

Rheumatoid nodule mimicking Morton's neuroma: a rare case report

Belo M¹, Alves TA², Fonseca JE³, Reis J⁴

ACTA REUMATOL PORT. 2020;45:220-222

INTRODUCTION

The rheumatoid nodule (RN) is the most common cutaneous manifestation of rheumatoid arthritis (RA). However, only 1% of all RNs occur in the feet¹. They usually present clinically as a firm, flesh-colored, non-tender, freely movable mass^{1,2}. The magnetic resonance imaging (MRI) findings of RNs in the feet are not pathognomonic³. Pathologically these lesions are granulomatous with areas of central necrosis. Specific treatment is not necessary in general, because the nodules are often asymptomatic^{1,2}.

CASE REPORT

A 46-years-old woman, presented with a 7-month history of burning pain localized on the plantar aspect of the third intermetatarsal space of her right foot, which was preceded by inflammatory joint pain involving shoulders and hands. The patient had not experienced any trauma. On physical observation she had painful shoulder movements and diffuse swelling of the hands. Right foot interdigital palpation found a painful mass. The foot squeeze test was positive. Erythrocyte sedimentation rate was 21 mm/h, C-reactive protein was 0.7 mg/dl, Rheumatoid Factor was 69.2 IU/ml, Anti-citrullinated protein antibody titer was superior to 320 IU/ml. Antinuclear antibodies were positive (1/320), but anti DNA, anti Sm, anti SSA, anti RNP were nega-

tive. Complement was normal. The hand and feet radiographs showed no bone destruction or joint damage. MRI identified an intermetatarsal mass with a size of 25x17x10mm (Figure 1), which was considered suggestive of an uncommonly large Morton's neuroma. Due to the symptomatology and the lack of an accurate diagnosis, surgical excision was decided.

A nodular tumor mass with 25mm in the largest axis was excised (Figure 2). The histopathological study re-

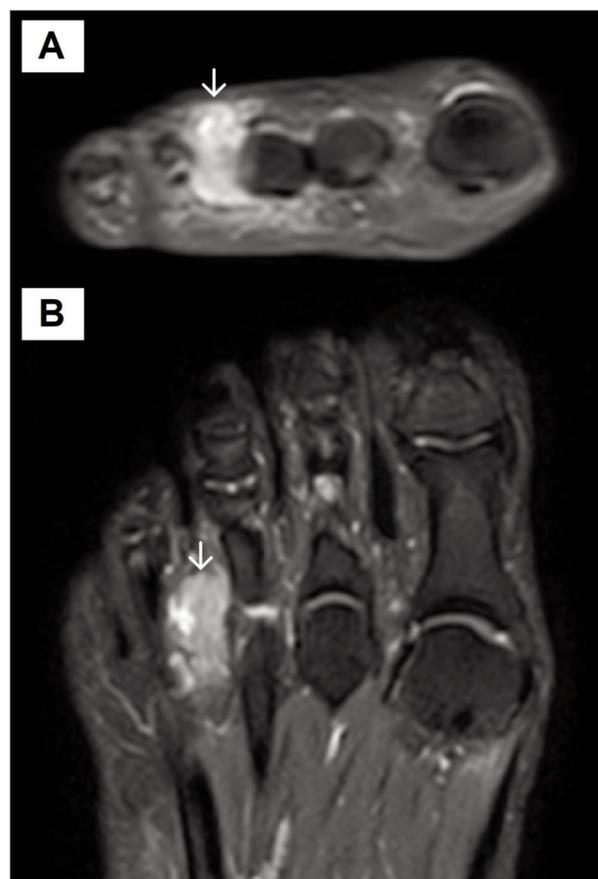


FIGURE 1. MRI (STIR sequence, coronal (A) and axial (B) views) of the right forefoot, identifying a mass in the third intermetatarsal space (white arrow).

1. Serviço de Ortopedia e Traumatologia, Hospital de Santa Maria, Centro Hospitalar Universitário Lisboa Norte, Lisbon, Portugal;
 2. Instituto de Anatomia Patológica, Faculdade de Medicina, Universidade de Lisboa, Lisbon, Portugal; Hospital Lusíadas Lisboa, Lisbon, Portugal
 3. Serviço de Reumatologia e Doenças Ósseas Metabólicas, Hospital de Santa Maria, Centro Hospitalar Universitário Lisboa Norte, Lisbon, Portugal; Unidade de Investigação em Reumatologia, Instituto de Medicina Molecular, Faculdade de Medicina, Universidade de Lisboa, Lisbon, Portugal
 4. Unidade de Ortopedia e Traumatologia, Hospital Lusíadas Lisboa, Lisbon, Portugal



FIGURE 2. Anatomical specimen of the excised nodular mass measuring 25mm in the largest axis.

vealed a RN (Figure 3). Concomitantly the patient was started on methotrexate 10 mg/week subcutaneous, folic acid 5 mg/week, prednisolone 5 mg/day and naproxen 500 mg on demand. With a follow-up of 26 months, the patient remains asymptomatic since the surgical intervention, with adequate control of the systemic inflammatory symptoms.

