisional biopsy) is acceptable in select clinical circumstances such as a facial or acral location, low clinical suspicion or uncertainty of diagnosis, or a very large lesion.</td>
</tr>
<tr>
<td>Repeat biopsy is recommended if initial biopsy is inadequate for diagnosis or microstaging of primary lesion.</td>
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CONCLUSION: The scoop-shave is a safe and effective technique for diagnosis and treatment of melanocytic lesions
Benefits of shave removal (aka scoop shave)

1. Can sample entire lesion, including deep margin, especially for thin lesions
2. Quicker and easier to perform
3. Cheaper
4. Less downtime for patients
5. Easier to re-excise a shaved wound rather than a sutured wound
Question 1: What is the most appropriate way to biopsy this pigmented lesion?

When in doubt, get it out!
60 year old woman without a history of skin cancer presents with a 2.2 x 1.4 cm asymmetric, ill-defined, light and dark brown patch on her right cheek that has been slowly growing for many years. Initial partial biopsy was read as “lentiginous junctional melanocytic proliferation with mild to moderate atypia, present at margin”, but a residual, clinically-concerning lesion is still present.
Question 2: What is the most appropriate way to manage this partially biopsied, concerning lesion?

A. Excise with 3mm margins because it is a dysplastic nevus
B. Excise with 5mm margins because you are worried it could be MIS
C. Re-sample another portion of the lesion to confirm the proper diagnosis
D. Re-sample the entire lesion to confirm the proper diagnosis
E. Monitor closely, not performing surgery because it is only a mildly to moderately atypical melanocytic proliferation
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A. Excise with 3mm margins because it is a dysplastic nevus
B. Excise with 5mm margins because you are worried it could be MIS
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D. **Re-sample the entire lesion to confirm the proper diagnosis**
E. Monitor closely, not performing surgery because it is only a mildly to moderately atypical melanocytic proliferation
When in doubt, get it out!

Pathology from Stage 1 of Slow Mohs (Staged Surgical Excision with Complete Margin Evaluation) was reported as “Lentigo maligna, present at margin”
Pitfall of a partial biopsy
Pitfall of a partial biopsy
Other cautious tales of partial biopsies

Hypertrophic and inflamed AK -> Merkel Cell Carcinoma

SCCis -> Atypical Fibroxanthoma

Endophytic atypical squamous proliferation -> Melanoma
65 year old woman without a history of skin cancer presents with a 0.5 x 0.3 cm asymmetric, irregular, pink and brown macule on the left posterior shoulder. Initial shave biopsy was read as a “Compound nevus with moderate to severe atypia, associated with a dermal nevus, margins close.”
Question 3: What is the most appropriate way to manage this moderately-to-severely atypical nevus with close margins?

A. Observe
B. Reexcise
Question 3: What is the most appropriate way to manage this moderately-to-severely atypical nevus with close margins?

A. Observe

B. Reexcise (?)
Management of atypical/dysplastic nevi (DN) is controversial and an area of much research

- Overall, treatment recommendations becoming more conservative, with many papers evaluating whether DN (especially mildly or moderately DN) need to be re-excised at all

References
## Reexcision Rates

<table>
<thead>
<tr>
<th></th>
<th>Mild DN</th>
<th>Moderate DN</th>
<th>Severe DN</th>
</tr>
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<tbody>
<tr>
<td>Positive Margins</td>
<td>12-21%</td>
<td>67-81%</td>
<td>95-98%</td>
</tr>
<tr>
<td>Negative Margins</td>
<td>0-1%</td>
<td>9-10%</td>
<td>49-55%</td>
</tr>
</tbody>
</table>

**References:**

- Clinical decision making based on histopathologic grading and margin status of dysplastic nevi. JAMA Dermatol 2015;151(2):212-218
Addressing the Knowledge Gap in Clinical Recommendations for Management and Complete Excision of Clinically Atypical Nevi/Dysplastic Nevi

Pigmented Lesion Subcommittee Consensus Statement

Recommendations include:

1. Mildy and moderately dysplastic nevi (DN) with clear margins do not need to be reexcised

2. Mildy DN biopsied with positive histologic margins without clinical residual pigmentation may be safely observed rather than reexcised, and

3. Observation may be a reasonable option for management of moderately DN with positive histologic margins without clinically apparent residual pigmentation; however, more data are needed to make definitive recommendations in this clinical scenario.

