RESEARCH LETTER

A Conservative Method to Gutter Splint Ingrown Toenails

Ingrown toenails can be due to trauma, improper nail cutting, and/or anatomic abnormalities of the nail apparatus. In the setting of normal anatomy, they are usually treated conservatively, but the presence of a sharp edge of the nail in the ulcer may prevent wound healing. Isolation of the nail plate from the ulcer bed using a gutter-shaped splint may improve healing.1,2 In the classic gutter splint method, the ingrown edge of the nail plate is freed up to the extreme proximal part and then splinted using a gutter. This method requires anesthesia.3-5 Herein, we describe a more conservative gutter technique that is less traumatic and does not require anesthesia.

Methods | In an ingrown toenail, the ingrown part of the nail plate is floating over the wound and is usually not tightly attached to the nail bed. A plastic gutter, held using a forceps, can easily slide along the edge of the nail plate with a little force, lifting the nail plate edge from the wound. When the gutter resists sliding upward, it has reached the proximal area of the wound, and there is no need to free the nail plate further. A butterfly needle protective tube, cut longitudinally on one side, can be used as the gutter and be secured using a cyanoacrylate glue (Figure 1). The gutter can be left in place to be pushed out with normal growth of the nail.

In this retrospective study, we included all patients with ingrown toenails treated using this method in a private dermatology clinic between January 2006 and May 2012. This case series was considered exempt from review by the institutional review board at Wake Forest University.

Results | A total of 26 gutters were placed in 17 patients with ingrown nails of the first toe (10 male and 7 female patients; age range, 16-39 years; mean age, 25 years) (Figure 2). Nine patients had treatment for both right and left first toenails or for the lateral and medial sides of a bilaterally affected toenail. All patients had normal nail anatomy and nail plate shape; their ingrown toenails started after trauma, after wearing ill-fitting shoes, or after improper nail cutting; and the problem did not respond to at least 4 weeks of conservative treatment, including removal of the causative agent and cleansing of the area. None of the patients had soft tissue overgrowth or visible granulation tissue in the area.

All patients reported the procedure to be painful but tolerable. No one complained of a significant increase in pain after the procedure or interference of the gutter with daily activities. All patients reported rapid improvement and healing of the wound in 7 to 16 days. After healing and removal of the gutter, All patients were satisfied with the treatment. Two of 11 patients who had long-term follow-up reported recurrence 2 and 5 months after complete healing and removal of the gutter.

Discussion | In conservative approaches for treating ingrown toenails, lifting the nail plate out of the ulcer bed using the gutter technique improves wound healing. There is no need to free the side of the nail plate all the way to the proximal
Figure 2. Flow Diagram of the Patients’ Progress Through the Study

- 23 Attempted procedure
- 6 Had nail plates that could be freed with fast, gentle push of gutter; classic gutter method with anesthesia then performed; these 6 patients excluded from study
- 17 Had successful procedures; all 17 recovered and satisfied
- 2 Experienced recurrence
- 9 Had no recurrence during follow-up*
- 6 Lost to follow-up
- The asterisk marks the 11 patients who completed a median of 3 months’ follow-up (range, 2–7 months) after complete healing. Two patients experienced recurrence after complete healing and removal of the gutter. Both of these patients reported that ill-fitting shoes or trauma was the cause of their recurrence, and both asked for the same gutter procedure without anesthesia to be performed for them again.

Nail fold or matrix. Pushing a plastic gutter between the nail edge and the ulcer bed is all that is necessary and usually does not require anesthesia. In our experience, cyanoacrylate glue offers more security and stability than suturing or other methods for attaching the gutter. This approach is more effective, easy to perform, more acceptable to patients, and less traumatic than classical gutter technique. It can be considered an initial treatment for most patients with mild ingrown toenail. However, this conservative method may not be the first choice for cases with soft-tissue overgrowth or extensive granulation tissue.3

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Minimal Incision Extraction of Lipomas

Lipomas are benign proliferations of mature fat that are occasionally tender. Common treatment approaches include elliptical excision, liposuction, and injection lipolysis. For most lipomas, we favor the minimal incision or “squeeze” technique, whereby lipomas are expressed through a small scalpel or punch incision.1,2

To our knowledge, the utilization rate of this simple, effective technique has not been previously studied.

Methods | A survey was distributed to all 233 members of the Ohio Dermatological Association to determine if they treat lipomas. The preferred technique in several clinical scenarios was queried (1-cm lipoma, 3-cm lipoma, and multiple painful 1-cm lipomas). Treatment choices included elliptical excision, linear incision extraction (incision length, 100% diameter of lipoma), minimal incision extraction (MIE; incision length, 25%-50% of lipoma), referral, or “other technique.” Years in practice and practice focus were recorded (medical, surgical, or cosmetic). Statistical analysis used the Fisher exact and McNemar tests. This study was approved by the institutional review board of Northeastern Ohio Medical University.

Results | There were 87 total respondents (37% response rate). The survey results are summarized in the Table. The lone response for other technique was liposuction. Dermatologists who choose not to treat lipomas most commonly responded that they were “uncomfortable with this procedure.” Practice type and years of experience did not affect the results significantly.