Common Skin Procedures

Biopsy, cryosurgery, and ED&C: techniques, indications and rationales

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Objectives

- Identify the purpose of doing biopsies, cryosurgery and ED&C's
- Identify equipment necessary to perform these procedures
- Define the various biopsy techniques
- Understand the indications for the various biopsy techniques, cryosurgery, & ED&C's
- Identify the steps to performing the various biopsy procedures
- Perform the various learned techniques

What is the purpose of doing biopsies?

- Essential in the identification and care of a variety of dermatological conditions
- Confirm diagnoses of cutaneous malignancies
- Removal of troublesome or painful benign lesions
- Differentiate between multiple dermatoses
- Evaluate the effectiveness of treatment

Basics for all Biopsy Procedures

- Consent
- Identify Site
- Pictures (if available)/Triangulate
- Cleaning/prepping site
- Anesthesia
- Biopsy (select proper technique)
- Place in specimen container/requisition form completed
- Achieve hemostasis
- Apply dressing
- Instruct patient on home wound care

Identifying Site

- Be specific
- Avoid using terms face, torso, head
- Do not use leg, arm, back, chest, scalp without descriptives, be as specific as possible
- Use underlying anatomical landmarks when applicable

Picture/Diagram/Triangulate

- Not as important for dermatoses (Diagram/Triangulate)
  - Can help to determine effectiveness of treatment
  - Useful to send to dermatopathologist
- Vital for malignancies
  - Need to be able to find the biopsied area
  - Triangulate to anatomical sites
- Most people have multiple lesions
  - Avoid using these for measurements
- Most have multiple skin cancers in a lifetime
  - Helps to know if this area has been treated before

Cleansing/Prepping Site

- In practice, biopsies are most typically performed using a clean technique (exceptions being excisional or incisional biopsies)
  - Infection rates less than 1%
  - Cleanse with alcohol (center moving outward)and allow to dry
    - Studies show that a 10 second alcohol wipe was as effective as a 1 minute scrub with chlorhexidine or providone iodine
  - For large biopsies, immunosuppressed patients, and perineum/axilla chlorhexidine or providone iodine protect against Gram-negative bacteria better

Anesthesia

- 1-2% Lidocaine with or without epinephrine
  - Most commonly used method
  - 27-30 gauge needle, 1-3cc syringe
  - Buffer with sodium bicarbonate 8.4%,1:10 ratio, reduces burn from lido
  - Inject at 45 degree angle, solution injected slowly intradermally or subcutaneously
  - Blanching and elevation should be apparent
  - Immediate effect
  - Contraindicated if allergic or sensitive to lido or epi

Other forms of Anesthesia

- Topical lidocaine/prilocane
  - Rarely used
  - Requires occlusion and time
- Gebauers solution
  - Spray anesthesia immediate effect
  - Excellent for small skin tags not needing cautery
- Normal Saline
  - Can be used for small lesions when patient sensitive to lido, same technique as with lido
- Others
  - Marcaine, benzocaine, tetracaine

Biopsy Techniques

- Excisional
  - Removal of the entire visible lesion
  - Examples- Shave biopsies, Scissor, saucerization, punch, elliptical excision with sutures
- Incisional
  - Removal of a portion of a lesion or exanthem
  - Examples- Shave, punch

Shave Biopsy

- Equipment needed
  - Double sided razors, dermablades, scalpel blades, gauze
- Indications
  - Any raised lesions
  - Lesions limited to the epidermis and papillary dermis
    - SK's, angioma, CMN, warts, AK's, suspected BCC or SCC
  - Saucerization (Deep shave) can be used for treatment as well as examination of lesions extending into the dermis
  - Includes pigmented lesions, DN's and R/O MM
- Anchor skin with off hand and gentle saw like motion
  - Let the blade do the work
- Hemostasis
  - Aluminum chloride, pressure, cautery

Video

Scissor Biopsy

- Equipment needed
  - Forceps, scissors
- Indications
  - Pendunculated lesions
    - Skin tags, filiform warts
- Simple grab and snip
- Bleeding can normally be stopped with aluminum chloride but cautery is sometimes necessary

