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Subclavicular Hibernoma: A Case Report and Literature Review

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Abstract **Case Report**

Hibernoma is a rare and little-known benign tumor. Through this article, the authors report a case of supraclavicular region hibernoma in a 28-year-old patient. The diagnosis was made by the histological examination on an ultrasound-guided biopsy specimen and the patient then benefited a surgical resection which allowed him to effectively resume his activities. At last follow-up, our patient presented no complications or recurrence.

Keywords: Hibernoma, benign tumor, supraclavicular.

INTRODUCTION

Hibernoma is a rare lesion, first described by Merkel (in 1906) and named by Gery in 1914, referring to animals that hibernate. This lipomatous tumor develops from the brown fat remains and is most commonly seen in the thigh, interscapular region, neck, armpits, heart, kidneys, and sometimes around the large vessels [1]. A supraclavicular location has not yet been reported in the literature.

We report a case of supraclavicular region hibernoma in a 28-year-old patient whose discovery mode was based on regional swelling

CASE REPORT

It was a 28-year-old man, active, right-handed, with a history of left clavicle fracture treated orthopedically (7 years ago), who consulted for left supraclavicular region painless swelling with an asymmetry noticed for 18 months. This mass increased in size over the last 6 months. The patient reported discomfort in arm abduction. There was no fever or general condition deterioration. Clinical examination noted a firm mass, mobile relative to the deep and superficial planes, approximately 14 cm long axis, non-pulsatile, without collateral venous circulation (Fig.1). There was no locoregional lymphadenopathy or vasculonervous damage.

A standard x-ray shows the outline of a soft tissue mass with a bony callus in the middle tier (Fig.2). An ultrasound revealed a lipomatous, hyperechoic, homogeneous and encapsulated mass, measuring approximately 12 x 6 cm, without adhering to neighboring structures (Fig.3).

The patient had undergone an ultrasound-guided biopsy. The histological examination of which was in favor of a hibernoma (Fig.4). He then underwent a monobloc surgical excision (Fig.5). At the last follow-up of 10 months, the patient presented no complications or recurrence and had resumed his professional activities.

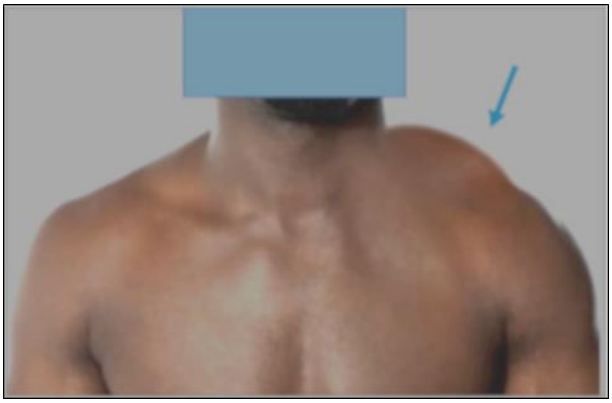

Figure 1: Clinical appearance. Swelling at the left supraclavicular level

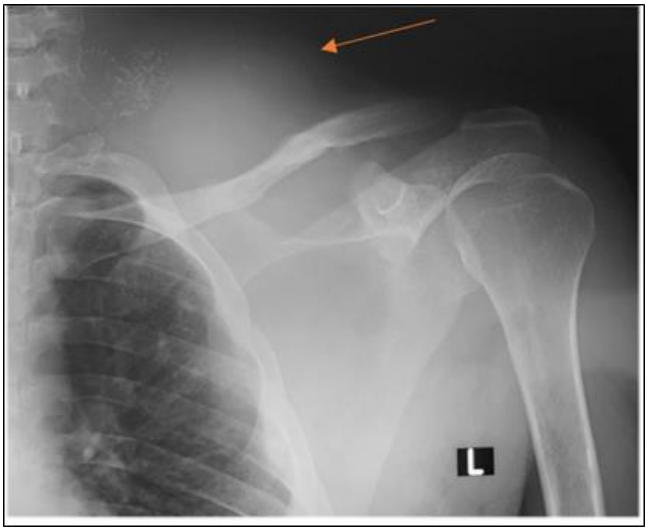

Figure 2: X-ray of the shoulder: contour of the mass depending on the soft tissues and malunion of the clavicle

