

Hibernoma Of The Neck: A Case Report And A Review Of The Literature

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Citation

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Abstract

Hibernoma denotes a tumor derived from brown fat. It is an uncommon tumor has been described only in a few case reports and small series. The distribution of this tumor follows the sites of persistence of brown fat. 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 head and neck region. Hibernomas are usually asymptomatic and slow growing. Adequate treatment consists of complete excision. We report an additional case of neck hibernoma and review the related articles.

INTRODUCTION

Hibernoma is a benign tumor of brown fat [1]. In adults, scattered brown fat deposits are most commonly found in the subcutaneous regions of the back, especially between the scapulae, and within the axilla, thorax, and mediastinum [2]. Hibernomas are more frequently found in the interscapular region, but a few cases have been described in other sites such as scalp, parotid region, submental space, larynx, mediastinum, and neck [3,4,5,6]. We present a new case of cervical hibernoma, explain its pathologic features, and review some of related articles

CASE REPORT

The patient was a 45 years old woman with a history of neck mass in her posterior cervical region from 4-5 months ago that had been enlarged progressively. The patient was referred to general surgery clinic of SHOHADA-E-TAJRISH hospital. She had no complaint of pain and was free of any accompanying symptoms. There was not any history of weight loss, dysphagia, and dyspnea. On physical examination, she had a firm, round mass sized 6x6 cm on her occipital crease fixed a posterior scalp and neck. Tenderness and significant lymphadenopathy were not found. All systems were normal on physical exam.

On MRI there was a soft tissue mass adherent to lower portion of occipital bone without bone destruction (Figure 1a).

Figure 1



Figure 2



There was no positive finding in routine laboratory data.

After complete preoperative investigations, the patient was prepared for surgery. Under general anesthesia, a horizontal incision was performed at the occipital crease just over the mass and dissection of the mass from surrounding tissues was carried out. There were loose adhesions to occipital periosteum which were dissected and the tumor was resected preserving its capsular continuity. Tumor contained homogenous yellowish-brown tissue on sectioning with a blade (Figure 1b) and encapsulated. After a closed drainage and subcutaneous tissue repair, we sutured skin and after extubation, the patient was transferred to surgery ward. The patient was discharged from the hospital the day after operation, after removing her drain. 7 days later we removed skin sutures.

HISTOPATHOLOGICAL FINDINGS

Macroscopically the tumor was a well-defined, round mass with soft consistency and tan color measuring 8x5x3 cm. Microscopically it was a neoplastic lesion with lobular pattern and composed of cells that show varying degrees of differentiation, ranging from uniform, round to ovoid, granular eosinophilic cells with a distinct cellular membrane to multivacuolated cells with multiple small lipid droplets and centrally placed nuclei. There were also few intermixed univacuolar cells with one or more large lipid droplets and peripherally placed nuclei resembling lipocytes. Cellular vacuoles were positive for red oil O1 staining (fig 2).

Figure 3

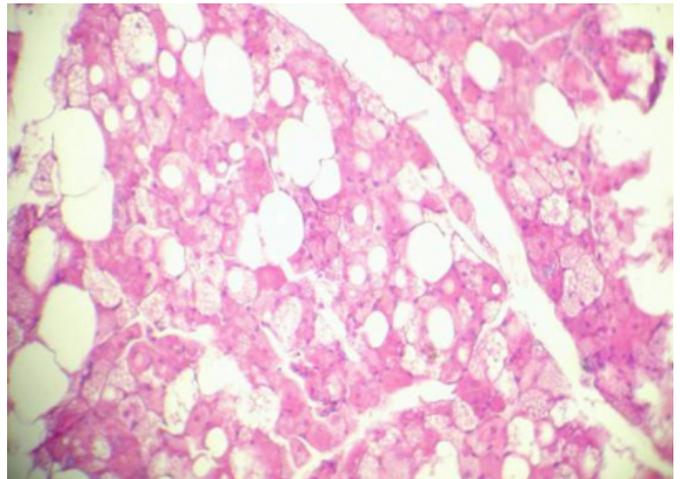
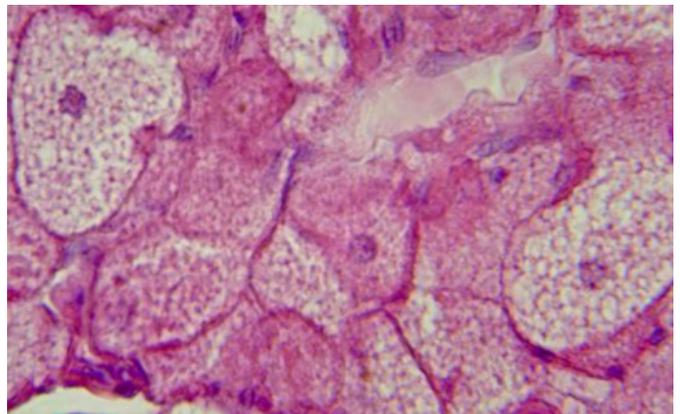


