

Primary Synovial Chondromatosis of the Wrist

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Abstract

Primary synovial chondromatosis is a rare benign neoplastic process which affects predominantly men between the third and fifth decades of life, characterised by the formation and growth of cartilaginous nodules. The knee is the most frequently affected site.

In the literature, the affection of the intracarpal site is extremely uncommon.

We report the case of a 44 year-old taxi man driver with a history of more than 1 year of pain and swelling of the left wrist (joint symptoms).

Based on clinical and radiological features, an initial diagnosis of primary synovial chondromatosis was made. Indeed, radiologic findings are pathognomonic. Radiographics, CT and MRI images show innumerable intra-articular calcifications, similar in size and shape, large deep pressure carpal bone erosions but joint spaces typically maintained. The synovium is hypertrophic with a lobulated aspect of equal signal intensity to that of muscle in T1WI. Nodules show a high signal intensity in T2WI, without enhancement in T1WI with contrast injection. There is no marrow invasion.

The patient undergoes synovectomy with removal of all the chondral bodies and the histology confirmed the diagnosis of primary synovial chondromatosis.

Macroscopic analysis shows an hyperplastic synovium with nodular projections of hyaline cartilage. Those lesions enlarge and detach to lie within the joint.

Microscopic analysis shows lobules of hyaline cartilage embedded in the synovium and cellular atypia suggesting a chondrosarcoma. Nevertheless, the presence of those atypia is typical of this benign disease.

Primary form has to be distinguished from the secondary one which is a very common abnormality seen in older patients who present radiologically an underlying disease (mechanical or arthritic conditions). In the secondary form, the nodules are smaller in number and variable in size. An other important differential diagnosis is chondrosarcoma.

Chronic forms of this disease may lead to secondary osteoarthritis. Recurrence rate ranges from 3 to 23% and malignant transformation is an extremely rare event.