

[Orthopaedic Surgery]

A Rare Cause of Foot Pain With Golf Swing: Symptomatic Os Vesalianum Pedis—A Case Report

Massimo Petrera, MD,^{†*} Tim Dwyer, MBBS FRCSC,[†] and Darrell J. Ogilvie-Harris, MD FRCSC[†]

The os vesalianum is an uncommon accessory bone of the foot, located proximally to the base of the fifth metatarsal. It is usually asymptomatic and detected incidentally on radiographs. This is a case of bilateral os vesalianum, symptomatic only in the right foot, in a golf player. After a failed nonoperative treatment, the os vesalianum in the symptomatic foot was excised and the peroneus brevis tendon reattached using a suture anchor. The functional outcome was excellent, and the patient returned to golf 8 weeks after surgery.

Keywords: os vesalianum; accessory bone; peroneus brevis tendon; fifth metatarsal

The os vesalianum pedis is an accessory bone located proximally to the base of the fifth metatarsal, within the peroneus brevis tendon (Figure 1). It is named after Andreas Vesalius, anatomist and physician, who first described it in “de humani corporis fabrica” in 1543. According to radiographic studies,^{3,4,8} the incidence ranges between 0.1% and 5.9%. It is usually asymptomatic, and only 5 cases of symptomatic os vesalianum have been reported so far.^{1,5,6,7,9}

CASE REPORT

A 41-year-old male golf player complained of right foot pain localized over the lateral side of the foot and aggravated by the follow-through phase of his golf swing. There was no history of trauma, and the symptoms had gradually increased over the previous 7 months. Previous treatment had included nonsteroidal anti-inflammatory drugs and intense physical therapy (ultrasound, stretching exercises) without symptom relief. Palpation of the base of the fifth metatarsal elicited pain, as did resisted inversion and plantar flexion. Strength testing revealed weakness of eversion.

Radiographs showed a radiolucent line at the base of the fifth metatarsal, with smooth edges (Figure 2a). In the absence of trauma, a diagnosis of previous fracture seemed unlikely. A radiograph of the other foot revealed an identical abnormality; bilateral os vesalianum pedis were present (Figure 2b). Because of persistent discomfort, the patient elected an excision of the os vesalianum with repair of the peroneus brevis.

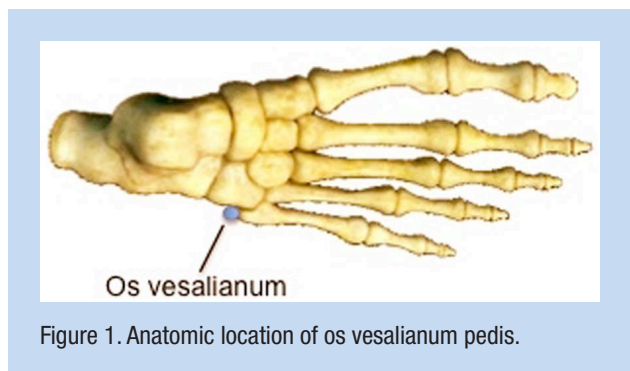


Figure 1. Anatomic location of os vesalianum pedis.

A 5-cm longitudinal incision was made over the base of the fifth metatarsal allowing the lateral cutaneous nerve to be identified and protected and the peroneus brevis tendon exposed (Figure 3). The tendon was incised in line with its fibers, and the superior two thirds detached from the fifth metatarsal tuberosity (Figure 4). The os vesalianum was removed and the peroneus brevis tendon reattached using a double-loaded suture anchor (Figures 5-8). The patient was placed in a walking boot for 6 weeks, allowed full weightbearing, and began range of motion exercises outside the boot. Six weeks postoperatively, the walking boot was discontinued, with the patient returning to golf 8 weeks after surgery.

At 3 months the patient was pain free, with full range of motion and normal strength compared with the contralateral side.

From [†]University of Toronto, Orthopaedic Sports Medicine, Toronto, Ontario, Canada

*Address correspondence to Massimo Petrera, MD, University of Toronto, Orthopaedic Sports Medicine, Women's College Hospital, 76 Greenville Street, Toronto, Ontario M5S1B1, Canada (e-mail: massimopetrera@gmail.com).

