

A Left Asymptomatic Supraclavicular Cystic Mass

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Abstract

A – 19 year – old men was referred to our Surgical department with a 4 – month history of an asymptomatic swelling in the left supraclavicular fossa. The patient a few months ago, carried sacks of cement. The left supraclavicular fossa was enlarged by a clearly delineated, elastic fluctuating swelling with a diameter of 10-12 cm, spreading infraclaviculary. The ultrasound examination confirmed an infraclavicular spreading and revealed a hypoechogenic echo-free mass of the size of 10x15 cm, clearly outlined and no internal perfusion was found by color-coded Doppler investigation. The blood count and biochemical tests were normal. The histologically examination was found the presence of a tissue characteristic for a synovial cyst and a diagnosis of acromioclavicular cyst was made. Treatment of synovial cysts was surgical with surgical resection of the cyst.

Keywords: Supraclavicular fossa; Acromioclavicular cyst; Synovial cysts

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fossa contribute to the diversity of pathologies founded in this anatomic region [1]. Masses of the supraclavicular fossa could be malign or benign, congenital or acquired and localized or systemic processes. We present a case of acromioclavicular cyst developed into the left supraclavicular fossa.

Case Report

A -19- year old men attended our outpatient department because of a 4-month history of an asymptomatic swelling in the supraclavicular fossa. The patient in a few months ago, carried the sacks of cement. His family history was unremarkable. Upon physical examination, oval, elastic, well-defined with a smooth surface and fluctuant mass of 12/15 cm was palpable on the left supraclavicular region of the lateral neck. The overlying skin was normal. We did not find any regional lymphadenopathy or goitre.

Preoperative Examination

Routine blood tests and urine examination showed no abnormalities. Imaging techniques (ultrasonography) suggested an unilocular cystic mass. The ultrasound examination was revealed a hypoechogenic mass of the size of 10x15 cm, sonocompressible, encapsulated without Doppler signal internally, and no internal perfusion was found by color – coded Doppler investigation. Palpation of the rotator cuff reveals no defect. Rotator special tests did not reveal any pathology of the rotator cuff rupture.

Introduction

Cystic masses of supraclavicular fossa are uncommon and the multiples of structures adjacents to the supraclavicular

Surgical Findings

The patient underwent surgery with a preoperative diagnosis of cystic tumor. After of a 8- cm long transversal incision located above the clavicle in the left supraclavicular fossa, the platysma and superficial fascia were cut (Figure 1). A cyst was observed between in the clavicle and trapezius muscle. The wall of the cyst was thin, elastic and sharply outlined. The cyst was punctured intraoperatively and removed 120 ml of serous yellow fluid. The cytological examination of the aspirated fluid releaved only lymphocytes, erythrocytes and macrophages. The chemical analysis was not characteristic for chyle so that lymphangioma and thoracic duct cyst were excluded. The acromioclavicular joint was observed immediately below the cyst. The cyst was readily dissected and resected near to the acromioclavicular joint (Figure 2). A two-layer wound closure was performed after hemostasis. A suture drain remained in place for 48 hours and the patient was discharged after 3 days postoperatively without any complications.

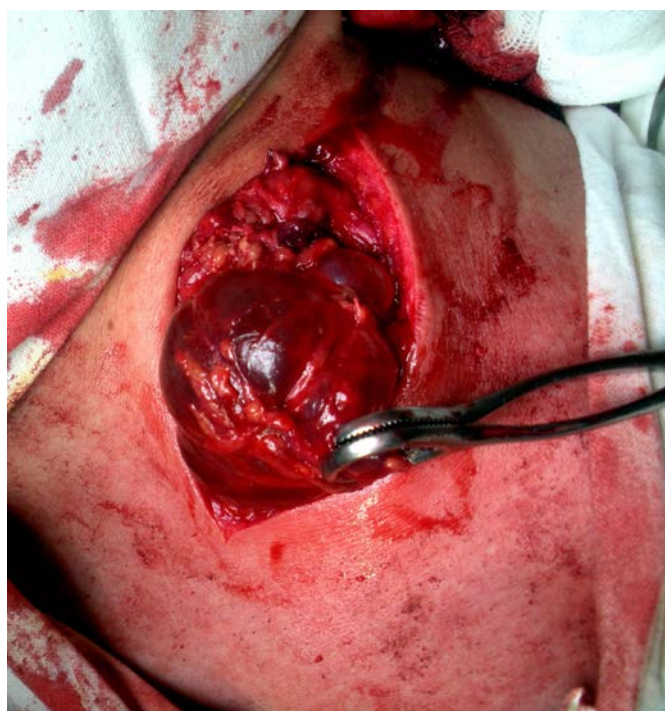


Figure 1 - After dissection of platysma muscle and cervical superficial fascia we noticed synovial cysts between the clavicle and trapezius muscle.

