

HIBERNOMA OF THE NECK: A CASE REPORT

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ABSTRACT

Hibernoma denotes a tumor derived from brown fat. It is an uncommon tumor that has been described only in a few case reports and small series. Although it is usually found in the interscapular region, it has also been reported in sites where brown fat is less common. Only a few cases have been described in the neck region. We report a case of 47 years old man who was admitted with history of a mass in his posterior cervical region. Upon surgical excision, a soft encapsulated mass was found which pathologically was consistent with hibernoma.

Key Words: *Hibernoma, Brown adipose tissue, Adipocytic tumor.*

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INTRODUCTION

The term hibernoma was introduced by Gery in 1914 to describe a specific type of fatty tumor which bore a strong resemblance to the hibernating glands of certain mammals¹. Hibernoma is a rare benign tumour arising from remnants of fetal brown adipose tissue. It is usually seen in adults between 20-50 years². The distribution of this tumour follows the sites of persistence of brown fat and occurs in a wide range of locations including thigh, shoulder, axilla, mediastinum, neck, back, abdomen/retroperitoneum, and buttock³⁻⁵. A large series of 170 cases of hibernomas were reported by Furlong et al³. It was reported that the most frequent site was the limbs.

Neck is a rare location, were it has been reported in posterior triangle⁶. Only 18 cases of cervical hibernoma have been reported to our knowledge in the literature⁷.

Hibernoma accounts for 1.6% of benign lipomatous tumor and about 1.1% of all adipocytic

tumors. The aetiology is unknown⁸. They resemble vestigial fat organ cells analogous to those of hibernating animals in which this tissue is believed to have a thermo-regulating function⁹. This case report describes the presence of Hibernoma in a 47 years old male.

CASE REPORT

A 47 years old male presented to us with a history of left neck mass in his posterior cervical region for 4-5 months that has been enlarging progressively. He had no complaint of pain and was free of any associated symptom. There was no history of weight loss, dysphagia and/or dyspnea. On physical examination, he had a firm, round mass sized 8x5 cm in lower part of posterior triangle of left side of neck. There was no tenderness or lymphadenopathy. The systemic examination was unremarkable.

All the laboratory investigations were normal. Ultrasound examination showed well defined hyperechoic, non vascular solid mass lesion. Magnetic Resonance Imaging (MRI) showed a well defined tumor that measured 8x5x4cm with multilobulated septations. On T₁, it was heterogenous and hypointense to surrounding subcutaneous fat with increased vascularity around the tumor. There was no invasion of the underlying muscles or blood vessels and no pathologic cervical lymphadenopathy was seen.

The patient then underwent two fine needle aspiration cytology under local anesthesia (because the patient was anxious). Cytological examination of the specimen showed features of hemangioma in the first sample (blood cells only), and angioliipoma in the second one (blood cells with mature adipocysts).