4. All severely DN with positive margins should be re-excised. --- But what about severely DN with negative margins? JAMA Dermatol 2015;151(2):212-218
A nongrading histologic approach to Clark (dysplastic) nevi: A potential to decrease the excision rate

Daniel F. Lozeau, MD, Michele J. Farber, MD, and Jason B. Lee, MD

Philadelphia, Pennsylvania

17,024 nevi evaluated -> 8,654 dysplastic nevi

-> 959 (11.1%) recommended for excision -> 765 excised

--> No residual (81%); residual benign (16%); residual uncertain (1%); Melanoma (2%)
Question 3: What is the most appropriate way to manage this atypical nevus?

- Surveys have shown re-excision rates are about 50-50 for severely dysplastic nevi with clear biopsy margins
- In this case, the pathologist did state: “A conservative reexcision is recommended.”, therefore I re-excised
- Final pathology: “Scar, no residual”
52 year old woman with chronic lymphocytic leukemia (CLL) presents 2 weeks after a wide local excision of a melanoma on her right upper back with a red, swollen, painful plaque draining purulent fluid, consistent with a post-operative wound infection.
Question 4: After cleansing the wound, removing the superficial sutures, and expressing the purulent fluid, what is the most appropriate way to manage this post-operative infection?

A. Do nothing more

B. Culture wound and wait for results before starting antibiotics

C. Culture wound and start patient on narrow spectrum antibiotics

D. Culture wound and start patient on broad spectrum antibiotics

E. Start patient on empiric antibiotics only
Question 4: After cleansing the wound, removing the superficial sutures, and expressing the purulent fluid, what is the most appropriate way to manage this post-operative infection?

A. Do nothing more

B. Culture wound and wait for results before starting antibiotics

C. **Culture wound and start patient on narrow spectrum antibiotics (antibiotics which cover most likely organisms)**

D. Culture wound and start patient on broad spectrum antibiotics

E. Start patient on empiric antibiotics only
Treatment for surgical site infection should include prompt administration of full dose antibiotics to cover probable pathogens.

If possible, all surgical site infections should also be cultured to determine whether the bacteria are antibiotic resistant, particularly methicillin-resistant S. aureus.

For patients presenting with a skin abscess, antibiotics should cover methicillin-resistant S. aureus.
Other guidelines exist, but no consensus


My approach to post-operative infections

1. Cleanse overlying skin surface with alcohol (to remove normal skin flora)
2. Remove superficial sutures (if it is a moderate to severe infection, there is already dehiscence, or it is the normal time for sutures to be removed)
3. Drain as much purulent fluid as possible without opening the entire wound
4. Perform incision and drainage (if there is a well-formed abscess)
5. Culture purulent fluid (if present)
6. Start on empiric antibiotics (based off my clinical suspicion of causative agent)
7. Schedule follow up in 1 week or sooner as needed
## Staph vs Strep

<table>
<thead>
<tr>
<th></th>
<th>Staph</th>
<th>Strep</th>
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<tr>
<td><strong>Presentation</strong></td>
<td>Purulent Abscess</td>
<td>Erythematous only Cellulitis</td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td><strong>Cephalexin (MSSA)</strong></td>
<td>Cephalexin</td>
</tr>
<tr>
<td></td>
<td>Doxycycline (MRSA)</td>
<td></td>
</tr>
<tr>
<td><strong>Alternatives</strong></td>
<td>Doxycycline (MSSA and MRSA)</td>
<td>Clindamycin</td>
</tr>
<tr>
<td></td>
<td>TMP-SMX (MSSA and MRSA)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clindamycin (MSSA)</td>
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High-risk populations for MRSA

• Athletes
• Children
• Men who have sex with men
• Prisoners
• Military recruits
• Residents of long-term care facilities
• Individuals with previous MRSA exposure
• Intravenous drug users

NEJM 2007;357(4):380-390
Infection Mimickers

Normal Edema

Bruising

ICD and/or ACD to Bandages

ACD to Topical Antibiotics
Question 5

78 year old man presents for excision of a biopsy-proven squamous cell carcinoma on his “left mid back.” He has extensive actinic damage, multiple scars from prior biopsies, excisions, cryotherapy, and ED&C. When you ask him where the biopsy site is, he says “I really can’t remember, but I think it was here”. He points to a rough, scaly spot on his “left upper back.”
Question 5: What is the most accurate method to correctly identify a biopsy site?

