

Photo Quiz: An unusual swelling of the foot

Al Kline, DPM

Case History

A 13 year old female presents with a two year history of a “lump” to the bottom of the right forefoot. The patient reports pain, discomfort when walking and exercising with no history of trauma. The patient plays sports and enjoys running and basketball. She is involved in multiple track events including the discus and shot-put. There is increasing pain and swelling to the plantar forefoot region.

The patient has no drug allergies and does not take medication. The physical examination is normal. There is no history of past surgery or medical condition. Foot mechanics reveal mild pronation, but no apparent biomechanical faults. Vascular and neurological status is normal. There is a well, circumscribed firm soft tissue mass that is painful to palpation just under the third metatarsal head region. Radiographs reveal no bone abnormalities of the foot. (Fig. 1)



Figure 1 Swelling seen in the region of the plantar third metatarsal head region. The swelling is firm and painful to palpation.

A multiplanar, multiecho pre and post contrast MRI of the forefoot is provided for review (15 cc gadolinium). The MRI revealed a 8 x 14 x 28mm, well circumscribed cystic focus plantar to the third MTP joint. No significant contrast enhancement is identified. The adjacent third MTP joint is preserved. The remaining metatarsal phalangeal joints are unremarkable. The visualized extensor and flexor tendons are intact.

The patient was taken to surgery. A large, firm ‘cocoon-like’ mass was removed. (Fig. 2) The tissue was submitted in formalin. Cut sections showed solid gray-white surfaces with a 1 to 2 mm rim of gray-pink tissue around the periphery. No distinct areas of cystic change are seen and multiple representative sections are submitted in one cassette. No malignancy is present. Slides were submitted. (Fig. 3)

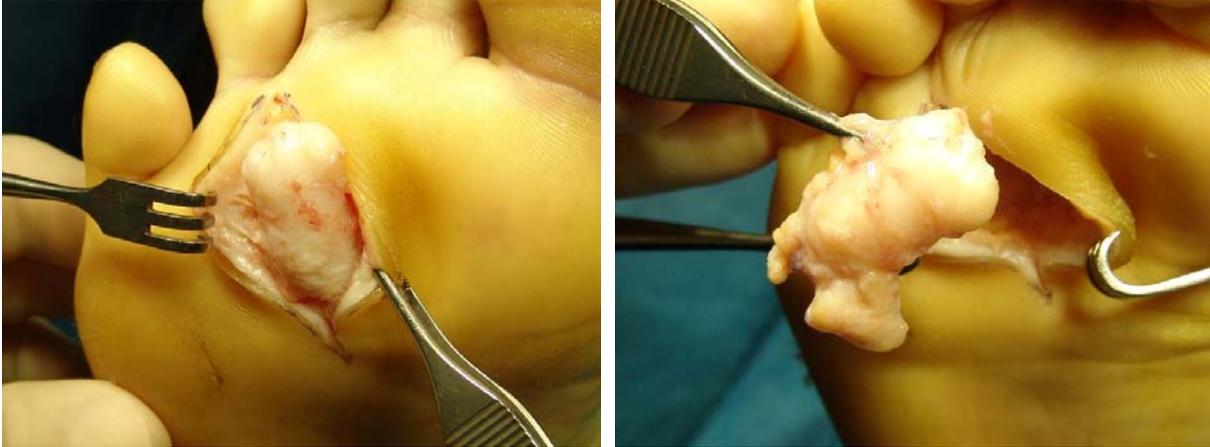


Figure 2 A firm soft tissue mass was removed. The mass appeared to be located in the subcutaneous layer along the plantar surface of the third metatarsal head.

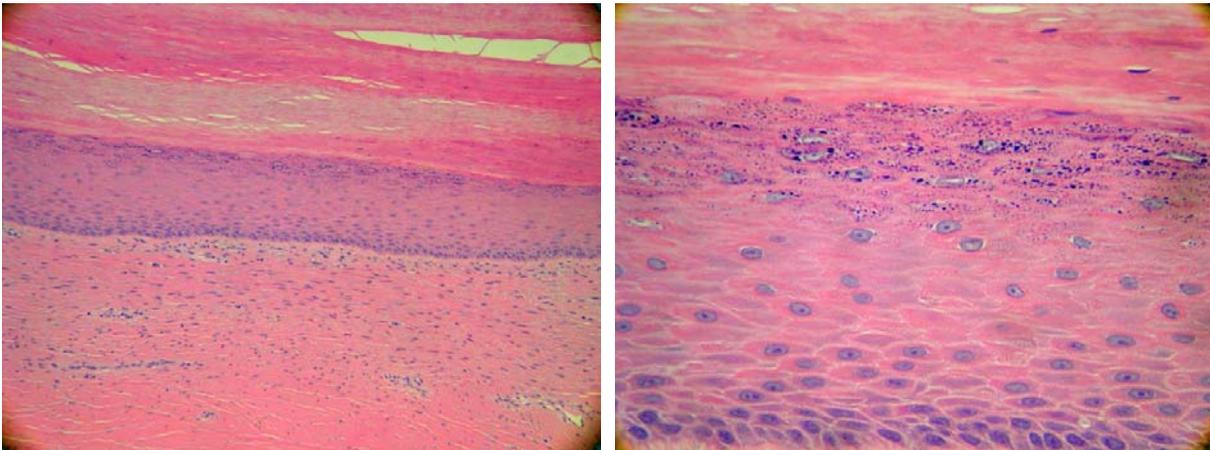


Figure 3 Sections showed keratin-containing features with focal histiocytic reaction in the adjacent stroma.

Question: Based on the patient's history, physical exam, radiological tests, surgical findings and pathology report, which one of the following is the correct diagnosis?

- A. Subcutaneous epithelioma
- B. Adventitial bursa
- C. Ganglion cyst
- D. Epidermal inclusion cyst
- E. Sebaceous cyst
- F. Giant Cell Tumor
- G. Schwannoma
- H. Histiocytoma

The answer to this quiz will be posted in the April 2008 issue. You can leave your diagnostic impressions in the following reply. Try differentiating the choices before going straight to the answer.