New Surgical Technique for Repairing Ingrown Toenails

Florence, Italy — An alternative to the classic, 150-year-old surgical technique for repairing ingrown toenails may be associated with fewer recurrences and a much-improved aesthetic result, two dermatologists reported at the 13th Congress of the European Academy of Dermatology and Venereology.

Bernard Noël, M.D., and his coauthor Renatto G. Panizzon, M.D., maintain that their technique is superior to Emmert plasty, a procedure that consists of a rather superficial wedge excision of granulation tissue, as well as the adjacent nail bed and the corresponding matrix.

To refine Emmert plasty, however, they first had to scrutinize its steps to understand why it has a recurrence rate as high as 10%-30%.

Dr. Noël and Dr. Panizzon, professor of dermatology at the University of Lausanne (Switzerland), theorized that recurrences may be related to the surgical target of Emmert plasty: the nail, which is narrowed by the surgical cutaneous and sometimes left in a dystrophic state that may be vulnerable to the same pressure that led to the ingrown nail initially.

Moreover, when a significant portion of the nail bed is sacrificed and the nail width is permanently reduced, aesthetic results are often “unsatisfactory,” according to Dr. Noël, chief of dermatologic surgery and the wound healing clinic at Centre Hospitalier Universitaire Vaudois of the University of Lausanne.

By contrast, their approach preserves the nail apparatus while deeply targeting the granulation tissue and reducing the size of the toe itself. “The breadth of the toe extremity is clearly reduced in a way that radically reduces the lateral pressure exerted by the shoes,” Dr. Noël said.

“The great toe looks thinner, with a nail plate covering almost completely the distal phalange, reducing, therefore, the risk of recurrence,” he noted.

The procedure is performed using a digital block and tourniquet at the toe base. Large, deep excisions remove granulation tissue before the wounds are closed in standard fashion. Among 10 patients followed for a year or more, there has been a 100% success rate and no incidence of recurrence, Dr. Noël and Dr. Panizzon reported in their detailed poster presentation.

The authors believe their findings bode well for patients who are prone to develop ingrown toenails, which are the most common of all toenail disorders, believed to account for as many as 20% of foot-related physician visits.

Excessive pressure on the lateral toenail due to body weight, ill-fitting shoes, or improperly cut toenails have been cited as contributors to the inflammation and the formation of granulation tissue that causes nails, usually of the great toe, to become ingrown.

When patient education and conservative therapy fail, repeated recurrences can lead to infections and extreme discomfort.

Ultrasound, Dermoscopy May Alleviate Need to Biopsy the Nail

Florence, Italy — High-resolution ultrasound and dermoscopy hold promise for distinguishing straightforward benign nail conditions from suspicious lesions that require a biopsy, researchers said at the 13th Congress of the European Academy of Dermatology and Venereology.

High-frequency ultrasound is valuable because it clearly visualizes landmarks of the normal nail, said Gregor Jemec, M.D., of Roskilde Hospital in Copenhagen. The technique reveals a bilamellar structure of the nail plate with a well-hydrated deep layer, the matrix, a clear subungual space, and bone. These structures are preserved with ultrasound even when the patient is wearing acrylic nails or when there are traumatologically induced waves across the nail plate.

The higher the frequency of the ultrasound, the more detailed the image. The lowest frequency useful for imaging nails is 15 MHz, while a 28-MHz transducer provides strikingly detailed images of nail structure, Dr. Jemec said.

In discussing patients with psoriasis, Dr. Jemec said the distal portion of the nail may reflect disruption of the nail plate and a hypoechogenic region, although the matrix is unaffected. By measuring the distance between the nail plate and underlying bone, ultrasound may provide a way to quantify the thickness of psoriatic plaques, either for research purposes or to gauge the effectiveness of therapy, Dr. Jemec said.

He noted that using ultrasound with Doppler enables subungual tumors to be visualized. For example, abnormal blood flow can point to glomus tumors.

Dermoscopy is very useful for determining which pigmented nail conditions warrant a biopsy, explained Luc Thomas, M.D., professor of dermatology at the Hospital de l’Hotel-Dieu in Lyon, France.

He suggested using an antiseptic gel or ultrasound gel to enhance the resolution of dermoscopic images.

In studying dermoscopic images of 148 pigmented nails and comparing them with results from biopsies, Dr. Thomas and his associates noted a number of patterns that provided important diagnostic clues.

Blood spots. Blue-purple following a recent injury and brownish-black in the healing process, these round spots at the proximal edge of the nail, as well as filamentous patterns at the end of the nail, strongly suggest subungual hemorrhages rather than melanocytic pigmentation.

However, they do not rule out melanoma.

Brown longitudinal parallel lines. These structures are key to distinguishing suspicious lesions that should be biopsied. Are the lines irregular in color, spacing, or thickness? Is the parallel pattern of the lines disrupted?

Brown or black background coloration. This finding suggests melanotic hyperplasia, due to nevi or melanoma.

A homogeneous gray background. This finding does not suggest melanocytic hyperplasia but rather other diseases or characteristics, including unusual lentigo, ethnic pigmentation, or drug or trauma-induced hyperpigmentation.

Micro-Hutchinson’s sign. This rare finding, defined as the absence, or very faint pigmentation, of the cuticle, was seen only in patients with melanoma.