Case reports

A case of spina ventosa

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A 15-year-old Somali boy, who had lived for the past year in The Netherlands, complained of increasing pain and swelling of the dorsum of his left hand, 3 weeks after a mild trauma.

There was no history or sign of any systemic illness. Radiographs revealed a cystic and lytic lesion in the distal part of the second metacarpal bone (Figure 1). MRI confirmed the presence of this lytic process. The ESR was 16 mm/hour. The white blood cell count was normal with an increased percentage of neutrophils and monocytes. Radiographs of the thorax showed hilar lymphadenopathy. An open biopsy of the finger lesion showed, on histopathological examnation, a granulomatous inflammation with histiocytes and lymphoid cells. The Ziehl-Neelsen staining revealed no acid-fast bacilli. An intermediate-strength purifed protein derivative of tuberculin was positive. Cultures were positive for tuberculosis. After these findings, we learned that the patient's brother was being treated for pulmonary tuberculosis.

After confirmation of the diagnosis, i.e., pulmonary and bone tuberculosis, we treated the boy with etambutol, pyrazinamide, rifampicin, isoniazide and pyridoxine during 6 months. His complaints resolved and after 2 years he had no symptoms of tuberculosis. He regained normal function of his hand (Figure 2).

Discussion

The spina ventosa (Latin—spina: "a thorn", ventosa: "full of wind, distended") is a typical extrapulmonary manifestation of tuberculosis in phalangeal, metacarpal and metatarsal bones in children (Martini 1988, Weber and Rösslein 1994). The tuberculous subperiosteal bone expands and thickens and it gradually looks like a distended thorn (Martini 1988, Weber and Rösslein 1994, Vohra et al. 1997). Because of the increasing number of H.I.V.-positive and immunosuppressed children it is important that orthopedic surgeons recognize and remember this infection (Weber and Rösslein 1994, Watts and Lifeso 1996).

Tuberculous infection of the bone is an uncommon result of hematogenous dissemination of bacilli (Martini 1988, Shannon et al. 1990). Due to the high pO_2 late during active bone growth, the commonest sites are the spine and the hip, although tuberculosis can also involve other bones and peripheral joints

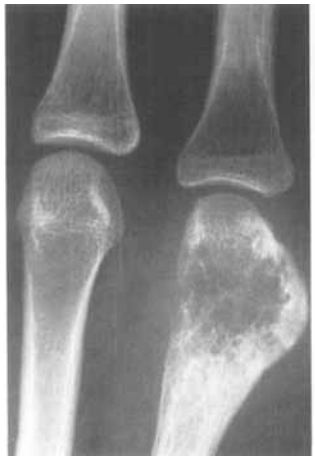

Figure 1. A cystic and lytic lesion in the distal part of the second metacarpal bone due to tuberculosis.

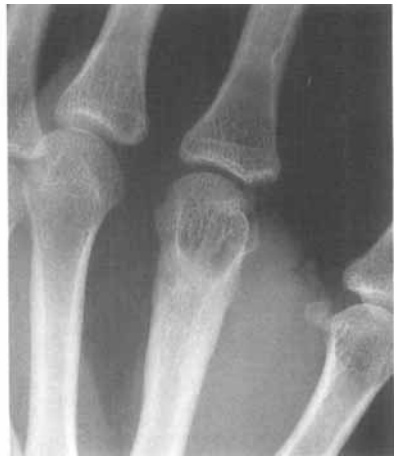

Figure 2. 2 years after chemotherapy.

(Benkeddache and Gottesman 1982, Evanchick et al. 1986, Watts and Lifeso 1996, Vohra et al. 1997). The involvement of metacarpal bones is rare (Benkeddache and Gottesman 1982, Halsey et al. 1982, Evanchick et al. 1986, Martini 1988). Tuberculosis can also destroy tendons (Bush and Schneider 1984).

