Experience and Evidence Exonerate Epinephrine in Finger, Hand Surgery

BY SHARON WORCESTER
Tallahassee Bureau

FAJARDO, P.R. — Epinephrine use in hand and finger surgery doesn’t deserve its bad rap, Donald Lalonde, M.D., said at the annual meeting of the American Association for Hand Surgery.

Although epinephrine is commonly thought to be dangerous in the hands and fingers, that belief is based on limited data derived from cases several decades old, said Dr. Lalonde of St. John (N.B.) Regional Hospital. Newer evidence suggests epinephrine is not only safe but beneficial for hand and finger surgery, he added.

“There is a serious disconnect between the experience and the dogma,” he said, noting that he has used epinephrine for almost every hand and finger operation in the last 5 years.

A paper published in Plastic Reconstructive Surgery in 2001 suggests the dogma is based on only 21 cases of epinephrine-associated finger infarction. Of 48 reported cases of digital death associated with local anesthesia, 27 occurred in patients who did not receive epinephrine. After reviewing all of these cases, Dr. Lalonde outlined several findings:

► More cases of finger infarction occurred without epinephrine than with it, so epinephrine couldn’t have been the only factor involved in the poor outcomes.
► Almost all the cases took place before 1950, so something occurring prior to that time likely was involved in the poor outcomes.
► Until 1948, procaine was the only injected anesthetic available for use with epinephrine. Papers published in 1949 and 1950 in the Journal of the American Medical Association confirmed that there was a recall of toxic lots of procaine with acid pH as low as 1.0, which is extremely toxic, and that the shelf life of procaine was limited, especially in warm temperatures. Expiration dates weren’t instituted for procaine, which is no longer used for injections in humans, until 1978.
► Lidocaine, which became available after 1948, replaced procaine as the anesthetic of choice because it was associated with less pain and longer duration. As a result, no further investigation was made of procaine toxicity relative to the finger infarction cases.
► Despite continued use of lidocaine in finger and hand surgery in various parts of the world, including Canada, no documented cases of finger infarction associated with lidocaine, when used with low-dose epinephrine, have been reported.
► There is now an antidote for epinephrine: phentolamine, which became available after the cases in question. No cases of epinephrine-induced digital loss have occurred in which phentolamine was used or considered. The availability of phentolamine further invalidates the meager evidence suggesting epinephrine is unsafe, he said.

Numerous papers on the successful use of epinephrine in hand and finger surgery have been published in recent years, he said. Dr. Lalonde’s own prospective study of more than 5,100 cases over 2 years revealed no incidents of finger infarction. The study, including cases from nine surgeons in six cities, is being revised for publication in the Journal of Hand Surgery, he said.

“With combined clinical experience of well over 100 surgeon-years of [epinephrine] injection in fingers, we have not killed one finger,” said Dr. Lalonde. “Not one surgeon had to use phentolamine reversal,” he said.

Conversely, he has encountered at least six potentially fatal complications from the use of general anesthesia for hand and finger surgery. Even if finger loss did occur, it would be better to lose a finger than a life, he noted.

Lichen Amyloidosis: In-Office Procedure Cuts Pain

BY BETSY BATES
Los Angeles Bureau

FLORENCE, ITALY — Recalcitrant lichen amyloidosis can be safely and effectively treated with dermabrasion in an office setting using tumescent anesthesia, William Y.M. Tang, M.D., said at the 11th Congress of the European Academy of Dermatology and Venereology.

Lichen amyloidosis is a rare, chronic condition characterized by profoundly pruritic yellow to reddish-brown hyperkeratotic papules symmetrically dispersed over the extremities and (sometimes) the trunk. Pathology reveals insoluble fibrillar protein, or amyloid. The condition is seen more frequently in males than females and is believed to be more common in people of Asian descent.

Management is difficult, said Dr. Tang, a Sai Ying Pun-based dermatologist with the social hygiene service in the government department of health in Hong Kong. Dermabrasion has been described as an effective, long-lasting treatment modality, and Dr. Tang concurs. However, he said pain control is a substantial problem when dermabrasion is performed over the large areas of skin affected by lichen amyloidosis. General anesthesia is usually required.

In an attempt to determine whether the procedure could be done in an office setting, Dr. Tang performed it on five male patients aged 43-73 years who had lichen amyloidosis for 3-20 years on their shins (four patients) and/or forearms (three patients). They were not responsive to potent topical steroids, emollients, or oral antihistamines. Dr. Tang infiltrated standard tumescent anesthesia solution into the subcutaneous compartment through a 22-gauge spinal cannula in a fan-shaped manner to his patients’ most severely pruritic regions. Treated areas ranged from 75 cm2 and not one surgeon had to use phentolamine reversal,” he said.

Conversely, he has encountered at least six potentially fatal complications from the use of general anesthesia for hand and finger surgery. Even if finger loss did occur, it would be better to lose a finger than a life, he noted.

Dermabrasion using in-office tumescent anesthesia eased pain and resulted in immediate itch reduction.

PDT May Surpass Laser for Port Wine Stain Clearance

BY KATE JOHNSON
Montreal Bureau

MONT TREMBLANT, QUE. — Photodynamic therapy for port wine stains could improve the low success rate of traditional pulsed dye laser therapy, because it overcomes the barrier of thermal confinement, according to J. Stuart Nelson, M.D., who spoke at a symposium on cutaneous laser surgery sponsored by SkinCare Physicians of Chestnut Hill.

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