



## ULTRASOUND FINDINGS IN MORTON'S NEUROMA

### ULTRASOUND FINDINGS IN MORTON'S NEUROMA

**Authors:** Daiana Lopez Conceição<sup>1</sup>, Thaline Mairace Hernandez das Neves<sup>1</sup>, João Paulo Maldonado<sup>1</sup>, Alan Timoteo Rodrigues Reis<sup>1</sup>, Rafael Teodoro Lopes Lalier<sup>1</sup>.

<sup>1</sup>Doctor specializing in Radiology and Imaging Diagnosis, Isomed Diagnósticos.

#### SUMMARY

Morton's neuroma is a pseudotumor lesion that can cause discomfort in the feet. The diagnosis of this disease is carried out by the attending physician, through the evaluation of the symptoms presented by the patient, in addition to a targeted physical examination. Imaging tests, such as ultrasound, can help diagnose Morton's neuroma, or exclude differential diagnoses.

**Key words:** Morton's neuroma, ultrasound, diagnosis.

#### ABSTRACT

Morton's neuroma is a pseudotumor lesion that can cause discomfort in the feet. The diagnosis of this disease is carried out by the attending physician, through the evaluation of the symptoms presented by the patient, in addition to a physical examination. Imaging exams, such as ultrasound, can help diagnose Morton's neuroma, or exclude differential diagnoses. **Keywords:** Morton's Neuroma, ultrasound, diagnosis.

#### 1. INTRODUCTION

Morton's neuroma is a common cause of metatarsalgia, as it is caused by mechanical compression of digital nerve branches in the feet. It is a pseudotumor lesion formed by perineural fibrosis, most commonly found in the third intermetatarsal space. This condition is most commonly found in women in their fourth decade of life. The main symptom is pain in the forefoot that can radiate to the toes. The diagnosis is usually clinical, but can be confirmed by imaging tests, such as ultrasound or magnetic resonance imaging. Initial treatment is conservative, however, in some more serious cases, other techniques may be considered..1.2

## 2. METHODOLOGY

In this work, a bibliographical survey was carried out in the databases PubMed, SciELO and national official documents between 2002 and 2024. The descriptors used were: diagnosis, ultrasound, radiology and Morton's neuroma.

## 3. DISCUSSION

Morton's neuroma, reported by Thomas Morton in 1876, is a non-neoplastic lesion characterized by perineural fibrosis of the plantar digital nerve, which causes inflammation in the space between the metatarsal heads. Neuroma most frequently occurs between the second and third metatarsals and between the third and fourth metatarsals. Morton's neuroma usually causes pain in the forefoot and may be associated with paresthesias. Mulder's sign, painful rebound in side-to-side compression of the forefoot and pressure on the plantar surface of the third intermetatarsal space, when positive, can help confirm the presence of this disease.<sup>2,3,4</sup>

Ultrasound can help identify nodules near the toes. Morton's neuroma lesion can manifest as a circular or ovoid, well-defined and hypoechoic formation in the proximal region of the metatarsal head, in the intermetatarsal space, without calcification or vascularization on Doppler study. Very small lesions may not be characterized by ultrasound examination.<sup>4,5</sup>

## 4. CONCLUSION

Morton's neuroma is a condition that can cause discomfort in the plantar region. Early diagnosis and appropriate treatment are essential to prevent the disease from worsening. The use of imaging tests, such as ultrasound, plays an important role in locating and diagnosing this disease.

## REFERENCES

1 Nery CAS et al. Morton's neuroma treatment through plantar port: retrospective assessment of surgical outcomes. MINUTES ORTOP BRAS 15 (1) - 2007.

2 Dulitzky N et al. Sonographic diagnosis of Morton's neuroma. Rev. argent. radiol; 66(1): 17-20, en.-mar. 2002

two

3 Abreu AV, Fontenelle CTC, Albuquerque RPS. Metatarsalgia due to Morton's Neuroma. Brazilian Society of Orthopedics and Traumatology, 2011.

4 Barbosa GG et al. Retrospective study of surgical treatment in Morton's neuroma by plantar approach. MINUTES ORTOP BRAS 13(5) - 2005.

5 Matos, CP et al., "Prevalence of Morton's neuroma diagnosed by ultrasound in a reference clinic in Goiânia-GO, Brazil in 2017," FAMP INSTITUTIONAL REPOSITORY, 2019.