DISCUSSION

The presence of RNs in the intermetatarsal spaces is a very rare finding⁴. Although these nodules are generally asymptomatic, if they are located in the intermetatarsal spaces, the clinical presentation may be similar to other disorders¹, and the diagnosis may be confused with more common pathologies such as Morton's neuroma. In the present case, the size of the lesion was too large for a Morton's neuroma (reported sizes from 3 to 15mm of major axis⁵). The surgery of RNs may become necessary in symptomatic cases, but can be difficult, because these lesions are poorly encapsulated and infiltrate the adjacent soft tissues². In this case, the excision was achievable and the patient had her complaints resolved with the surgery. A local recurrence of granulation tissue can occur². In the 26 months follow-up of our patient, there was no recurrence to date. In patients with a painful intermetatarsal mass, even if the clinical findings and the imaging may suggest the diagnosis of Morton's neuroma, other conditions should never be overlooked. Of interest, in this particular case, the RN was the chief presenting complaint of the onset of RA.

CORRESPONDENCE TO

Micael Belo
Serviço de Ortopedia, Hospital de Santa Maria
Av. Prof. Egas Moniz
1649-028 Lisboa
E-mail: 24805@chln.min-saude.pt

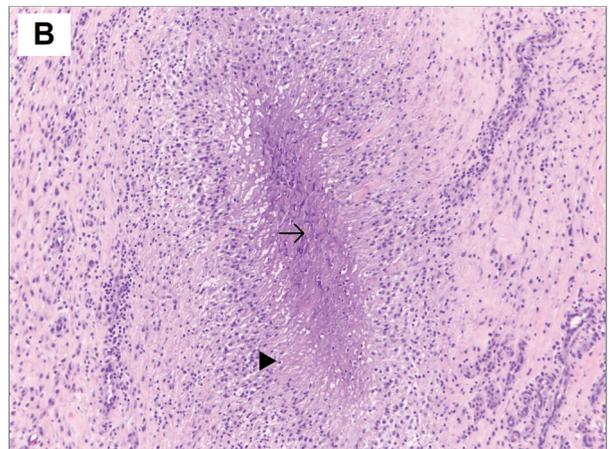
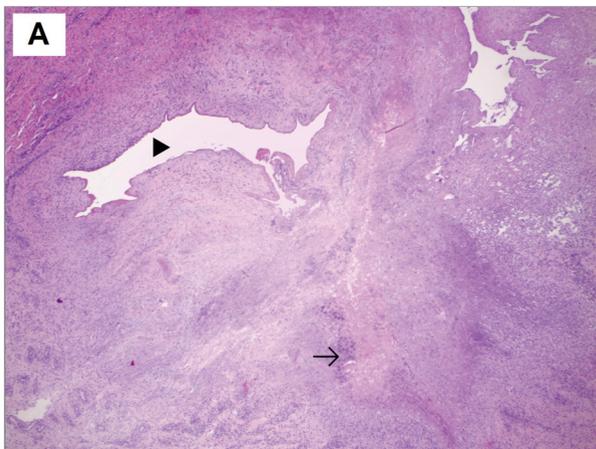


FIGURE 3. Histology of the excised mass (hematoxylin and eosin, 25x (A) and 100x (B) magnification). In A, connective tissue with cystic areas without recognizable epithelial lining (▶), with ulceration and hyalinization, walled by a mixed inflammatory infiltrate and, in the lower right, a rheumatoid nodule is seen (→). In B, a higher magnification of the rheumatoid nodule showing a central area of fibrin and necrobiosis (→), surrounded by palisading of histiocytes (▶).

REFERENCES

1. Ta tekin E, Birtane M, Kilinç S, Çiftdemir M, Usta U, Ta tekin N. From pathology to diagnosis: Asymptom-free patient with a rheumatoid nodule in the foot. *Turkish J Rheumatol*. 2012;27(3):195-199.
2. Kaye BR, Kaye RL, Bobrove A. Rheumatoid nodules. Review of the spectrum of associated conditions and proposal of a new classification, with a report of four seronegative cases. *Am J Med*. 1984;76(2):279-292.
3. Sanders TG, Linares R, Su A. Rheumatoid nodule of the foot: MRI appearances mimicking an indeterminate soft tissue mass. *Skeletal Radiol*. 1998;27(8):457-460.
4. Chaganti S, Joshy S, Hariharan K, Rashid M. Rheumatoid nodule presenting as Morton's neuroma. *J Orthop Traumatol*. 2013;14(3):219-222.
5. Owens R, Gougoulis N, Guthrie H, Sakellariou A. Morton's neuroma: Clinical testing and imaging in 76 feet, compared to a control group. *Foot Ankle Surg*. 2011;17(3):197-200.