A. Listen to the patient
B. Read the location written on the pathology requisition
C. Trust your exam
D. Look at pre-biopsy photograph(s)
E. Confer with another provider
Question 5: What is the most accurate method to correctly identify a biopsy site?

A. Listen to the patient
B. Read the location written on the pathology requisition
C. Trust your exam
D. **Look at pre-biopsy photograph(s)**
E. Confer with another provider
Patients (and providers) are not reliable

- Patients incorrectly identified the biopsy site 9-29% of the time
- Physicians were incorrect 6-12% of the time

References:

Photographs help

• In one study, all surgical sites were correctly identified with preoperative biopsy-site photography

• Majority of Mohs surgeons in one survey find photographs to be the most useful documentation for decreasing the risk of wrong-site dermatologic surgery

• Another study concluded that biopsy-site photography saves time, money, potential frustration, and hopefully the number of wrong-site surgeries

References:


Risk factors of biopsy site misidentification

• Longer intervals between biopsy and surgery
• Multiple biopsy sites
• Patient difficulty visualizing the biopsy site

Reference:
Methods to prevent wrong-site surgery

1. Take good pre-biopsy photographs
2. Review pre-biopsy photographs before surgery
3. If you are unsure of biopsy site:
   A. Re-biopsy
   B. Return patient to referring/biopsing provider
   C. Treat with a field therapy (if sBCC or SCCis and patient has background actinic damage)
   D. Choose watchful waiting with close clinical monitoring and repeat exam in 3 months
A Multistep Approach to Improving Biopsy Site Identification in Dermatology
Physician, Staff, and Patient Roles Based on a Delphi Consensus

CONCLUSIONS AND RELEVANCE  When definitive surgery is performed after the initial biopsy and by a different surgeon, procedures can be implemented at several time points to increase the likelihood of correct site identification. The specific circumstances of a case suggest which methods may be most appropriate and feasible, and some may be implemented. The risk of wrong-site cutaneous surgery can be reduced but not eliminated.
PRACTICE GAPS

Wrong-Site Surgery in Dermatology

Sherrif F. Ibrahim, MD, PhD

JAMA Dermatology  May 2014  Volume 150, Number 5

Box. Procedures to Minimize Wrong-Site Surgery

At the Time of Biopsy

• Photograph all lesions to be biopsied: mark lesion before photography, ensure image is in focus, include anatomical landmarks.

• Generate a body map: document precise distances to ≥2 distinct landmarks (eg, tragus, lateral canthus, oral commissure).

At the Time of Definitive Surgery

• Invoke a standardized time-out procedure for all patients: hand the patient a mirror and have him or her point to the biopsy site, delineate the area with a surgical marking pen, reconfirm the site with the patient.

• In the event of uncertainty: remove crust and scale, clean the area with alcohol, visually examine and palpate the area under bright illumination, consider a small biopsy or send curettings for frozen section analysis, contact the referring office for additional information, watchful waiting is always an option.
Avoiding Medical Errors in Cutaneous Site Identification: A Best Practices Review

Jessica St. John, MPH, MBA,* Jennifer Walker, MD,† Dori Goldberg, MD,‡ and Mary E. Maloney, MD‡


CONCLUSION Site identification remains a challenge for dermatologists and is a leading cause of medical errors in this field. Patients are often unreliable in their ability to identify biopsy sites; therefore, practitioners must take a proactive role to ensure that medical errors do not occur. This article provides a thorough description and evaluation of current site identification techniques used in dermatology with the aim to improve quality of care and reduce medical errors.
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