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Case Study

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SHOULDER OSTEOCHONDROMATOSIS: A CASE REPORT

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ABSTRACT

Synovial chondromatosis is metaplasia of the synovial membrane of unknown origin and is a rare benign condition predominantly affecting the knee. We report in our work the clinical case of a patient who presents with late stage shoulder involvement with intermittent sensations of instability, blockage and creaking at shoulder mobilization. The diagnosis was made by simple x-ray demonstrating the presence of multiple clusters of calcified osteochondromas without osteoarthritis radiologic signs. He underwent extraction of foreign bodies through deltopectoral approach given the large number of osteochondromas and their multiple and diffuse locations associated with maneuvers of shoulder mobilization in circumduction and direct digital pressures, but without any synovectomy because of the late evolution stage of the ostechondromatosis in wich the synovial is quiescent. The first complication is the recurrence. it was not the case of our patient wich had good clinical and radiological outcomes. The ostechondromatosis should be treated as soon as possible before eventuel developpement of osteoarthritis.

KEYWORDS: Shoulder, osteochondromatosis, extraction.

INTRODUCTION

Primary synovial chondromatosis is a metaplasia of the synovial membrane of unknown origin, characterized by the formation of cartilaginous bodies (chondromas) or osteocartilaginous (osteochondromas) mainly in large joints in monoarticular mode with predilection of the knee.[1] And much more rarely in the shoulder[2], a bursa or a tendon sheath. The aim of our work is to emphasize the rarity of the disease of the shoulder by osteochondromatosis and to describe its diagnostic and therapeutic modalities.

OBSERVATION

A 32-year-old patient was consulted at the Rabat University Hospital, who had been consulted for chronic mechanical pain in the right shoulder which had been evolving for 6 years and marked by intermittent sensations of instability, blockage and creaking at shoulder mobilization. The physical examination was strictly normal with no visible or palpable swelling, joint mobility was maintained. The frontal x-ray of the shoulder (figure 1) made it possible to easily make the diagnosis by demonstrating the presence of multiple clusters of calcified osteochondromas and clearly visible at the level of the axillary hollow, neck of the scapula and the proximal end of humerus without concomitant signs of osteoarthritis. The patient underwent open surgery by deltopectoral approach given the large number of osteochondromas and their multiple and diffuse locations. We proceeded arthrotomy associated with the opening of the sheath of the long biceps tendon and of the serous bursa of the subscapularis muscle, followed by maneuvers of mobilization of the shoulder in circumduction and direct digital pressures adapted to each location to perform a complete extraction of all the ostechondromas which were multiple of rounded or oval shape with smooth cartilaginous surface (figure 2). The procedure was not completed with a synovectomy. The diagnosis, which was already evident on the x-ray and during the operation, was further confirmed by the pathological examination, which ruled out any malignant degeneration. The patient was in progressive stage 3. The postoperative x-ray was normal with no remains of osteochondromas. At 2 years of follow-up, the patient was asymptomatic with radiographs of the shoulder showing no recurrence.

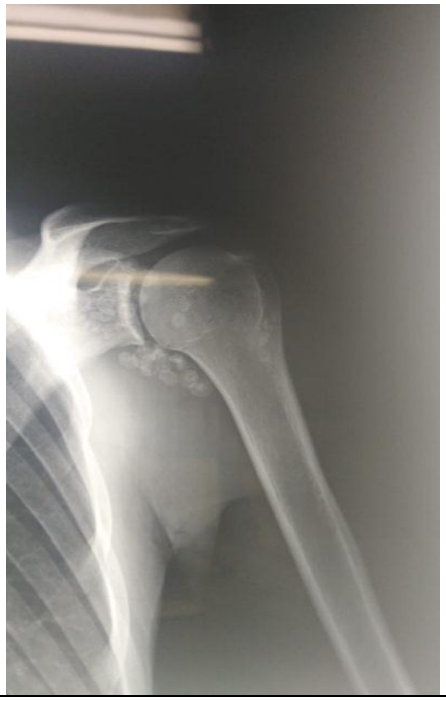

Figure 1 : shoulder frontal view demonstrating calcified osteochondromatosis.

