

Introduction

Injury to the medial plantar (proper) digital nerve to the hallux was described by Joplin in 1971 in three patients related to surgery to correct a bunion. He did not describe his operative treatment of these patients. It is our purpose to describe our experience with this chronic pain problem.

Methods

Retrospective review of patients' records who underwent excision of a Joplin's neuroma from October 2006 through May 2012. Eight patients have been treated surgically for pain arising from the proper digital nerve to the hallux. Etiology was excision of medial sesamoid, bunionectomy, and crush injury.

Figures: The Proper Digital Nerve and Our Surgical Approach to Joplin's Neuroma

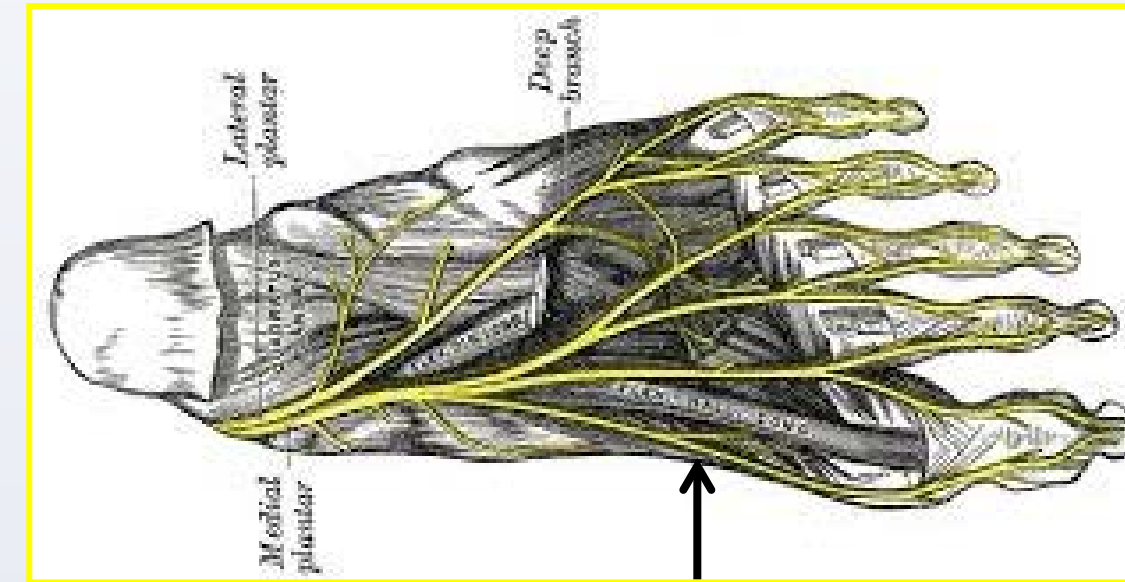


Figure 1. Anatomy of Proper Digital Nerve

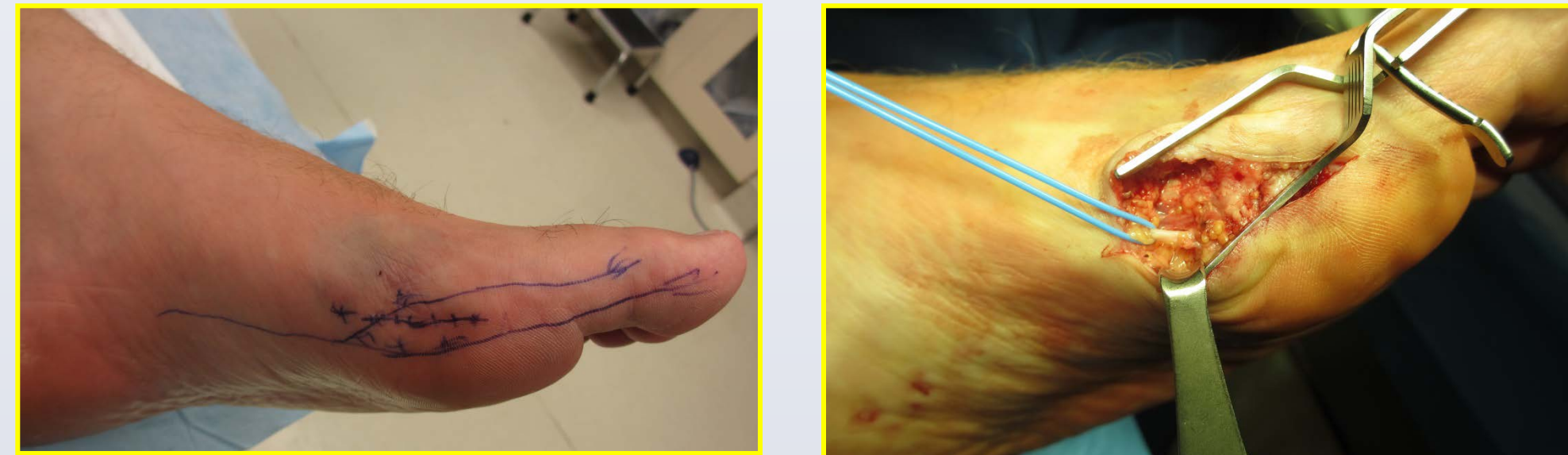


Figure 2. Pre-op markings and intra-op findings of the Proper Digital Nerve

