

# Local Recurrence of Metatarsal Aneurysmal Bone Cyst after Percutaneous Sclerotherapy

Burak Günay<sup>1</sup>, Fethi Emre Ustabasoglu<sup>1</sup>, Mert Çiftdemir<sup>2</sup>, Burak Uslu<sup>1</sup>, Ufuk Usta<sup>3</sup>

<sup>1</sup>Department of Radiology, Faculty of Medicine Trakya University, Edirne, Turkey

<sup>2</sup>Department of Orthopaedics and Traumatology, Faculty of Medicine Trakya University, Edirne, Turkey

<sup>3</sup>Department of Pathology, Faculty of Medicine Trakya University ,Edirne, Turkey

A 23-year-old male patient applied to the orthopedic outpatient clinic with complaints of right foot swelling and pain without a trauma history. Physical examination revealed swelling and pain with palpation at the third metatarsal dorsal level of the right foot (Figure 1). The patient was examined by foot computed tomography (CT) and contrast magnetic resonance imaging (MRI) for detailed imaging upon detecting an expansive lesion in the third metatarsal bone, revealing the expansive lesion of 37 x 23 x 20 mm in size and with a sclerotic wall with multiple septa (Figure 2). Thereupon, sclerotherapy treatment was percutaneously applied with 10 ml of polidocanol to the lesion. The patient re-applied to the orthopedics outpatient clinic 6 months later because of the metatarsal growth and was examined with MRI. Lesion dimensions were measured as 63 x 45 x 36 mm in MRI and significant dimensional progression was detected in the lesion compared to the previous

MRI (Figure 3). Hence, the operation was decided, and a ray amputation was performed on the third metatarsal bone and phalanx. An aneurysmal bone cyst (ABC) was diagnosed based on the histopathological examination (Figure 4).

An ABC is a lytic and benign lesion that is located in the metaphysis of long bones, causing cortical enlargement and containing trabeculations.<sup>1,2</sup> The literature reported ABC in the metatarsal bone in a few cases, and lesions of this region are extremely rare.<sup>3,4</sup> Intralesional curettage or, in some cases, en-block resection methods are used for ABC treatment. Different adjuvant treatments are used in ABC to minimize postoperative local recurrence. Percutaneous techniques have been included in the treatment protocol with good results using fibrosing injection agents.<sup>4</sup>

Local recurrence has been reported in an ulnar ABC lesion treated with polidocanol in the literature.<sup>5</sup> The development of local



FIG. 1. a-b. Antero-posterior X-ray projections of pre and post-treatment demonstrating lytic lesion in the third metatarsal bone.

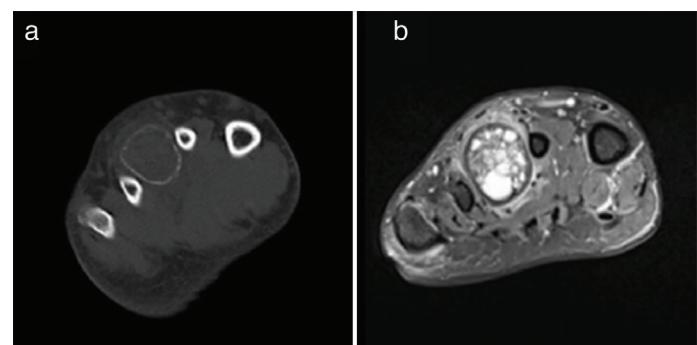


FIG. 2. a-b. Axial views of non-contrast CT demonstrating lytic lesion in the third metatarsal with cortical thinning (a). Axial views of proton density MRI sequences reveal a lytic lesion in the third metatarsal bone (b).  
CT, computed tomography; MRI, magnetic resonance imaging



Corresponding author: Burak Günay, Department of Radiology, Faculty of Medicine Trakya University, Edirne, Turkey  
e-mail: drburakgunay@gmail.com

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ORCID iDs of the authors: B.G. 0000-0002-8462-7681; F.E.U. 0000-0002-0340-4487; M.Ç. 0000-0002-9677-2819; B.U. 0000-0002-0240-299X; U.U. 0000-0002-0003-5903.