Figure 4



DISCUSSION

Hibernomas are rare benign tumors that arise most often in adults from the remnants of fetal brown adipose tissue [4]. This entity was first recognized in 1906 [3]. However, Gery was the first to coin the term hibernoma, in 1914 [7]. Physiologically, the function of brown adipose tissue is to produce heat, which is then transferred by the blood to the rest of the body [6]. Clinically, hibernomas present as firm, freely movable, nontender masses. They grow slowly, and although they may reach dimensions of up to 20 cm, most hibernomas are between 5 and 10 cm in maximum diameter [2]. These tumors occur mostly in the third or fourth decade of life with no predominance of sex distribution [4]. Typically, hibernomas are asymptomatic and slow growing [6]. Hibernomas have computed tomography and magnetic resonance imaging appearances similar to other fibrous and lipomatous tumors; therefore, histopathological analysis is always necessary for a correct diagnosis [8]. The tumor has a brown capsule, and the cut surface has a classic tan-brown

appearance [6]. . Microscopically, the tumor displays a lobular arrangement of rounded or polygonal cells classifiable in three types: (a) large, multivacuolated cells with eosinophilic granular cytoplasm; (b) small, rounded cells with granular cytoplasm; and (c) large, univacuolated cells with peripheral nuclei, resembling mature adipocytes [6]. Although these tumours are always benign, they tend to grow to large sizes, sometimes causing compression of the neighboring structures, so that surgical excision is always recommended [4]. The prognosis is excellent, and metastasis of a hibernoma has not yet been reported. To date, recurrence has not been described after complete local excision, which is therefore recommended as the treatment of choice [6].

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References

1. Brines et al: Hibernoma - special fatty tumor. *Am. J. Pathol.* 25: 467-479, 1949
2. Apatenko AK, Poroshin KK, Smoliyannikov AA. Hibernoma. *Neoplasma* 1966; 13:89-97
3. Mary A. Furlong, M.D.; Julie C. Fanburg-Smith, M.D.; Markku Miettinen, M.D: The Morphologic Spectrum of Hibernoma A Clinicopathologic Study of 170 Cases. *Am J Surg Pathol* 2001;25:809-814
4. Baldi A et al: Mediastinal hibernoma: a case report. *Journal of Clinical Pathology* 2004;57:993-994
5. Miguel Congregado, Rafael Jimenez-Merchan, Andres Arroyo and Jesús Loscertales: Pleural hibernoma. Treatment by videothoroscopic surgery *Interactive Cardiovascular and Thoracic Surgery* 3:83-85(2004)
6. Carinci, Francesco MD et al: Hibernoma of the Neck. *J Craniofac Surg.* 2001 May;12(3):284-6
7. Weiss, S.W. and Goldblum, J.R. Benign lipomatous tumors. In: Weiss, S.W., Goldblum, J.R. *Soft tissue tumors.* 4th ed. St. Louis, MI: Mosby, Inc., 2001, p. 571-640.
8. Mugal T, Ghossain MA, Guinnet C, et al. MR and CT findings in a case of hibernoma of the thigh extending to the pelvis. *Eur Radiol* 1998;8:476-8
9. Gaffney EF, Hergreaves HK, Semple E, Vellios F. Hibernoma: distinctive light and electron microscopic features and relationship to brown adipose tissue. *Hum Pathol.* 1983;14:677-687

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