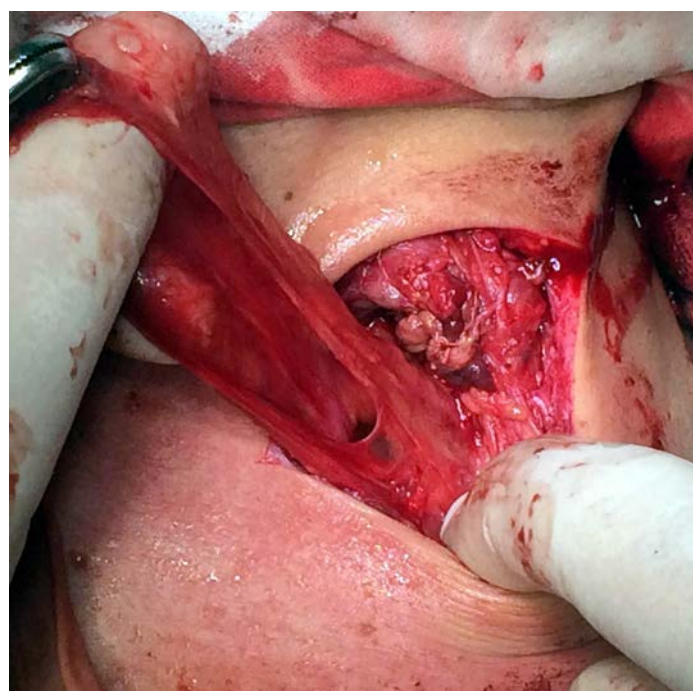


Figure 2 - Synovial cysts was dissected and resected near the acromioclavicular joint.

Resected Specimen

The tumor was elastic and soft measuring 10x15 cm. The cyst was unilocular one (Figure 3). Smooth muscle bundles were discontinuously observed around the wall of the cyst. There were no findings suggestive of malignancy. The histologically examination was found the presence of a tissue characteristic for a synovial cyst. Cyst wall was composed of simple cubic epithelium and in cyst wall was found fibrocollagen tissue arranged in bands and also adipose tissue composed of mature adipocytes (Figure 4, 5). Based on these findings, a diagnosis of acromioclavicular cyst was made.



Figure 3 – Piece resection revealed a cyst measuring 10x15 cm

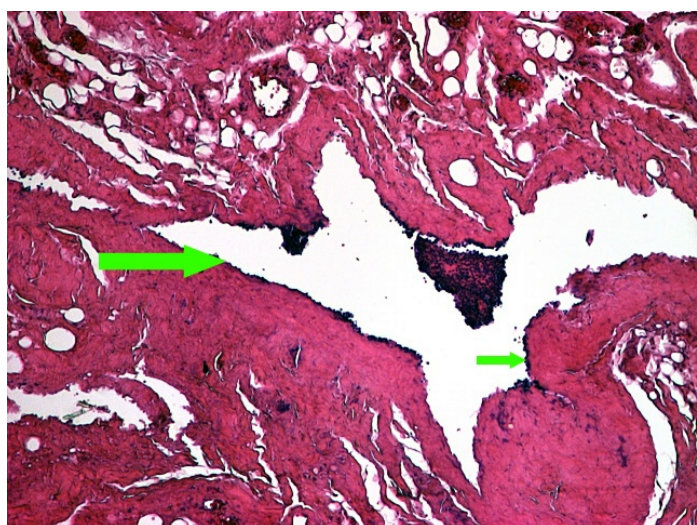


Figure 4 – Hematoxylin-eosin stain, x40. Cyst wall consists of simple cuboid epithelium (green arrows)

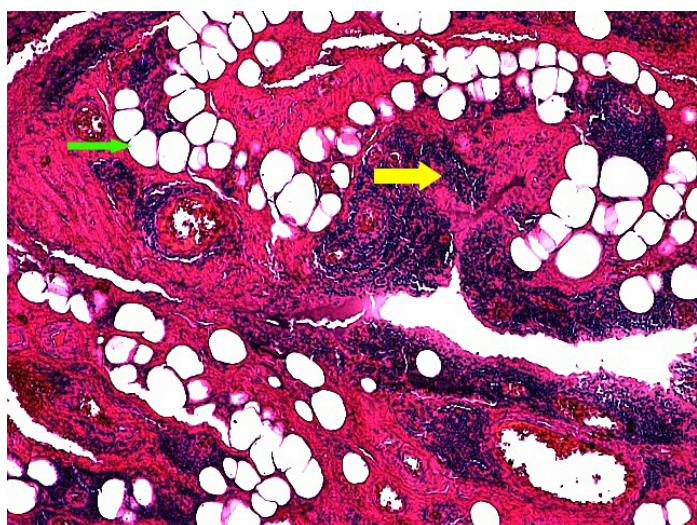


Figure 5 – Hematoxylin-eosin stain, x40. The cyst wall is composed of mature adipocytes adipose tissue (green arrow) and tissue fibrocollagen arranged in bands (yellow arrow).

Postoperative evolution was favorable without incident. The follow-up examination at interval of 3-months revealed no clinical indication of recurrence (Figure 6). The orthopedic examination and MRI did not discover any pathology of the rotator cuff rupture 5 months after surgery.



