Skin Biopsy

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Disclosures

- I have no known conflicts of interest.
- I own mutual funds.

Goals for this workshop

- After this workshop, attendees will be able to:
  - Identify indications for skin biopsy
  - Select appropriate biopsy technique for diagnosis and anatomical site
  - Review risks and benefits of skin biopsy
  - Perform skin biopsies

Why should I learn how to do skin biopsies?

- Shortage of Dermatologists who can see your patient in a timely fashion
- Distance to a Dermatologist
- Patient may not see a Dermatologist at the Dermatologist's Office
- It's easy! It's quick! It can save your sanity if you're losing your mind wondering what is wrong with the patient's skin!
- It's a surgical procedure that (in our crazy world) pays well!

Please see slide at Presentation

How do I know what type of biopsy I need?

- In general, if you are looking at something close to the epidermis, a shave biopsy will be diagnostic (skin cancers, rashes that are peeling/scaling).
- If you want to look at deeper structures (palpable purpura, hair loss), a punch biopsy will go all the way through the dermis to the subcutaneous fat.

How do I know what type of biopsy I need?

- If you want to completely remove something through the dermis, you can do an excisional biopsy. You need to do an excisional biopsy to include fat for some diagnoses (erythema nodosum, PAN).

Shave biopsy of skin

Shave biopsy of skin

- What do I need to do this?
  - Think in order of HOW you'll do it

  - Consent, clean skin, anesthesia, biopsy, pathology, hemostasis, wound dressing, instructions, procedure note.
  - In other words: Get permission, clean skin, numb it up, cut it out, send it out, stop the bleeding, cover it up, give instructions to patient, document it in the record.

My tray for shave biopsy

Consent the patient

- I consent patient to the risks of pain, bleeding, scarring, infection, recurrence and lack of diagnosis.
- ALWAYS review the benefits after the risks or patients only hear the risks.
- Verbal consent vs. written
- Document the discussion and consent

Anesthesia

- We use lidocaine 1% with epinephrine 1/100,000 to which we add 1:9 bicarbonate 8.4% to decrease pain (lidocaine is acidic).
- Fingers, nose, penis, toes? No epi? Epi has been proven to be safe in these areas in several large studies. (Plast.Reconst.Surg.2010;126:2031-4.) It also slows bleeding.
- Alcohol prep. Don't let patient see the needle. Pinch the skin first and hold it as you inject to minimize pain. Slower injections hurt less. Inject UNDER the lesion, NOT into it. Use a 30 gauge needle for comfort. Use enough to see a blanching around the lesion. Talk a lot, ask patients questions. Using this method, anesthesia is pretty close to immediate.

Shave Biopsy

- Use double edge razor blades. Buy through your supplier or online. We pay $30 for 100 blades. You can break blades in half BEFORE unwrapping them to save on cost. This makes the blade more “wobbly” and harder to use, though.
- The more you flex the blade, the deeper the shave. Use a gentle back and forth motion as you move blade forward. Scoop up toward the surface at the end to leave a “saucer” shape.
- Older skin is like wet tissue paper and you don’t need much force.
- Tomatoes are a good practice medium.

Submit pathology

- NEVER skip this. EVER. It protects YOU.
- Tell the pathologist everything s/he needs to know:
- 54 yo WF sunworshipper and tanning bed user with changing, enlarging, 5mm jet black macule on sun exposed skin, clinically C/W malignant melanoma.
- VS
- “R/O atypia”
- Send in formalin, properly labeled. OK to request Dermatopathology consult.

Hemostasis

- AlCl3 20% is a colorless dessicant. Wound bed should be dry.
- Monsel's Solution (ferric subsulfate) is better hemostatic agent but can tattoo skin. DO NOT use on face.
- Pressure works wonders. Don't peek, use continuous pressure. Chat with patient to bide time. Look at your watch/measure time.
- Aspirin causes delayed bleeding. Wait a few seconds to bandage wound to be sure its not oozing.
- OK to do biopsies in patients on warfarin, apixaban, thrombocytopenia down to about 20,000 plts). Constant pressure is your friend. These are superficial wounds.

Dress the biopsy site

- Use white petroleum jelly (Vaseline). Don’t use neomycin (Neosporin, Triple Antibiotic Oint), Polymixin/Bacitracin (Polysporin), Aquaphor. These can cause dermatitis and rare anaphylaxis.
- All wounds should be covered to speed wound healing, absorb transudate, reduce infection. Bandaids are fine. If pt has adhesive allergy, use Telfa pad and Coban or gauze wrap.
- Review wound care instructions. Give patient written instructions since they won’t hear a thing you say.

Video of Shave Biopsy

- Please see video at presentation

Wound Care Instructions for shave biopsy

Punch Biopsy

- Same consent, anesthesia.
- Different tray, procedure, wound care instructions.
- Patients have to come back for suture removal. Make them an appointment to review biopsy results with you if needed. Code this as an office visit with the pathologic diagnosis as the ICD-10 code. Otherwise, suture removal is an unbillable RN visit, included in cost of biopsy. If your nurse removes the sutures and you don’t see the patient, don’t bill that visit.
- You’ll need an assistant for punch and excisional biopsies.

My punch biopsy tray

Punch biopsy

Punch Biopsy Video

Punch biopsy

- Larger punches (5,6 mm) will leave cosmetically difficult scars. Pulling the skin in opposite directions prior to taking the punch will make the wound more elliptical for better cosmesis at closure.
- Don’t strangulate wounds! Fewer sutures make prettier scars (as long as wound edges are closed). Smaller gauge sutures (aim for 5-0 for most wounds).
- Sutures stay in 5 days on face/neck, 10 days on trunk, arms, legs and up to 14 days on mobile areas (shoulders, hips, knees). “Railroad tracks” can occur if sutures stay in too long.

Punch biopsy

- The dermis is the skin's "leather" and when you push through it, it will give. Gently lift the punched cylinder out with the forceps and snip below the fat. Avoid crushing the tissue with the forceps.
- Suture wound close.
- Scalps bleed profusely. Use the ringed handle of the scissors to provide pressure hemostasis while the wound is sutured.
- Treat the wound edges nicely as well. Avoid crushing.

Wound care for punch biopsies

Excisional biopsy

- Most lesions don’t need wide margins.
- Elliptical wounds close flat if they have 30 degree angles at the tip.
- Close wounds from the ends toward the center to reduce tension on wound.

Excisional Biopsy

- Send all the tissue you have removed to pathology, preferably in one piece, with a thorough history and DDx
- Sometimes you will need to undermine the dermis to free it up from the subcutis to make it easier to close the wound. Do this with BLUNT dissection to avoid transecting vessels.
- Just like in punch biopsies, use gentle technique with the pickups for best cosmetic results.

Questions before we start?

References

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