Extraarticular chondromatosis of the hand

A case report

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We present an uncommon case of large nonarticular chondromatosis of the hand. Some of the foci were found to cause compression of the median nerve, the ulnar artery, and also triggering of the third finger. The fourth lumbrical muscle was involved as well. A thorough, but not complete, excision with preservation of the median nerve and ulnar artery was performed. No recurrence was found during 5 years of follow-up.

Most cases of synovial chondromatosis involve large joints (Constant et al. 1974). Extraarticular lesions that originate from the tenosynovium, particularly in the hand, are less common (Ballet et al. 1984, Constant et al. 1974, DeBenedetti and Schwinn 1979, Jones et al. 1987, Karlin et al. 1981, Lynn and Lee 1972, Rockey 1963, Shepherd 1942, Trias and Quintana 1976, Villacin et al. 1979); in most cases the process originates from the articular synovium.

We report a multifocal lesion in the hand that clinically imitated a malignant neoplasm.

Case report

A 58-year-old woman presented with a 1.5-year history of a growing mass in her left hand, with numbness and paresthesia of the third and fourth fingers. There were two hard lumps (3 x 3 cm each), one in the middle of the palm and the other at the volar aspect of the forearm close to the wrist. Tinel's sign was positive over the lumps. There was triggering of the third finger. Allen's test revealed slow filling of the ulnar artery. Radiographically, there was a soft shadow at the volar aspect of the wrist.

The palm and the wrist region were explored through a volar incision. Two eccentric fusiform masses, appearing like clusters of stones, were found connected by a longitudinal thin cord. The palmar mass pressed and elevated the median nerve from below, enveloped its branches, displaced the ulnar artery, and penetrated between the flexor tendons and involved their sheath and the fourth lumbrical muscle. At the distal end of the forearm, the growth emerged from the sheath of the flexor tendon. It was impossible to excise the mass en bloc because of its intimate relation to important structures; therefore, some remnants of the mass were left in place.

The specimen consisted of multiple, white, firm cartilaginous fragments, with a total volume of approximately 10 cc. Histologically, the fragments were arranged in a nodular fashion along the tendon sheath. The nodules were separated from one another by collagenous connective tissue. The chondrocytes showed prominent pleomorphic and hyperchromatic nuclei. Multinucleated chondrocytes were scattered throughout the nodules. Mitotic figures were rare (Figures 1 and 2). A diagnosis of synovial chrondromatosis was made. A follow-up of 5 years revealed no evidence of recurrence.

Discussion

Tenosynovial chondromatosis is defined as idiopathic synovial metaplasia (Freund 1937), and is regarded to be a self-limited, benign lesion (Massey and Henderson 1949) that may behave aggressively locally (Sim et al. 1977).

Extraarticular lesions enlarge slowly and may be confused with soft-tissue chondrosarcomas. The histologic appearance of the intraarticular and extraartic-

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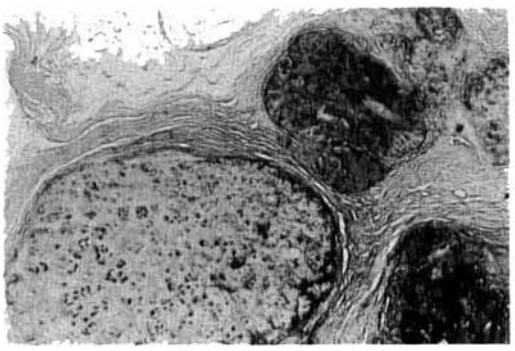

Figure 1. Photomicrograph showing multiple nodules of chondroid tissue with severe atypia in the synovia (HE, x24).

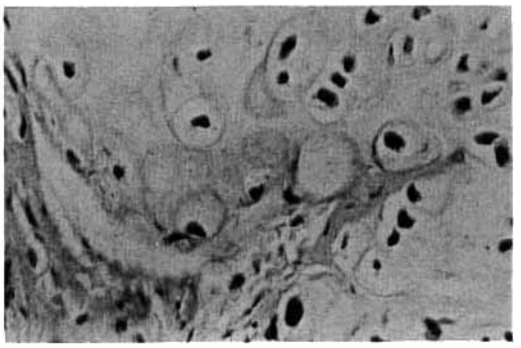

Figure 2. High magnification of chondromatosis showing details of nuclear atypia of the chondrocytes (HE, x240).

ular lesions is the same whether the sarcoma arises from the tendon sheath or synovial-tissue joint. In the hand the lesion is usually solitary. It appears more commonly near the wrist joint or the thumb (DeBenedetti and Schwinn 1979).

In our case the multinodular mass at the palm and wrist region had no obvious relation to any joint. It was intimately attached to the tendon sheath and compressed the median nerve and ulnar artery. Compression of peripheral nerves by synovial chondromatosis that originated from a joint synovium was described for the posterior interosseous nerve, the ulnar nerve at the elbow, and the median nerve at the wrist (Swan and Owens 1972, Jones et al. 1987). Another solitary case presented triggering of a finger (Rockey 1963). Because of anatomic-technical difficulties, our excision was incomplete.

Although spontaneous regression has been reported (Swan and Owens 1972), a regular follow-up is indicated.

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