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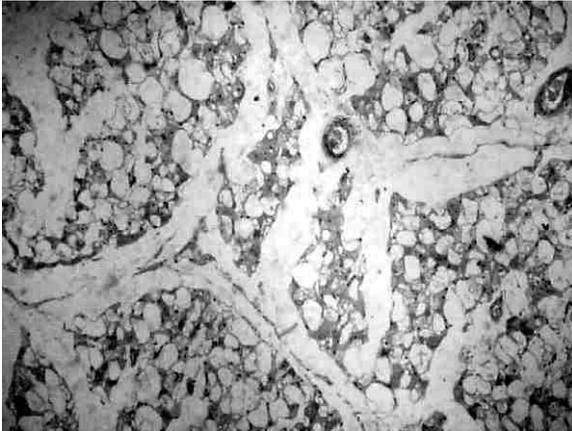
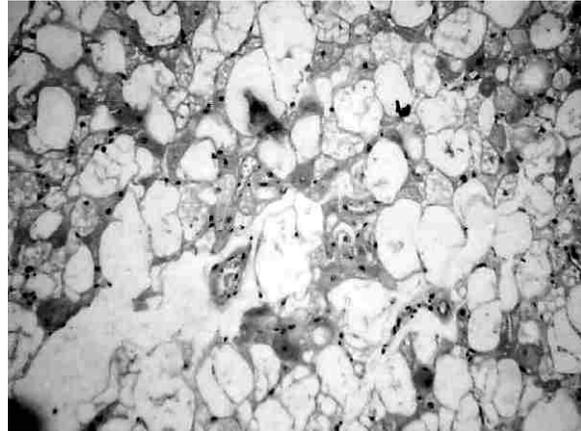
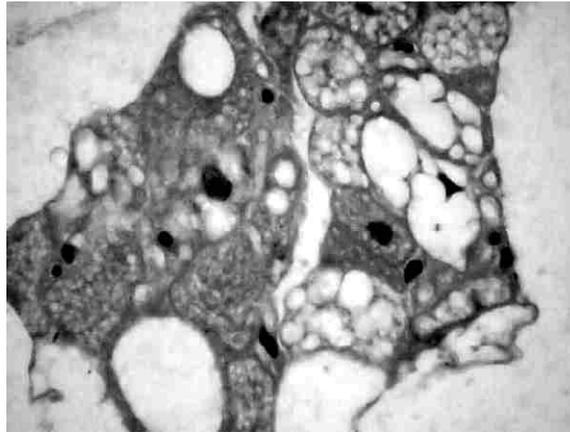
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Figure 1: Histopathological features of Hibernoma**A- Multilobular structure****B- Multivacuolated cells****C- Centrally placed nuclei with coarse, granular eosinophilic cytoplasm**

The patient was prepared for surgery. Under general anesthesia, a horizontal incision was performed at the left posterior triangle of the neck over the mass and dissection of the mass from surrounding tissues was carried out. The tumor was resected preserving its capsular continuity. A Radivag drain was inserted and the wound closed in layers. After removing the drain, the patient was discharged from the hospital on the first post-operative day. Skin stitches were removed on the ninth post-operative day. There was no evidence of recurrence after 18 months of follow up.

Histopathological findings, macroscopically showed well defined round lobulated mass measuring 8×5.5×5cm with red brown cut surface and soft consistency. Microscopically, it revealed organoid growth of benign adipocytes and multivacuolated cells with multiple small lipid droplets and centrally placed nuclei with coarse, granular eosinophilic cytoplasm, mixed with normal fat cells (Figure 1).

DISCUSSION

Brown fat is found in humans during weeks 21–24 of fetal life in various locations, including the neck, axilla, paraspinal region, mediastinum and retro-peritoneum, therefore hibernoma is also called as lipoma of immature fat or fetal lipoma¹⁰. The amount of brown fat normally diminishes in volume shortly after birth, but it may persist in these locations. Hibernomas can occur in any place where the brown fat remains like our case of a 47 years old man with a large soft tissue mass in the posterior triangle of the neck which was slowly and painlessly growing, while the patient was asymptomatic. This meets with other reported studies^{11,12}.

Hibernoma is slightly more common in females than males^{3,12}, however, our case was that of a male patient. Macroscopic and microscopic appearance of the sample of our patients was consistent with other reported cases of hibernoma^{3,9}. MRI study showed particular

characteristics similar to the report from Chen et al¹³. This appearance sometimes may confuse the diagnosis with liposarcoma or lipomatous soft tissue tumors. This may need computed tomography guided biopsy or incisional biopsy for a definitive diagnosis^{5,11}.

Complete surgical excision of hibernoma is the curative treatment, and no recurrence or metastases has been reported in our patient after 18 months of follow up which is in accordance with other studies³ that revealed no recurrences or evidence of malignant behaviour even after a mean follow up of 7.7 years.

CONCLUSION

Hibernoma is a rare tumor and neck is rare site. Surgical excision is the curative treatment with no need for chemotherapy or radiotherapy. The prognosis is usually excellent.

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