Figure 6 - Postoperative appearance at 3 months after surgery.

Discussion

Swelling in the left supraclavicular region has so many causes such as malignant tumors, thoracic duct cyst or atypical cysts of the lateral neck region [2-5]. Clinical data, disease history and anatomic position and CT or MRI images are unapproachable correct diagnosis in many cases. Surgery is only necessary for diagnosis in selected cases [3, 6, 7].

The most common benign lateral cervical cysts are branchial cleft cysts, dermoid cysts, teratoma, epidermoid cysts and cystic hygromas. About 13% of all lipomas occur in the head and neck but this benign encapsulated fatty lesion is typically subcutaneous in location [5].

Cystic lymphangioma is a benign congenital malformation of the lymphatic system commonly seen in children. The three variants which have been described are: capillary – characterized by small thin walled vascular channels; cavernous – large channels with fibrous coat and cystic – large endothelial lined spaces [8]. The most common sites of lymphangioma are in the posterior triangle of the neck [9]. Cystic hygroma is a rare differential diagnosis in adult neck masses and should be considered for the adult patients who have neck masses.

Supraclavicular thoracic duct cyst are a rare entity and it is found in the left supraclavicular region. Lymphocele of the thoracic duct, alternatively referred to as thoracic duct cyst, is uncommon abnormality that can present occasionally as a left supraclavicular mass [5].

Thyroglossal duct cyst are characteristically located in the midline of the anterior neck above the thyroid cartilage. Ectopic thyroid tissue is reported in 7% of adults [10] and is frequently found along the course of thyroglossal duct or around the two lobes of the gland. In appearance of a lateral neck cyst, the possibility of malignancy of the lesion, the occurrence of a branchial cyst including thyroid ectopic tissue, and the presence of a primary thyroid carcinoma in this lesion, have to be taken into account [11,12].

Branchial cysts are frequently forgotten in the differential diagnosis and incorrectly diagnosed. The presence of cholesterol crystals and/or epithelial cells in the aspirate will suggest the diagnosis of branchial cyst. Anomalies of the third and fourth branchial clefts are relatively uncommon and the distinction between third and fourth branchial anomalies remains controversial, primarily because both lesion similarly present around the piriform sinus [13]. These anomalies are typically found in the lower neck, in a suprasternal or supraclavicular location [14].

Giant synovial cyst in left supraclavicular region occurred in a young adult, as presented our case has not been reported in the literature. Synovial cysts are a simple herniation of the joint capsule and distinguished from ganglia on the basis of a synovial membrane, but these terms are loosely applied because imagines findings are similar and secondary changes in the capsule may make histologic differentiation difficult, if not impossible [15]. Both ganglia and synovial cysts may communicate with the acromio-clavicular joint and this findings does not help in differentiating between these two lesions [16]. However, this information should always be reported to the referring physician because failure to resect such a communication invariably leads to recurrence [17-19]. It

should be emphasized that since ganglia has no epithelial lining, these lesions are actually pseudocysts, not true cysts.

The acromioclavicular joint ganglion is a common benign pseudocystic lesion filled with gelatinous material that communicates with the joint space [20-22]. The wall of these lesions is composed of multidirectional strata of collagen and has no synovial membrane. The most cases of acromioclavicular joint ganglion occurred in patients with associated rotator cuff tear [23].

The pathogenesis of acromioclavicular joint ganglion is enigmatic. In the first proposed mechanism, joint abnormalities lead to altered biomechanics weaken the joint capsule and eventually cause leakage intra-articular fluid, into periarticular tissue and intra- and extra-articular fluids communicate via a pedicle, which contains a one-way valve mechanism [24]. In the second proposed mechanism, the ganglion results from an extra-articular degenerative process and the gelatinous material represents the final end-product of a myxoid change in collagen or connective tissue that subsequently forms a pedicle and communicates to the joint [25]. In the third proposed mechanism joint stress stimulate hyaluronan secretion by the mesenchymal cells located adjacent the joint capsule [15]. The accumulation of the fluid eventually induces the formation of a pseudocapsule lined by collagen from compression of surrounding tissues. The differential diagnosis of a palpable lump located over the acromioclavicular joint includes: osteophytes, synovial cysts and supra-acromial bursitis [16]. Shoulder cysts are rare, typically occurring in adults, developing the glenohumeral and acromioclavicular joints. They occur in the course of inflammatory or degenerative arthropathy and often associated with rupture of the rotator cuff [2, 6, 26, 27]. Synovial cysts occur more frequently in the following conditions: rheumatoid arthritis, seronegative spondyloarthropathies or osteoarthritis. Treatment of synovial cysts may be conservative or surgical. Conservative treatment is indicated in elderly patients with acceptable joint function, but surgical resection of the cyst is often necessary [26, 28].

Conclusion

Supraclavicular cystic masses are uncommon findings in young adults. The consideration of a variety of uncommon and rare diseases should be considered when CT, MRI or ultrasound suggests their existence. A thorough knowledge of supraclavicular fossa anatomy and surrounding regions can be helpful in developing a differential diagnosis.

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