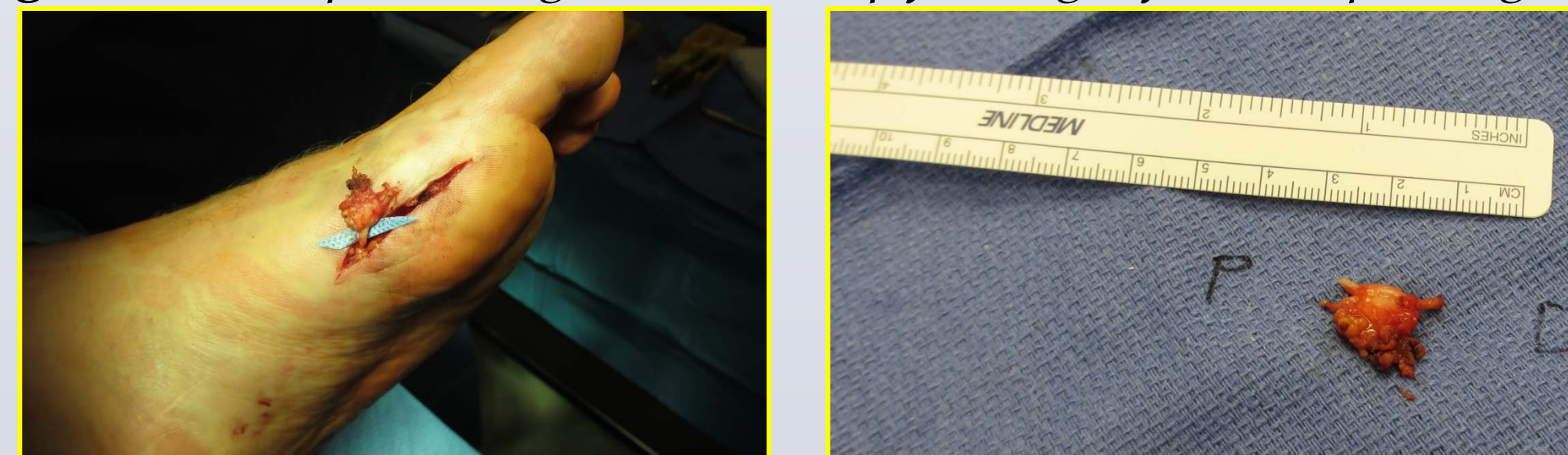


Figure 3. Neuroma of the Proper Digital Nerve

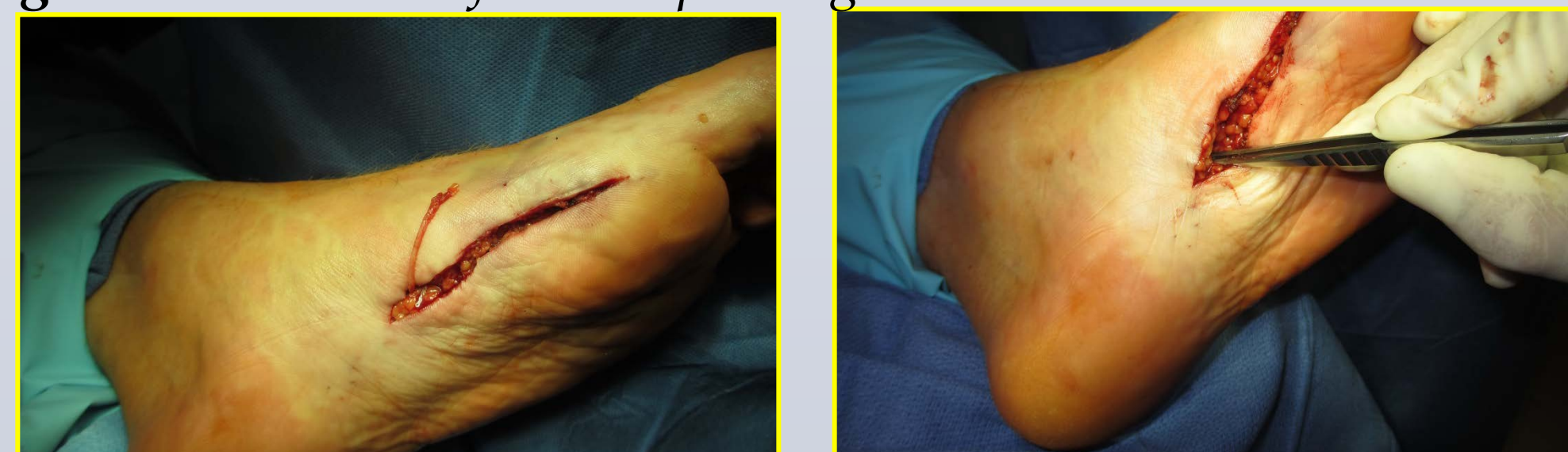


Figure 4. Implantation of the Proper Digital Nerve into the proximal arch

Results

The duration of pain was a mean of 18 months. Diagnosis was demonstrated by a local anesthetic block of the proper digital nerve. All patients underwent neuroma excision and implantation of the nerve into the arch of the foot. Seven of the patients have had excellent relief of pain, are walking without special shoes, and are off narcotic medication.

Conclusion

Chronic medial plantar pain in the big toe following surgery or injury should raise the concern of a neuroma of the proper digital nerve. Relief of pain after local anesthetic blockade of this nerve is a predictor of an excellent result. Our surgical approach resects the neuroma and implants the nerve into the arch.

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