Punch Biopsy

- Equipment needed
  - Punch biopsy (most disposable), forceps, scissors, needle driver, sutures
- Indications
  - Erythematous disorders (rashes)
    - Must have epidermis, dermis, and subcutaneous layers to determine origin of disorder
  - Pigmented lesions (only if taken in toto)
    - Previously believed punches from the darkest area of suspicious lesions sufficient
  - I&D of abscess/cyst
- Selecting location to biopsy extremely important
  - Avoid traumatized, excoriated lesions.
  - Avoid treated areas (steroids can distort pathology)
  - Bullous diseases (edge of old lesions and normal skin)
    - Samples taken from blister are useless
    - Surrounding normal skin can be sent for immunofluorescence
- Twisting action with downward pressure (careful of large blood vessels), remove tissue with forceps, use scissors if needed to free sample
  - Avoid crushing the specimen
  - Sutures, cautery, gel foam and pressure dressing

Video

Elliptical Excision with Suturing

- Equipment
  - Scalpel, forceps, skin hooks if undermining needed to approximate edges, electro-cautery, sutures (size based on location of lesion), scissors
- Indications
  - Cysts, high degree of suspicion for malignancy
  - Rarely used now except for with cysts
  - Standard is biopsy then treat, not biopsy to treat
  - Warning!!!! Do not suture pigmented lesion sites if biopsied this way
- Elliptical incision made through the epidermis and dermis to the subcutaneous fat.
  - Lesion/tumor removed
  - Cauterize to achieve hemostasis
  - Complex layered closure

Cryosurgery

- Use of subzero temperatures to create cell death and treat common skin diseases
- The water within the cells freeze, the cells dehydrate and the crystals of the ice puncture the organelles and cell membrane
  - Causing cell death
- Golden cryosurgery rule: Freeze fast thaw slow
- Freeze-thaw-freeze
  - Causes further cell damage because the water freezes faster

Video

Treatment Indications for Cryosurgery

- HPV
- Molluscum
- Cutaneous larva Migrans
- SK’s
- Solar Lentigo
- AK’s
- BCC
- SCC IS

Cryosurgery aftercare

CRYOSURGERY

The procedure you have just had using liquir nitrogen is called cryosurgery. Liquid nitrogen is minus (-) 195.8 C. and must be stored in special containers. It evaporates on contact with the air and becomes water and water vapor which is why it appears to smoke.

Cryosurgery is a surgical technique that avoids cutting, burning or the need for anesthesia. For selected lesions or growths, crysurgery is the best treatment because of its safety, minimal post-surgical care and excellent cosmetic results.

Following treatment, the lesion or growth will appear unchanged. Soon afterwards the area will become red and slightly swollen. Within 24 to 48 hours, a blister or water bubble often appears. **THIS IS NORMAL AND EXPECTED** If left alone, the blister will slowly resolve and the entire area will turn into a scab. Regardless of whether the blister breaks or not, the healing will continue as expected. The scab will fall off by itself when it is ready. From the day of surgery to the day when the scab falls off is usually about three weeks. A faint pink spot will be present that will slowly fade away.

If there is any discomfort following the crysosurgery, room temperature water may be applied as needed.

You may carry on normal activities immediately after therapy. There are no restrictions. You should, however, be careful not to irritate or traumatize the area.

If there are any problems or questions, please call our office.

Electrodessication and Curettage (ED&C)

- The use of electricity to cause thermal tissue destruction
- The use of direct or high frequency alternating currents to heat an element
- Recommend non-alcohol cleansing of region because of flammability
- If treating the perianal area it is important to pack or cover anus to prevent methane gas ignition
- Do not use around an oxygen source

ED&C continued

- Following electrodessication a curette can be used to scrape the thermally destroyed tissue.
- Skin cancer such as basal cell are “mushy” and do not adhere well when cauterized and scraped with a curette
- Should not be used on Squamous cell due to risk of recurrence and metastasis

Video

ED&C Uses

- HPV
- Molluscum
- Cutaneous larva Migrans
- SK's
- Solar Lentigo
- AK's
- BCC
- SCC IS
- Achieving hemostasis after biopsy/surgical procedures

Questions???