There is often a long delay between the onset of tuberculosis and the diagnosis (Bush and Schneider 1984, Shannon et al. 1990, Vohra et al. 1997). Musculoskeletal tuberculosis can mimic other infectious and inflammatory diseases like reumatoid arthritis, gout, chronic pyogenic osteomyelitis, granulomatous lesions, Brodie's abscess, tumors and foreign body lesions (Bush and Schneider 1984, Boulware et al. 1985, Evanchick et al. 1986, Shannon et al. 1990, Maffulli 1992, Vohra et al. 1997). Signs of pulmonary tuberculosis are not always present and the main complaints are swelling and pain, not responding to analgetic medication (Bush and Schneider 1984, Vohra et al. 1997).

A bone scan is recommended for detecting possible multiple bone involvement (Shannon et al. 1990). However, a negative bone scan does not exclude tuberculosis (Watts and Lifeso 1996). Surgery may be necessary to obtain a biopsy, but only seldom to eradicate the lesions (Evanchick et al. 1986, Martini 1988).

References

Benkeddache Y, Gottesman H. Skeletal tuberculosis of the wrist and hand: a study of 27 cases. J Hand Surg (Am) 1982; 7: 593-600.

Boulware D W, Lopez M, Gum O B. Letters to the editor: tuberculous podagra. J Rheumatol 1985; 12: 1022-3.

Bush D C, Schneider L H. Tuberculosis of the hand and wrist. J Hand Surg 1984; 9: 391-8.

Evanchick C C, Davis D E, Harrington T M. Tuberculosis of peripheral joints: an often missed diagnosis. J Rheumatol 1986; 13: 187-9.

Halsey J P, Reeback J S, Barnes C G. A decade of skeletal tuberculosis. Ann Rheum Dis 1982; 41: 7-10.

Maffulli M B N. The missed thorn. Acta Orthop Belg 1992; 58: 468-70.

Martini M. Tuberculosis of the bones and joints. Springer-Verlag, Berlin Heidelberg 1988.

Shannon F B, Moore M, Houkom J A, Waeker N J. Multifocal cystic tuberculosis of bone. J Bone Joint Surg (Am) 1990; 72: 1089-92.

Vohra R, Kang H S, Dogra S, Saggar R R. Sharma R. Tuberculous osteomyelitis. J Bone Joint Surg (Br) 1997; 79: 565-6.

Watts H G, Lifeso R M. Tuberculosis of bones and joints. J Bone Joint Surg (Am) 1996; 78: 288-98.

Weber P, Rösslein R. Schnell wachsender Tumor der Hand - gewinnt die Tuberkulose als differentialdiagnose an Aktualität? Handchir Mikrochir Plast Chir 1994; 26: 91-4.

HLA-B27-negative ankylosing spondylitis resulting in panclavicular ligament ossification—a 28-year follow-up

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A 32-year-old Japanese auto-mechanic spontaneously developed pain in his right clavicular region in 1968. He also had low back pain of insidious onset. Clinical investigations in 1975 revealed limitation of cervical and lumbar spinal motion, swelling and redness over the right clavicle, and dilatation of cutaneous veins over the anterior chest. CRP was 4.3 mg/dL and ESR was 104 mm/h, while rheumatoid factor was negative. Serum calcium was 7.8 mg/dL and serum alkaline phosphatase was 250 IU/L. Culture from an aspiration from the right clavicle yielded a few *Staphylococcus aureus;* however, the bacteriologists interpreted this finding as contamination from the skin.

He was seen, on average, once a year during the next 20 years with pain and redness in the right clavicular region. Each time non-steroidal anti-inflammatory drugs were given, resulting in temporary relief. Since 1992, he has had painless stiffness of the right shoulder joint. When examined by the authors in 1995, the elevation of the right shoulder was limited to 80°. In the Schober test, the mobility of the lumbar spine was 0 cm, and the chest circumference on deep inspiration was only 1.5 cm greater than that on expiration. Repeated blood tests invariably showed a high titer of CRP and elevated ESR. HLA antigen was positive for A24, A30, B61, CW3 and CW7, but negative for B27. Throughout the clinical course during 28 years, the patient had no skin lesions or eye, geni-