



Benign fibrous histiocytoma of submandibular space

Pradipta Kumar Parida Gopalakrishnan Surianarayanan

**Department of Otorhinolaryngology and Head-Neck Surgery, JIPMER,
Puducherry, India**

Abstract:

Benign fibrous histiocytoma is a benign tumor composed of a mixture of fibroblastic and histiocytic cells. Based on the location of these tumors are usually divided into cutaneous types and those involving deep tissues. Non-cutaneous benign FH represents approximately 1% of all benign FH lesions. The diagnosis of benign fibrous histiocytoma located in the deeper tissues is clinically difficult and is confirmed histopathologically after excision. The most important diagnostic distinction is the separation of this tumor from aggressive forms of fibrohistiocytic neoplasms like dermatofibrosarcoma protuberans and malignant fibrous histiocytoma. A 45 -year-old male presented to us

with a firm, painless swelling in the right submandibular area. After detailed clinical and laboratory examinations, the lesion was excised in toto under general anesthesia, and histopathology revealed it to be a benign fibrous histiocytoma.

Key words: Fibrous Histiocytoma, benign tumors, submandibular area, fibrohistiocytic neoplasms.

Introduction

Benign fibrous histiocytoma (FH) is rare in the head and neck region. It arises from the tissue histiocyte and generally behaves in a benign fashion. This tumor most frequently occurs in the dermis, but is sporadically found in deeper soft tissues and parenchymal organs^{1, 2}. Benign FH should be differentiated from the malignant FH, which has a rather aggressive malignant course³. Here; we report a rare case of benign FH in right submandibular space. The clinical presentation, diagnosis, treatment and prognosis of benign fibrous histiocytoma of head neck region are also discussed.

Case report

A 45-year-old male presented to outpatient department, with an apparently painless swelling in the right submandibular area of 6 years duration. The clinical examination revealed a firm mass of size 6x4 cm in the right submandibular region and overlying skin was free (fig-1).



Figure-1.Clinical photographs showing right submandibular swelling.

The mass was bimanually palpable. Oral examination revealed a mucosa covered mass in the right floor of mouth (Fig-2) .



Figure-2.Clinical photographs showing mucosa covered bulge in the right floor of the mouth.

Rest of the examination were normal. CT scan showed a well defined mass in right submandibular and sublingual space elevating the floor of the mouth in close approximation of submandibular gland. Fine needle aspiration cytology of the swelling

reported as pleomorphic adenoma of submandibular gland. The mass was excised by transcervical rout under general anesthesia. A horizontal cervical incision was made two fingers breadth below the right angle of mandible. Subplatysmal flaps were elevated. The submandibular gland was dissected out from anteriorly and retracted posteriorly to expose the tumor completely. The tumor was anterior and deep to the submandibular gland occupying the submandibular and sublingual space and well separated from submandibular gland (Fig-3).

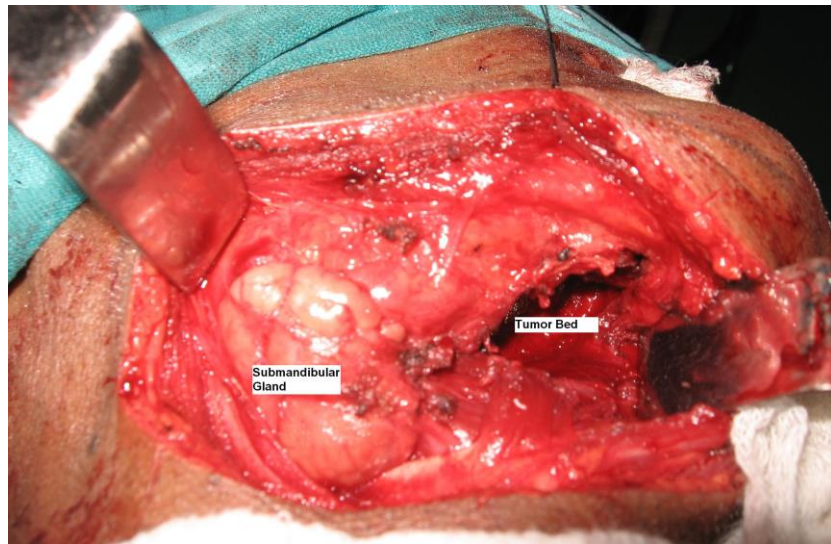


Figure-3. Peri-operative photographs after removal of the tumor showing the tumor bed and submandibular gland in situ.

The mass was well defined, encapsulated (Fig-4).

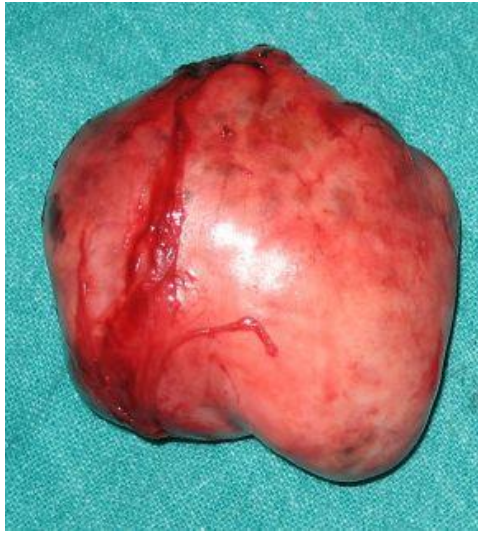


Figure-4. Well defined and encapsulated excised mass.

The histopathological examination showed it to be benign FH (fig-5).