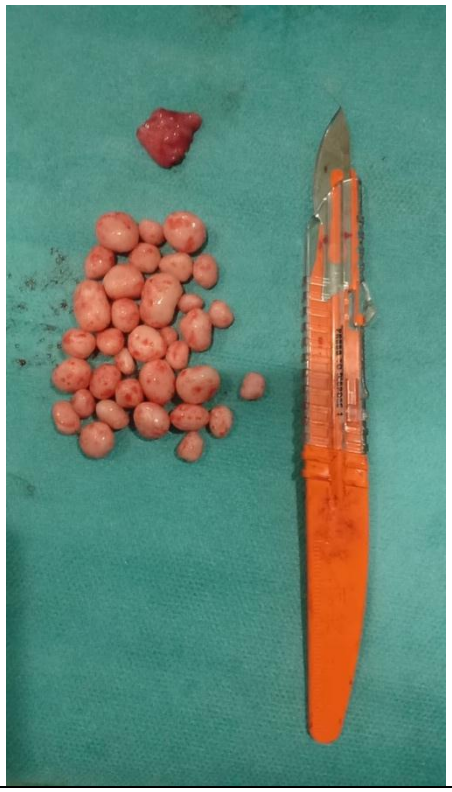

Figure 2 : osteochondromas after extraction.

DISCUSSION

Primary synovial chondromatosis is a rare benign synovial dystrophy[2] leading to the formation of cartilaginous bodies associated or not with calcifications assimilated as foreign bodies within a large joint where the knee presents its first preferred site. The attack of the shoulder is estimated at 5%[3] The disease typically affects young adults between 20 and 40 years old, male.[4] The triggering of the metaplastic process is still unknown, it would be secondary to a reaction of the synovial membrane to residual embryonic mesenchymal cells or to vasomotor and inflammatory reactions caused by microtraumas.[5] The pathological process of formation of osteochonromes passes through 3 evolutionary phases: the first phase corresponds to active synovial proliferation with intra-synovial cartilaginous foci; the second phase always corresponds to an active synovial metaplasia with the onset of detachment of chondromas in the articular cavity in the form of pedicled bodies; the 3rd phase corresponds to a quiescent synovium and trapping of osteochondromas in the form of foreign bodies in the articular cavity. The disease remains asymptomatic for a long time.[7] Probably because the chondromas tend to be confined in the articular recess where they are not or little disturbing which could explain the presentation of the majority of the patients with stage 3 of the disease. The diagnosis can be easy and made with a simple x-ray of the joint if the chondromas are calcified, sometimes it is difficult if no mineralization has occurred, leading to look for indirect signs on the x-ray which will be better found by an MRI[3], but diagnostic certainty can only be established by histology. The only effective treatment is the extraction of chondromas or osteochondromas openly or arthroscopically if possible.[7] Early surgical treatment helps prevent progression to early osteoarthritis.[6] It can be associated with a partial or total synovectomy, the main benefit of which is to reduce the risk of recurrence, however this gesture can be complicated by joint stiffness, the latter is indicated in stages 1 and 2 given the activity of synovial proliferation.[8] The main complication of osteochondromatosis is postoperative recurrence estimated at 7% -23%[9] due either to inadequate surgical treatment with incomplete synovectomy or to persistence of the stimulus triggering metaplasia.[5-10] On the other hand, malignant degeneration is a very rare complication.[11]

CONCLUSION

Primary synovial chondromatosis is a rare chronic arthropathy, even rarer in the shoulder, of a benign nature, its course is slow and asymptomatic, motivating the patient to consult at a late stage of the disease. The diagnosis is based on standard radiography if calcified osteochondromas, if not on MRI, however diagnostic certainty can only be conferred by histologic examination. Treatment is based on the extraction of foreign body associated with syncectomy indicated in the first 2 stages of development. The main postoperative complication is recurrence.

Consent

The patient has given their informed consent for the case to be published.

Competing Interests

The authors declare no competing interest.

Authors 'Contributions

All authors have read and agreed to the final version of this manuscript and have equally contributed to its content and to the management of the manuscript.

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