Countering Myths of Surgical Dermatology

In follow-up to last month’s discussion of medical dermatology myths, a surgeon uncovers persistent myths in the surgical realm.

By James M. Spencer, MD, MS

Never use epinephrine with lidocaine on the fingers, nose, or penis. The vasoconstrictive effects of epinephrine will cause these distal sites to become hypoxic and necrose. FALSE

No cases of necrosis associated with a commercial lidocaine-epinephrine mixture have been reported since commercial preparations of lidocaine with epinephrine were introduced in 1949.1,2

A review of cases back to 1880 uncovered 50 cases of digital gangrene following the administration of local anesthesia, most of which occurred in the early 20th century. Only 21 cases of digital gangrene were associated with epinephrine, though the actual concentration is known for only four cases. Analyzing the cases of necrosis in epinephrine-treated patients, the authors concluded that the drug was not causative, rather contributing factors, such as ingredients in older compounds (cocaine, eukaine, and procaine), non-standardized or inaccurate methods of mixing epinephrine with lidocaine, inappropriate use of a tourniquet, postoperative hot soaks, infection, or large anesthetic volume, likely contributed.

Extensive literature reviews and analysis of multiple studies involving thousands of patients suggest that lidocaine with epinephrine is safe in the digits.3

Take-Home Tips. For best outcomes, dermatologic surgeons should recognize these and other facts: No cases of necrosis associated with a commercial lidocaine-epinephrine mixture have been reported since they were introduced in 1949. A statistical analysis determined that dog-ears ≤8mm in height have a high probability of regression and should be observed, not corrected. In the general population the incidence of allergy to neomycin has been estimated to be less than 0.1 percent.  

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For best cosmetic results, the length to width ratio for an elliptical excision should be at least 3:1; Dog-ears must be corrected at the time of surgery to prevent a permanent defect. FALSE

While the elliptical excision is popular and certainly suitable in many instances, round excision should not be overlooked, particularly for the removal of small melanocytic nevi on the face. In one prospective study in which 36 benign, papular or dome-shaped nevi were removed by the round excision technique, there was complete removal of nevi in all patients with cosmetic results rated as excellent or good. One dog-ear developed in one patient.3

In a slightly larger prospective study of 51 excisions, surgeons designed and mapped an elliptical excision plan that was marked on the patient’s skin. However, a circular excision was performed to remove only the target lesion and an appropriate...
margin. While 34 percent of cases required two dog-ear repairs and 38 percent required one dog-ear repair, 28 percent developed no dog-ear. Importantly, the circular excision produced shorter scars; the length-to-width ratio was closer to 2:1 in the final analysis.4

Despite some concern that dog-ears will become “permanent,” data and experience that surgical correction is often successful. More importantly, natural regression of dog-ears is possible. A statistical analysis of dog-ear regression determined that dog-ears ≤8mm in height have a high probability of regression and should be observed rather than immediately corrected. It took about 20.6 days, on average, for a dog-ear to reduce in height by half and the median time to full regression was 132 days. Patients who were younger and female had optimal dog-ear response.5

Dog-ear regression may be associated with certain anatomic sites, such as the back of the hands. Dog-ears that do not regress can be corrected surgically. Compared to elliptical excisions, a corrected dog ear is still likely to produce a smaller scar.

Absorbable sutures are not appropriate for cuticular sutures. FALSE

The argument against use of absorbable sutures generally holds that they are inferior for cuticular (outside) use because they are inflammatory (gut), their braded configuration (vicryl) favors infection, they are more likely to dehisce in the short-term, and they give inferior cosmetic outcomes in the long-term.

Use of absorbable sutures is associated with certain potential benefits, such as obviating the need for the patient to return at a certain time for suture removal and eliminating the discomfort associated with removal. However, some have maintained that absorbable sutures produce an inferior functional or cosmetic result that outweighs these potential benefits.

A prospective study in 95 children with traumatic laceration randomized for closure with plain gut or nylon sutures suggests that the negative assessment of absorbable sutures may not be warranted. Subjects were evaluated within 10 days, at which time no difference in wound evaluation—including rate of infection or dehiscence—was found between the two groups. When blinded plastic surgeons evaluated patients at four to five months post-treatment, there was no statistical difference in assessments of the two groups, though there seemed to be a slightly better cosmetic outcome associated with absorbable sutures.6
Similar results were found in a prospective study of 41 adult patients undergoing excision of facial skin cancers. All wounds were closed with rotational advancement flaps (closure length 3.5 to 12.0 cm); deep tissues were closed with 4-0 poliglecaprone 25.

One half of each wound was randomly closed with 5-0 coated polypropylene (Prolene), while the other half was closed with 5-0 coated irradiated polyglactin 910 (Vicryl Rapide). No infections or premature dehiscence were reported. Blinded assessment of photographs taken at six-month follow-up revealed no difference in scar formation or cosmetic outcome for the two suture types.7

The incidence of contact dermatitis to Neomycin exceeds 10% of the population; it is not appropriate for post-surgical wound care. FALSE

Neomycin is among the 15 most frequent allergens identified among patients with clinically suspected allergic contact dermatitis (ACD). The rate of reaction in this group is 10 percent.8 These patients already have contact dermatitis, whereas many surgical patients do not. However, in the general population the incidence of allergy to neomycin has been estimated to be less than 0.1 percent.9 As such, in surgical patients with no history of ACD, neomycin is not likely to be a source of allergic reactions.

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