FULL PAPER : Dr SRI LESTARI SpKK

"PREOPERATIVE EVALUATION"

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PREOPERATIVE EVALUATION

Sri Lestari
Dermatology-Venereology Department, Dr M Djamil Hospital/
Medical Faculty of Andalas University, Padang, West-Sumatra, Indonesia

UNIVERSAL PRECAUTIONS, STERILIZATION, and MEDICAL EVALUATION

Many dermatologic surgical procedures are so uncomplicated that extensive patient evaluation is unnecessary. But physicians should not be lulled into complacency because of the apparent simplicity of the surgery. Patient evaluation, appropriate to the surgery, is a necessity to reduce the possibility of surgical complications. Patient evaluation can be viewed in terms of general considerations, as well as those more relevant to the surgery being contemplated. During the evaluation of the patient, it is also an ideal time to establish a rapport and to discuss possible complications and expectations pertinent to the anticipated surgery. Possible side effects should be documented and be a part of the patient consent form (1).

Any medical history evaluation or questionnaire will satisfy every dermatologic surgeon, but all such inquiries should explore elements of general health, allergies, current medications, bleeding tendencies, and wound healing (1).

As with any surgery, there should be an appropriate review of the patient's history prior to any procedure. Any allergy to local anesthetics, antibiotics or dressings should be established and made clear at the head of the clinical notes (2).

Special care should be taken to assess patients with diabetes and peripheral vascular disease prior to distal limb surgery (2).

Because of the necessity for leg bandaging, it is advisable for women to stop taking oral contraseptives 4-6 weeks prior to having varicose vein injection. It is important to ensure an alternative form of contraseption during the time. Cessation of oral contraseptives in not necessary for other forms of minor surgery (2).

Most patients will need reassurance that the operation will be free from pain after the initial anaesthetic injection. It should be mentioned that the local anesthetic will only numb the operative site and that the surrounding skin will retain normal sensation (2).

It is important to re-examine and mark the site of any subcutaneous lesion prior to the injection of local anesthetic, as the volume of the injected fluid can make the lesion diffiult to define (2).

The practice of skin surgery in the physician's office requires familarity with :

1. Surgical technique
2. Careful planning
3. Instruction of ancillary personnel
4. Patient education
5. Proper preparation of the surgical site
6. The surgical instruments
7. The patient (3)

Universal precautions to prevent the transmission of infectious diseases are paramount to protecting the physician, the medical staff, and the patient (3).

UNIVERSAL PRECAUTIONS

The first prerequisite for the proper maintenance of universal precautions is education of all office staff who may potentially be exposed to infextious material, particularly blood :

- All presonnel who may come in contact with blood should be vaccinated agains hepatitis B.
- We usually recommed testing the patient for serologic evidence of potential infectious disease.
- The use of surgical gloves and the use of barrier clothing, such as gowns, face masks, and eye protection.
- Propel disposal of sharp, disposal surgical instruments, such as needles, scalpel blades, in special puncture-proof containers (3)

Universal precautions

1. All workers should routinely use appropriate barrier precautions to prevent skin and mucous-membrane exposure when contact with blood or other body fluids of any patient is anticipated. Gloves should be worn for touching blood and body fluids, mucous membranes, or non-intact skin of all patients. Gloves should be changed after contact with each patient. Masks and protective eyewear or face shields should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of mucous membranes of the mouth, nose, and eyes. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or other body fluids.
2. Hands and othe skin surfaces should be washed immediately and thoroughly if contaminated with blood or other body fluids. Hands should be washed immediately after gloves are removed.
3. All workers should take precautions to prevent injuries cause by needle, scalpels, and other sharp instruments or devices during procedures; when cleaning use instruments; during disposal of used needles; and when handling sharp instruments after procedures. To prevent needle-stick injuries, needle should not be recapped, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp item should be placed in puncture-resistant containers for disposal.
4. To minimize the need for emergency mouth-to-mouth resuscitation, mouth-pieces, resuscitation bags, or other ventilation devices should be available for use in area in which the need for resuscitation is predictable.
5. Health-care workers who have axudative lesions or weeping dermatitis should refrain fromall direct patient care and from handling patient-care equipment until the condition resolves.
6. Pregnant-health-care workers should be especially familiar with and strictly adhere to precautions to minimizes the risk of HIV transmission (3).

Simple surgical procedure, such as shave or punch biopsies :

a. Need no special scheduling.
b. These procedure can be done rapidly as the need arise (3).

More complex surgical procedures in the office will benefit from :

- Careful
- Deliberate considration of how best to integrate the surgeries into the office schedule.
- To do more complex surgeries at the beginning of the week and avoid surgery on Friday so patients can be seen the day after surgery for a postoperative check (3).

