Synovial hemangioma of the elbow: A case report
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ABSTRACT
Synovial hemangioma is a benign neoplastic formation originating in the synovium. They are most frequently seen in the knee at a rate of 60% both in adolescence and early adulthood. Here we are presenting an older patient with synovial hemangioma of the elbow.

Key words: Synovium, hemangioma, elbow

Introduction
Synovial hemangioma, which originates in the vascular structures within the connective tissue covering the synovial epithelium and contains bursae with the intra-articular surface, is in the true sense a benign neoplastic formation originating in the synovium [1]. It was first described by Bouchut in 1856 and to date fewer than 200 cases have been reported in the literature. Although this benign tumor may be seen in several areas of the locomotor system, they are most frequently seen in the knee at a rate of 60% both in adolescence and early adulthood [1]. The patient often presents with complaints of localized pain, sensitivity, reduced range of motion of the joint and hemarthrosis. Due to findings from non-specific physical examination and conventional radiographs, synovial hemangioma is an often misdiagnosed lesion.

As synovial hemangioma of the elbow is rarely seen, there are few studies in literature[1-3]. The case is presented here of an older patient with synovial hemangioma of the elbow, which is a disease often overlooked or misdiagnosed.
Case Report

A 50-year old Caucasian presented at our clinic with complaints of a gradually developing painful swelling in the right elbow. There was no history of trauma. On physical examination a subcutaneously mobile, sensitive, soft mass, approximately 5cm in diameter was determined in the posterior of the right elbow. Elbow flexion was restricted to 120° because of pain. No pathology of the bone or soft tissue was determined from direct radiographs.

With a diagnosis made of bursitis, the joint was injected and approximately 50cc haemorrhagic fluid was drained. A compressive bandage was applied and the patient was discharged. After 3 weeks the patient presented again with the same complaints and surgery was planned. Under general anaesthesia, the mass was completely excised. As the lesion did not resemble bursitis macroscopically, it was referred for pathological examination. The patient was kept in the hospital for one day post-surgery, then discharged. When the postoperative oedema had reduced, active elbow movements were started. The patient resumed daily activities without any problems. From the pathology report seen 15 days post-operatively, the lesion was histopathologically determined to be of a cavernous hemangioma pattern formed of extensive thin-walled vascular structures (Figure 1-2). At the end of one-year follow-up, no findings of recurrence were determined.

Discussion

Synovial hemangioma is a rarely seen vascular tumor that often occurs in the knee. It is less frequently seen in the elbow, ankle, wrist and fingers[1,4]. The mean age range has been reported in the literature as 19-25 years [1,3]. Cases seen at a later age are generally reported to have symptoms going back to childhood [1].

When the etiology is examined, considering that most lesions occur at a young age, synovial hemangioma can be stated as a type of vascular malformation. It has also been reported that there is no relationship with trauma pathogenesis.

Pathologically differential diagnosis should be evaluated taking into account pigmented villonodular synovitis, non-specific synovitis, organized haemorrhage and angiomatosis [1]. On direct radiographs, PVNS in particular shows characteristics similar to synovial hemangioma [3].

Histologically, hemangioma type may be capillary (25%), cavernous (50%), mixed (20%) or purely venous (5%) [1]. Those within the synovial membrane
Synovial hemangioma

are mostly mixed capillary and cavernous types.

The normal vascular pattern of tissue is preserved in hyperplastic lesions such as synovitis and in reactive situations. Sometimes this reactive increase is seen as a myxoid change around the vessels but this finding is not observed in synovial hemangioma. In addition, in diagnosis, the entity with the highest risk of recurrence is pigmented villonodular synovitis [1]. Previously characterized as reactive, more recently this entity has started to be viewed histologically and cytogenically as neoplastic in origin. In PVNS lesions, histiocyte proliferation and multinuclear giant cells are seen in a layered manner in the deep stroma. This finding is not expected in synovial hemangioma [1,5]. Whereas few dilated vascular structures can be seen in organized haemorrhage, wide, cavernous, thin-walled vascular structures are a finding of hemangioma [1].

Clinical diagnosis is made prior to surgical exploration in only 22% of cases of synovial hemangioma [1]. In the case presented here, a diagnosis of bursitis was initially made and when a recurrence developed immediately after puncture, the surgically obtained material was examined pathologically and the diagnosis could be made. In addition the case presented here is an even more rare type of an uncommonly seen lesion in terms of location and age group.

In conclusion, it is necessary to make a differential diagnosis from several different lesions clinically, radiologically and pathologically. Although it was not used in this case, MRI is useful in determining the size and spread of the lesion and even provides information about the structure. In MRI studies intra-articular or juxta-articular mass of intermediate signal intensity on T1-weighted images and of high signal intensity of T2- or T2*-weighted images with low-signal channels or septa can be seen [1]. After total excision, the prognosis is excellent for patients who are followed-up and the rate of recurrence is extremely low.

References

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