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Foot Pain Leading to Morton Neuroma and its Management

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Abstract

Morton's neuroma is a common pathology a fecting the forefoot. This is nerve fbrosis, not a true neuroma. This is secondary to pressure or repetitive stimulation that results in thickening of the digital nerve located in the 3rd or 2nd intermetatarsal space. Treatment options in _ g] ҽ MMa fep M es tarsac ▪ ز k D p m D T ' ram' D T p ϒ ҽ ' approach. Careful clinical evaluation, patient selection, preoperative counseling, and surgical technique are key to successful treatment of this condition.

Keywords: Morton's neuroma; foot; forefoot pain; digital nerve

Introduction

Morton's neuroma was rst described in 1876 by American surgeon omas George Morton. is is a common medical condition that a ects the front legs [1]. is is not a true neuroma, but brosis of the nerve in the nger. It is caused secondarily by pressure or repetitive stimulation and thickens the nerve in the second or third intermetatarsal space. e third intermetatarsal space is most commonly a ected. Histologically, neuromas show neuroedema, demyelination (axonal injury), and perineural brosis. is degenerated tissue thus causes localized pain and discomfort, primarily on exertion. Current literature suggests that the use of shoes with pointed heels may be the culprit. is is because increased pressure on the forefoot can lead to nerve damage.

A baseline weight-bearing radiograph helps rule out other causes of forefoot pain and provides an osteological overview [2]. USS and magnetic resonance imaging (MRI) are comparable modalities for diagnosing Morton's neuroma. An experienced musculoskeletal radiologist can use USS to create a neuroma with 95% sensitivity. However, if the diagnosis is in doubt, the MRI scan is the gold standard scan for identifying neuromas and is most readily seen in the T1 axial section.

e presence of a neuroma does not automatically mean that a person will experience symptoms of Morton's neuroma. Bernardino studied her 57 patients and found that his third of the patients radiologically had neuromas but were asymptomatic [3]. e mean diameter was 4.1 mm for him in the asymptomatic group compared to 5.3 mm for him in the symptomatic group [4]. A diagnosis of Morton's neuroma is relevant only if the transverse diameter is ≥5 mm on her MRI scan and can be correlated with clinical ndings. In a prospective, randomized controlled trial, there was no statistically signi cant di erence between the mean size of neuromas that responded to treatment with steroid injections (11 mm) and those that did not respond (12.5 mm) [5]. e study authors also noted that neuroma size in patients whose symptoms recurred was not signi cantly di erent from those who remained pain-free at 12 months. , found that the e ects of steroid injections persisted [6]. e literature therefore suggests that lesion size does not always correlate with symptom severity, and that small neuromas respond better to steroid injections than large neuromas, although both patient reports results are improved by injection.

Management

Management of neuromas can be divided into nonsurgical or surgical management. Treatment algorithms generally include non-surgical measures, including injection therapy, and if these measures do not improve symptoms, surgical resection is the next option [7]. Patient education is very important and using wide-toed shoes may be the easiest way to manage symptoms. However, patient compliance is an issue and unresolved symptoms can occur.

Surgical Excision

Neuromas can be resected using two methods, either a dorsal or plantar approach. e dorsal approach allows the patient to bear weight immediately, whereas the plantar approach carries the risk of

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are misdiagnosis, neuroma of the adjacent intermetatarsal space, incomplete resection, complex regional pain syndrome, or Morton's neuroma, also known as stump neuroma is recurrences of factors contributing to recurrence include new neuroma formation, adhesions, and accessory branches of the digital nerve. Several methods have been documented to prevent the formation of stump neuromas [11,12]. e use of steroid injections is the most common method used to treat pain

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