Figure 3: Ultrasound appearance of the mass, located above the clavicle

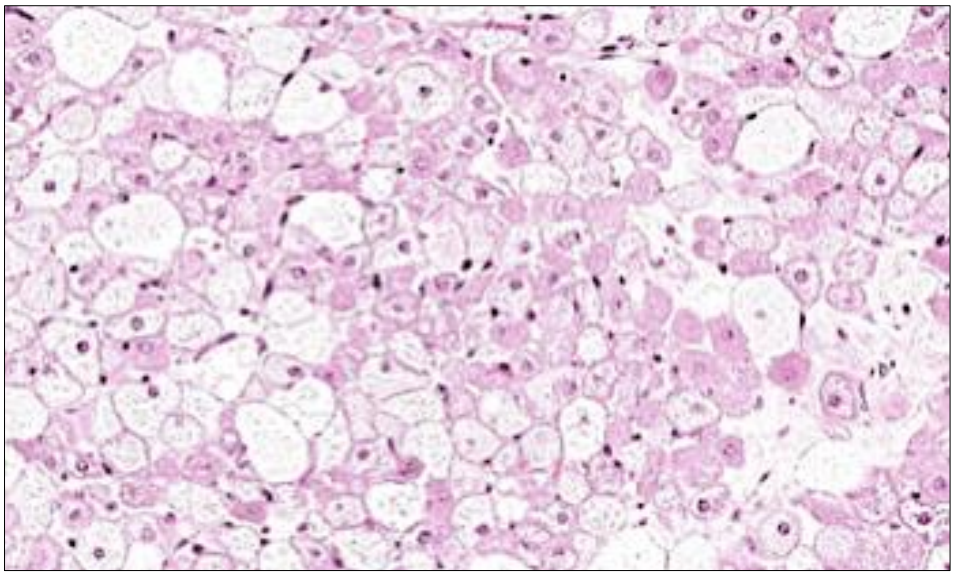

Figure 4: Histological section of the mass (Hx200, hemalun-eosin staining): Presence of mature adipocytes, eosinophilic cells, and multi-vacuolar cells

Figure 5: Encapsulated mass sent for additional histological study after resection

DISCUSSION

Hibernoma is a benign tumor that develops from fetal brown fat. Vestiges of this fat can persist in adults, particularly in the mediastinum, neck and axilla, sometimes leading to the occurrence of this tumor. This tumor can grow beyond the vestigial areas. This may be either an ectopic growth of brown fat or migration from brown adipose tissue [2].

Several locations have been reported in the literature since its first description in 1906. Some superficial, others deep [3-12], but this case is the first reported about supraclavicular region.

Clinically, this lesion has no specificities. It interests patients aged 20 to 40 years [6], like our patient (28-year-old). When clinical signs are present, they are limited to a swelling of firm consistency, which can be slightly painful in the event of compression of nearby structures. Some authors report weight loss due to excessive thermogenesis by intense carbohydrate and lipid catabolism [1-14]. In deep locations, the hibernoma can be revealed by relative discomfort, or during an imaging assessment.

The ultrasound description points towards a lipomatous mass, which is richly vascularized on Doppler [15]. On computed tomography (CT scan), the hibernoma normally appears as a hypodense mass, heterogeneous due to the vascularization. [11, 12]. On magnetic resonance imaging (MRI) we can see an intermediate signal between the striated muscle and the fat, slightly hypo signal in T1 and heterogeneous hypersignal in T2 with non-homogeneous areas of hypo signal within the tumor. The density increases with the injection of gadolinium. There is an important element, the non-effacement on the fat saturation sequences, causing this tumor to be confused with a liposarcoma [8-18]. Hence the importance of a first biopsy, each time the mass exceeds 5 cm.

In our patient, given the histological nature (absence of malignancy) of the lesion after ultrasound-guided biopsy taken immediately during the ultrasound, it was not necessary to perform an MRI.

Histological examination on the biopsy specimen establishes the diagnostic, thereby eliminating tumors that could be confused with hibernoma, which are: angiolipoma, spindle cell lipoma, pleomorphic lipoma, lipoblastoma, elastofibroma, liposarcoma, clear cell sarcoma and alveolar sarcoma [2-20].

CONCLUSION

Hibernoma is a relatively rare benign tumor. Its management must follow the same steps as the other benign ones, including histological examination in order to rule out malignancy. The hibernoma prognosis is generally good.

Conflict of Interest: The authors declare no conflict of interest related to this work.

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