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SOLITARY CYSTS OF THE TALUS

Report of Two Operated Cases

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Solitary cysts of the talus are rare. Ogden & Griswald (1972) have recently submitted one case, in their opinion the first one on record. Below, two cases of solitary talar cysts will be described and the aetiology briefly discussed.

Case 1. A 64-year-old male. History of left lateral malleolar fracture treated with a plaster cast in 1959. Ever since intermittent pain in the left ankle, increasing during the 6 months preceding admission on 17 November 1969.

X-rays, including tomography, revealed a large cavity in the talus beneath the tibial aspect of the joint surface with canal-like communication to the ankle joint. Operation on 19 November 1969: Anterolateral approach to the talocrural joint and neck of the talus. The cartilage in the medial part of the talar articular surface was slightly depressed, but intact. No communication to the bony cavity was visible. It was opened by square osteotomy on the neck of the talus and was found to contain a bluish capsule and a gelatinous-mucoid fluid. The cavity was emptied and packed with chips of cancellous bone. Non-weight-bearing in a plaster cast for 12 weeks.

Microscopic examination: Lamellar, fibrillar connective tissue, loose-meshed, no epithelial lining, and in one site a mesothelial-like layer of cells. No inflammatory changes. Mild myxomatous transformation of the connective-tissue ground substance. Micr. diagn.: Synovial cyst of bone.

Follow-up 12 February 1973, 3 years after the operation: Symptom free. Radiographic evidence of healing.

Case 2. A 42-year-old male. History of torsion trauma to the left ankle joint in 1967, treated with supporting bandage. Since then pain and fatigue in the ankle joint on walking, increasing during the year preceding admission on 9 February 1970.

X-rays revealed a bean-sized cyst in the central part of the talus, beneath the fibular corner of the joint surface.

Operation on 11 February 1970 through an anterolateral approach to the talocrural joint. The cartilage over the cyst had become damaged and presented itself as a small semi-detached body. It was removed, and through the 5 × 5 mm opening

Figure 1. Tomographic X-ray in Case 1.

Figure 2. Tomographic X-ray in Case 2.

the cyst was scraped with fine instruments and packed with chips of cancellous bone. Non-weight-bearing in plaster cast for 8 weeks.

No micr. examination.

Follow-up on 12 February 1973, 3 years after the operation: Symptom free. Radiographic evidence of healing.

DISCUSSION

Ogden & Griswald (1972) emphasized the extreme rarity of unicameral cysts in the short bones. Neer et al. (1966) found among 175 bone cysts only 5 in the calcaneus, Garceau & Gregory (1954) among 300 cases 9 in the calcaneus, Aegerter & Kirkpatrick (1968) among 89 cases one in the tarsal scaphoid. A developmental anomaly, an abnormal, aberrant remodelling of bone with preponderance of the osteolytic process, or blocking of the drainage of interstitial fluid have been suggested as aetiological factors in unicameral cysts in children (Garceau & Gregory 1954, Whalen et al. 1971, Cohen 1960). Neer et al. (1966) have emphasized that cysts of the short bones differ in their course from unicameral cysts in the long bones. The aetiology of the present cysts in the talus seems to have been traumatic as in the synovial solitary cysts of bone mentioned by others (Dashefsky 1971, Crane & Sarano 1967, Stadil & Paaby 1970). Through traumatic osteochondral fractures, syn-

ovial fluid may be pressed into underlying bony tissue, leading to cyst formation (Campbell Golding 1966), in accordance with the considerable increases of intraarticular pressure demonstrated by Dixon & Grant (1964) in knees during weight-bearing. O'Donoghue (1966) does not mention development of cysts following osteochondral fractures, and Davidson et al. (1967) found only one case of incipient cyst formation among 21 cases of osteochondral fractures in the ankle joint. Changes similar to osteochondritis dissecans may also result from osteochondral fracture (O'Donoghue 1966, Bang Rasmussen 1945). In the present two cases this aetiology seems likely in view of the history, X-ray findings, and histological findings in one of the cases.

Alldredge (1942) has pointed out that solitary cysts of weight-bearing bones are not cases for a temporizing treatment, but should be emptied and packed with bone chips as was done in the cases reported by Ogden & Griswald (1972) and Dashefsky (1971). The indication for operation has been partly to prevent collapse of a bone with cysts of the named size, probably resulting in incongruence and secondary osteoarthritis, and partly to relieve pain.

SUMMARY

Two operated cases of solitary cysts of the talus are submitted. The aetiology and treatment are discussed.

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