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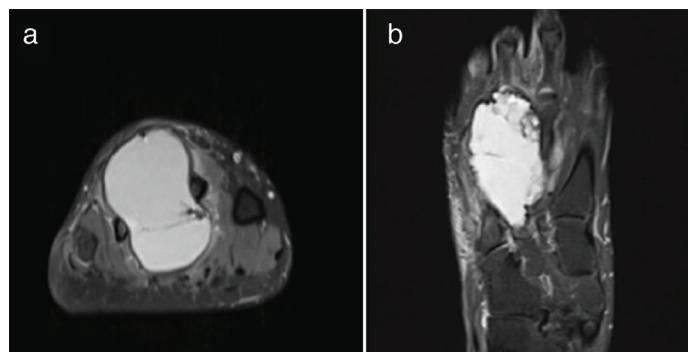


FIG. 3. a-b. After 6 months of sclerotherapy treatment, a significant progression in lesion sizes and local recurrence on proton density short and long-axis MRI sequences.

*MRI, magnetic resonance imaging*

recurrence can be suggested that intralesional bleeding may have developed during the application of sclerotherapy to the size increase.

In this case, we see that progression has developed in lesion sizes after percutaneous sclerotherapy applied with polidocanol as the primary treatment for the detected ABC in the metatarsal bone. Local recurrence after polidocanol-based percutaneous sclerotherapy of the metatarsal ABC is rarely present.

**Informed Consent:** Written informed consent was obtained from the patient.

**Author Contributions:** Concept: B.G., F.E.U., M.Ç., B.U., U.U.; Design: B.G., F.E.U., M.Ç., B.U., U.U.; Data Collection or Processing: B.U.; Analysis or Interpretation: F.E.U.; Literature Search: B.G., M.Ç.; Writing: B.G.

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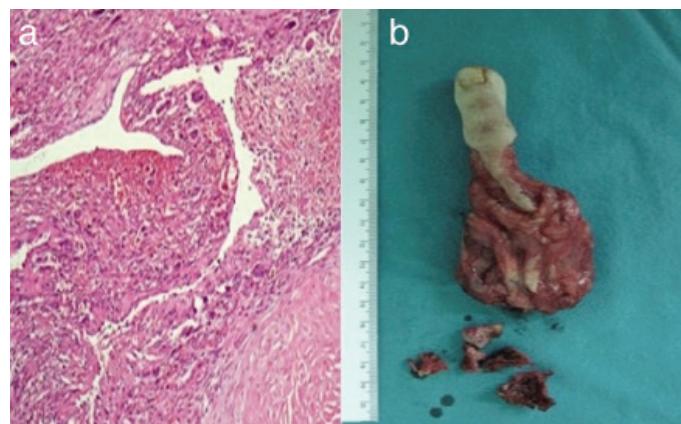


FIG. 4. a-b. Surrounding tissue consists of fibrohistiocytic lesions with osteoclast-like multinucleated giant cells (a). AP view of the specimen after amputation of the patient with confirmed ABC (b).

## REFERENCES

- Shang J, Guo R, Zhan P, et al. Aneurysmal bone cyst of the metatarsal: A case report. *Oncol lett.* 2016;12:2769-2771. [\[CrossRef\]](#)
- Kececi B, Kucuk L, Isayev A, Sabah D. Effect of adjuvant therapies on recurrence in aneurysmal bone cysts. *Acta Orthop Traumatol Turc.* 2014;48:500-506. [\[CrossRef\]](#)
- Brosjo O, Pechon P, Hesla A, Tsagozis P, Bauer H. Sclerotherapy with polidocanol for treatment of aneurysmal bone cysts. *Acta Orthop.* 2013;84:502-505. [\[CrossRef\]](#)
- Iltar S, Alemdaroglu KB, Karalezli N, Irgit K, Caydere M, Aydogan NH. A case of an aneurysmal bone cyst of a metatarsal: review of the differential diagnosis and treatment options. *J Foot Ankle Surg.* 2009;48:74-79. [\[CrossRef\]](#)
- Rastogi S, Varshney MK, Trikha V, Khan SA, Choudhury B, Safaya R. Treatment of aneurysmal bone cysts with percutaneous sclerotherapy using polidocanol. A review of 72 cases with long-term follow-up. *J Bone Joint Surg Br.* 2006;88:1212-1216. [\[CrossRef\]](#)