SURGICAL PLANNING

Universal precautions are one aspect of the planning required before surgery. Other aspects include the following :

- Preoperative medical evaluation
- Informed consent
- Standby medications and equipment
- Sterile technique
- Sterilization of instruments
- Preoperative patient preparation (skin, hair, drapes)
- Preoperative medications (e.g., antibiotic prophylaxis to prevent skin infections, endocarditis prophylaxis) (3)

PREOPERATIVE MEDICAL EVALUATION

1. Medical history

   A complete medical history and review of system before minor skin surgery may not be necessary. Item that should be include in the history include the following :

   - Current medications, especially anticoagulants, aspirin, and other nonsteroidal antiinflammatory drugs (NSAIDs), cardiac drugs
   - Allergies, especially to antibiotics, tapes/ adhesives, iodine
   - Cardiac disease (e.g., any condition requiring endocarditis prophylaxis (e.g., valve disease), uncontrolled hypertension, epinephrine sensitivity, angina, pacemaker, (electrosurgery precautions)
   - Other illnesses and medical conditions (e.g., seizure disorder, hematologic disorder or bleeding diathesis, joint replacement (endocarditis prophylaxis), high-risk groups (injection drug users), diabetes.
   - Pregnancy
   - Keloids or hypertrophic scars
   - Infectious diseases (e.g., hepatitis, AIDS, tuberculosis) (3)

The blood pressure and pulse rate should be part af all preoperative dermatologic surgical evaluations. A history of hipertension, angina, a prevous myocardial infarction, and some

arrhytmias may restrict the use of epinephrine. Electrosurgery may interfere with some cardiac pacemakers but, with careful usage, should present little problem (1).
For minor skin surgery under local anesthesia, blood pressure does not need to be monitored unless the patient has a history of hypertension that is not controlled. Uncontrolled hypertension may lead to increased bleeding during surgery. It is prudent to be more careful with fragile patients, such as the elderly, and to be particularly careful with the use of epinephrine-containing anesthetics in patients with a history of angina, cardiac disease, or a sensitivity to epinephrine. It may help to warn patients that they may develop an increased heart rate or a feeling of anxiety after injection of lidocaine with epinephrine (3).

2. Informed consent
   Thorough discussion with the patient regarding the benefits and risks of the planned surgical procedure and the alternatives to surgery that are aavilable is essential before surgery, and all of the patient's questions can be answered. For many routine minor procedures, such as skin biopsy, a written consent may not be needed. However, written consent is always obtained for procedures that may have more significant adverse consequences, such scarring or functional effects (3).

3. Standby medications and equipment
   It is helpful to have injectable Benadryl and epinephrine available for subcutaneous injection in case of an anaphylactic reaction to anesthesia, latex, or other medication. It may also be helpful to have an Ambu bag, an insertable airway, oxygen, a cardiac monitor, and a defibrillator in the office, but these items are not absolutely necessary (3).

STERIL TECHNIQUE
Absolut sterile technique is not necessary for many of the minor skin surgical procedures performed (e.g., cryosurgery, electrosurgery, shave biopsy, curettage, incision and drainage, and other small surgical procedures in which the wounds are left open to heal without suturing. Although all instruments must be sterile before use for these procedures, the physician may use nonsterile gloves (3). Gloves should be worn for surgical procedures and whenever there is any risk of coming into contact with blood or body fluids (2). Sterile drapes are not needed. We use single-use scalpels and needles that are disposed of at the end of the procedure (3). No hat or mask or special clothing for minor pracedures For simple skin surgery ordinary clothing may be protected by a disposable plastic apron (2).
Sterile technique is necessary when performing surgery in which the wound will be closed, such as with suturing or staples. Careful instruction of ancillary surgical personnel in sterile technique is necessary (3).

Protective glasses
Fine blood spots can be commonly found on surgeon's protective glasses even after simple skin surgery. Consideration should therefore be given to the routine wearing of protective glasses for all routine minor surgery (2).

Sterilization of instruments

Before sterilization, instruments must be cleaned of blood and debris. The instruments should be placed in sterilization bags with indicator strips to ensure the sterilization process is effective. Gauze, cotton-tipped, applicators, electrosurgery tips, and glass containers can all be steam sterilized by putting them in stem sterilization bags (3).

PREOPERATIVE PATIENT PREPARATION

Preparation of the skin.

There is no need to scrub up for most minor surgical procedures. The hands can be simply washed using 4% chlorhexidine (Hibiscub) detergen solution or 7.5% povidone iodine (Betadine) detergen solution. Dried with clean paper towels and gloves worn. Some doctors prefer to use only soap and water. A formal scrub should be undertaken prior to more involved or length procedures (2).

The most common preoperative preparations to be used on the skin include alcohol, Betadine (povidone-iodine), and Hibiclens (chlorhexidine) (2,3). Hibiclens are that it has longer-lasting antibacterial effect than Betadine and the risk of contact sensitivity may be less, but it is more toxic to the eye if it accidentally drops into it. Caution must be taken when using alcohol or Hibiclens tincture to be sure that all of the alcohol has evaporated before any cautery is performed in the area. This eliminates the possibility of ignition of the solution, the surrounding drapes and gauze, and the physician (3)

The most important part of the preoperative preparation of the skin is the mechanical rubbing of the antiseptic onto the skin with a sterile gauze. The goal of the preoperative preparation of the skin is to reduce the bacteria on the skin surface by scrubbing the skin with a good antiseptic such as Betadine or Hibiclens. Betadine must be allowed to dry on the skin for its effect to be optimal (3). When contaminated lesions such as keratoacanthoma or ulcerated basal cell carcinoma are excised, it is advisible to leave a cotton wool ball soaked in antiseptic solution directly on the lesion for several minutes prior to the surgery (2).