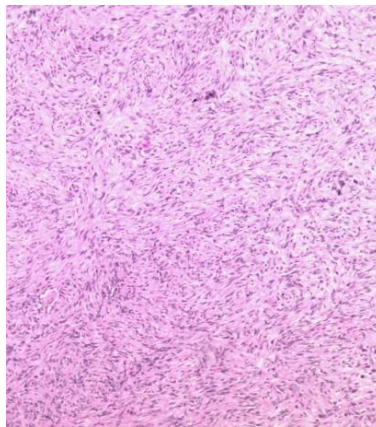


Figure-5. Microscopic photograph showing spindle shaped cells (E&H stain, 10X).

The postoperative period was uneventful. There is no evidence of recurrence 4 years after surgery.

Discussion

Benign FH was not known as a clinical entity before 1970. With the development of immunohistochemical techniques and electronic microscopy, the diagnosis became feasible^{4, 5}. The diagnosis of deep tissues benign FH is frequently confirmed after excision. Histopathologically, this tumor is a neoplasm of histiocytic origin and is composed of a biphasic cell population of histiocytes and fibroblasts⁶. In our case, immunohistochemistry was performed for differential diagnosis. The positivity for CD68 and vimentin demonstrated that the lesion was composed of histiocytic cells and fibroblast-like cells on immunohistochemistry, and the negativity for SMA and S100 could differentiate the lesion from leiomyosarcoma and neurogenic tumours⁷. The most important diagnostic challenge lies in the separation of this tumor from aggressive forms of fibrohistiocytic neoplasms, including dermatofibrosarcoma protuberans and malignant FH⁸. As with benign FH, the diagnosis of malignant FH frequently relies upon immunohistochemistry and electron microscopy to differentiate it from other lesions. Malignant FH is composed of malignant pleomorphic sarcomatous cells, bizarre giant cells, and frequent mitotic figures⁹. Histologic features, unfortunately, play a minor role in predicting the biologic behavior of these neoplasms.

FH are usually divided into cutaneous and non-cutaneous types^{2, 4}. Non-cutaneous benign FH represents approximately 1% of all benign FH lesions. This tumor has been associated with a previous trauma, sun exposure, and chronic infection, rather suggesting that it represents a reactive proliferation of benign cells but the present case did not have such past history. Benign FH of the soft tissues of the head and neck most often develops as a painless mass with specific symptoms caused by interference with the normal

anatomy and physiology of the area in which they arise^{1,8}. The most commonly reported initial symptoms of head neck benign FH are nasal obstruction, epistaxis, dysphagia, dyspnoea and submucosal and neck swellings⁶. Our patient presented a painless mass in right submandibular area with a bulge in floor of mouth causing cosmetic deformity, discomfort and interfering with chewing and eating.

Buccal mucosa, submandibular triangle, oral tongue, larynx, nasal cavity, mandible and supraclavicular fossa are frequently involved sites in head and neck region.^{1,4,8}. Usually, these lesions appear very well circumscribed and encapsulated and the cut surface is firm and pale to yellowish-brown in color. There is no macroscopic evidence of necrosis but sometimes the lesions are focally cystic, presenting hemorrhage within. The size of the tumor has been reported to range from 2 to 12 cm⁴. Most of the lesions usually presents clinically as a solitary, painless, slowly growing mass, the pre-operative duration ranging from 3 to 12 months^{5,8}. The ages of the patients varies from 1 to 70 years, while the patient described in this report was 45 years old and he had the swelling for last six years. The treatment of choice is surgical excision in toto. Our patient was submitted to complete local excision without any functional or cosmetic morbidity. The recurrence of these tumors after complete surgical excision is rare. These lesions have no metastatic potential and they generally carry a good prognosis.

References:

1. Bielałowicz S, Dauer MS, Chang B, Zimmerman MC. Non-cutaneous benign fibrous histiocyoma of the head and neck. *Otolaryngol Head neck Surgery* 1995; 113:140-6.
2. Batsakis JG. Fibrous lesions of the head and neck: Benign, malignant and indeterminate. In: Batsakis JG, editor. *Tumors of the head and neck*. 2nd edn. Baltimore, MD: Williams & Wilkins; 1979. p. 252-79.
3. Femiano F, Scully C, Laino G, Battista G. Benign fibrous histiocyoma of the cheek: CD 68-KP1 positivity. *Oral Oncol* 2001; 37:673-5.
4. Fletcher CD. Benign fibrous histiocyoma of subcutaneous and deep soft tissue: a clinicopathologic analysis of 21 cases. *Am. J. Surg Pathol* 1990; 14:801-9.
5. Kamino H, Salcedo E. Histopathologic and immunohistochemical diagnosis of benign and malignant fibrous and fibrohistiocytic tumors of the skin. *Dermatol Clin* 1999; 17:487-505.
6. Calonje E, Mentzel T, Fletcher CD. Cellular benign fibrous histiocyoma. Clinicopathologic analysis of 74 cases of a distinctive variant of cutaneous fibrous histiocyoma with frequent recurrence. *Am. J. Surg Pathol* 1994; 18:668-76.
7. Fletcher CD, Gustafson P, Rydholm A, Willen H, Akerman M. Clinicopathologic re-evaluation of 100 malignant fibrous histiocyomas: prognostic relevance of subclassification. *J Clin Oncol* 2001; 19:3045-50.

8. Blitzer A, Lawson W, Zak FG, Biller HF, Som MI. Clinical-pathological determinants in prognosis of fibrous histiocytoma of the head and neck. *Laryngoscope* 1981; 91:2053-70.