The authors report no potential conflicts of interest in the development and publication of this manuscript.

DOI: 10.1177/1941738113482446

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Figure 2. Radiographs of the (a) symptomatic right foot and (b) asymptomatic left foot.



Figure 3. Identification of the peroneus brevis tendon.



Figure 4. Peroneus tendon split, with identification and disarticulation of the os vesalianum.

DISCUSSION

The os vesalianum pedis is an infrequent cause of lateral foot pain. When patients present with a history of trauma, this condition is usually misdiagnosed as a fifth metatarsal avulsion fracture and treated with unnecessary immobilization.^{5,7} The differential diagnosis also includes nonunion of a tuberosity fracture, an ununited apophysis, or an ossifying apophysis of the fifth metatarsal base. In the pediatric population, Iselin disease (apophysitis of the fifth metatarsal base) should be taken into account as a differential diagnosis.² However, os vesalianum has characteristics typical of an accessory bone,

such as its rounded shape and smooth edges in the presence of a well-developed fifth metatarsal tuberosity.

The incidence of os vesalianum ranges between 0.1% and 5.9%.^{3,4,8} Most cases are asymptomatic and detected incidentally on radiographs. In this case, repetitive inversion of the ankle during the follow-through phase of the golf swing led to the development of symptoms. Only 5 cases of symptomatic os vesalianum have previously been reported,^{1,5,6,7,9} in which 2 cases were bilateral. Treatment options involve excision of the accessory bone from the symptomatic foot,⁵ as well as osteosynthesis and bone grafting⁶; both treatments have been reported with good functional outcome. In this case, the authors opted for

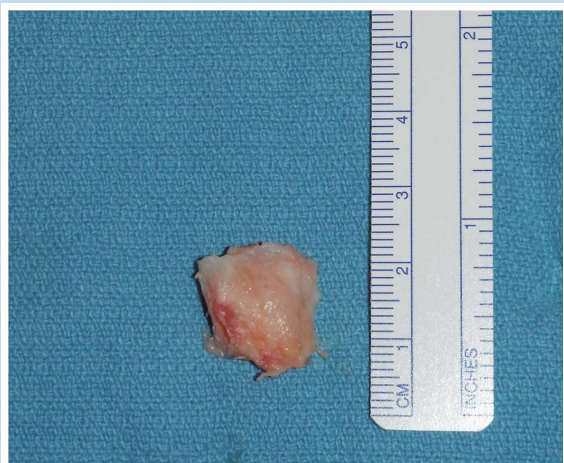


Figure 5. Os vesalianum excised.

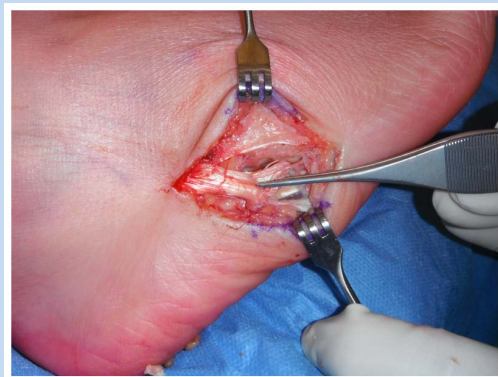


Figure 6. Detached superior two thirds of the peroneus brevis.

an excision of the accessory bone and repair of the peroneus brevis using a suture anchor; the suture anchors enable strong fixation, early rehabilitation, and rapid return to sport while avoiding the possible risk of nonunion associated with attempted osteosynthesis.

Surgical treatment of symptomatic os vesalianum in a high-demand patient leads to favorable results and rapid return to sport. Despite its low incidence, this diagnosis should be considered with the presence of atraumatic lateral foot pain and the characteristic radiographic findings. In such situations, a bilateral radiograph is essential for diagnosis.

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Figure 7. Reinsertion of the peroneus brevis using a double-loaded suture anchor.



Figure 8. Postoperative radiograph showing an intact fifth metatarsal base and correct placement of the anchor.