Preparation of hair

The best method of hair removal over a surgical site is to use scissors to cut the hairs. Using scissors is preferable to using a disposable razor when the hair is long enough to interfere with the operation or the application of dressing (2,3), and because a close shave causes minute abrations and cuts into the skin that can increase the chance of infection. For elective procedure, the site can be shaved by the patient 2 days before surgery. The scalp is the area of the body in which the hairs can most interfere with surgery. Plestering down the hair with water, petrolatum, or ointment can decrease the number of hairs that interfere with surgery without causing a noticeable loss oh hair during the postoperative period (3).

Drapes

The use of sterile fenestrated aperture (drape with a hole) is necessary when suturing is performed so that the sutures do not drag over nonsterile skin (3). Sterile drapes are not necessary for small procedures (2), such as a shave biopsy, where suturing is not performed (3). A medium-sized disposable paper towel with a central window can be used for larger cases (2).

PREOPERATIVE MEDICATIONS

The most important part of medication history is to find out if the patient is taking aspirin because this drug can cause excessive bleeding in the intraoperative or postoperative period. The patient stop taking aspirin at least 1-2 weeks before any surgical procedure.Aspirin (1,3) and NSAIDs that can also have an effect on platelet function. NSAIDs need to be stopped 2 days before a procedure because the effect of NSAIDs on platelets is reversible (3). The effect of aspirin on hemostasis in a patient with an otherwise normal hemostatic sysmtem is usually minor, with prolongation of template bleeding time increasing from a control 4.18 min to 5.83 min 2 hr after ingestion of 300 mg of aspirin (30) (1). Aspirin has an irresible effect on platelets (1,3), and its use requires that the patient wait 2 weeks after discontinuing use for new platelets to replace the old ones (3).

Minor procedures, such as skin biopsy, may not require stopping aspirin use. Coumadin can also be a potential cause of excess bleeding, but it does not cause the same degree of excess bleeding as aspirin. For minor skin procedures, Coumadin does not need to be stopped before surgery. If the procedure is complex, stopping the Coumadine about 2 to 4 days before surgery. However, the risks of stopping the Coumadin (thrombosis, embolism, and stroke)must be weighed against the benefit of surgery. Coumadin can be restarted about 2 days after surgery when the chance of hematoma formation decrease. Pressure dressings can help minimize the risk of hematoma. In general, rather than stopping oumadin we prefer to take exceptional care in using electrosurgery for hemostasis, which does not require interruption of anticoagulation (3).

A history of an antibiotic allergy may be relevant if prophylactic antibiotics are given. Antianxiety medications such as triazolam, diazepam, or lorazepam can be useful in the very anxious patient. If these medications are administered sublingually (under the tongue), the onset of action can be quicker than when they are administered orally. These medications should not be given to a patient who will be driving home. All patients given introperative or preoperative sedatives must be accompanied by an adult, must be counseled not to drive on the day of the surgery, must be observed postoperatively until the sedative effect has diminished (3).

It is not advisable to do skin surgery on patients who have unstable angina because the epinephrine in the local anesthetic can precipitate angina. It is worth having nitroglycerin in the office to deal with this potetial situation (3).

Patients who have uncontroled diabetes mellitus may have impaired wound healing. Closer follow-up after surgery may help avoid potential problems with these patients (3).

Premedication

Premedication is usually unnecessary for minor procedures in adults, but may be used in children, anxious adults and for more complicated or lengthy surgical procedures. Keeping a relaxed, reassuring and jovial atmosphere is more important than a sedative. A simple regime in adult is to use Temazepam 10 – 30 mg 1 hour before surgery. In children, diazepam 2.5 – 5 mg or trimeprazine 3- 4 mg/kg 1-2 h before surgery. The trimeprazine is liable to cause postoperative restlessness when pain is present (2).

Antibiotic prophylaxis

Preoperative antibiotic such as oral cephalexin, dicloxacllin, or clindamycin may be recommended for use with the patient who has a higher risk of infection, contaminated or infected lesions; a lesion in an area of increased bacteria, such as the axilla, ear, or mouth; a lesion on a hand or foot, especially in patients with peripheral vascular disease; the operation might take more than 1 hour or if the wound was open for more than 1 hour, diabetic patient, patient with neutropenia (3).

CONCLUSION

Outpatient skin surgery requires careful preparation to ensure optimal results and safety of patient and medical personnel. Universal precautions to prevent the transmission of contagious disease.Brief medical evaluation by the physician before performing minor procedures. Sterilization of equipment, steril technique, informed patient consent, preoperative preparation of the operative site, and preoperative medications

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