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Lipidized fibrous histiocytoma of the tongue

KEYWORDS
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Lipidized fibrous histiocytoma (LFH) is a rare histologic subtype of fibrous histiocytoma that is histologically characterized by lipid-laden histiocytes and giant cells.[1] All LFH cases reported in the literature presented as a cutaneous nodule, particularly on the extremities and trunk.[2–4] Here, we reported a unique non-cutaneous LFH arising in the tongue.

A 38-year-old female with no significant past medical history presented with a 3-month history of swelling of the right tongue (Fig. 1A). Computed tomography revealed a 5.4-cm heterogeneously enhancing mass in the tongue (Fig. 1B). Surgical excision was performed, revealing a well-circumscribed multinodular mass (Fig. 1C). The cut surface of the mass was yellow and showed a multinodular growth pattern (Fig. 1D).

Histopathological examination showed multiple nodules separated by hyalinized stroma. Each nodule consisted of abundant histiocytes with vacuolated cytoplasm. These foamy histiocytes were variable in size but had uniform hyperchromatic nuclei (Fig. 1E). Giant cells including Touton-type giant cells were occasionally found; Touton-type giant cells were distinguished by a ring of nuclei around central eosinophilic cytoplasm, surrounded by foamy cytoplasm (Fig. 1F). A storiform growth pattern of spindle-shaped tumor cells, characteristic of typical fibrous histiocytoma, was observed within some nodules of foamy histiocytes (Fig. 1G). Immunohistochemistry showed diffuse staining for CD68 (Fig. 1H). Tumor cells were focally positive for smooth muscle actin (SMA) and desmin but negative for CD34 and cytokeratin. A diagnosis of LFH was made. The patient was followed up for 3 years after surgery with no evidence of recurrence.

Fibrous histiocytoma may present as a skin lesion, which is also called dermatofibroma, or as a subcutaneous/deep-seated lesion, which is also called deep fibrous histiocytoma.[1,5] LFH is one of the histologic subtypes of fibrous histiocytoma and has been observed as a skin tumor exclusively on the legs, arms, and trunk, based on literature review.[2–4] To the best of our knowledge, this is the first report of non-cutaneous LFH.

Although LFH consists of abundant lipid-laden histiocytes, it has been demonstrated that LFH is not associated with lipid metabolic disorders, such as hyperlipidemia.[2,3] The presence of lipid-laden histiocytes is correlated with the characteristic yellow color of the tumor.[2,3] In fibrous histiocytoma, CD68 immunohistochemistry shows positive staining in interspersed histiocytes;[1] in this LFH case, both foamy histiocytes and spindle-shaped to round cells arranged in a storiform pattern were diffusely positive for CD68. CD34, SMA, and desmin may be expressed in a subset of fibrous histiocytomas;[1] in this case, SMA and desmin were focally positive in spindle-shaped to round tumor cells, but CD34 was negative in all tumor cells.

Fibrous histiocytoma has a recurrence rate of <5% for dermatofibroma and approximately 20% for deep fibrous histiocytoma.[1,5] A higher recurrence rate is observed in some histologic subtypes, including cellular, aneurysmal,

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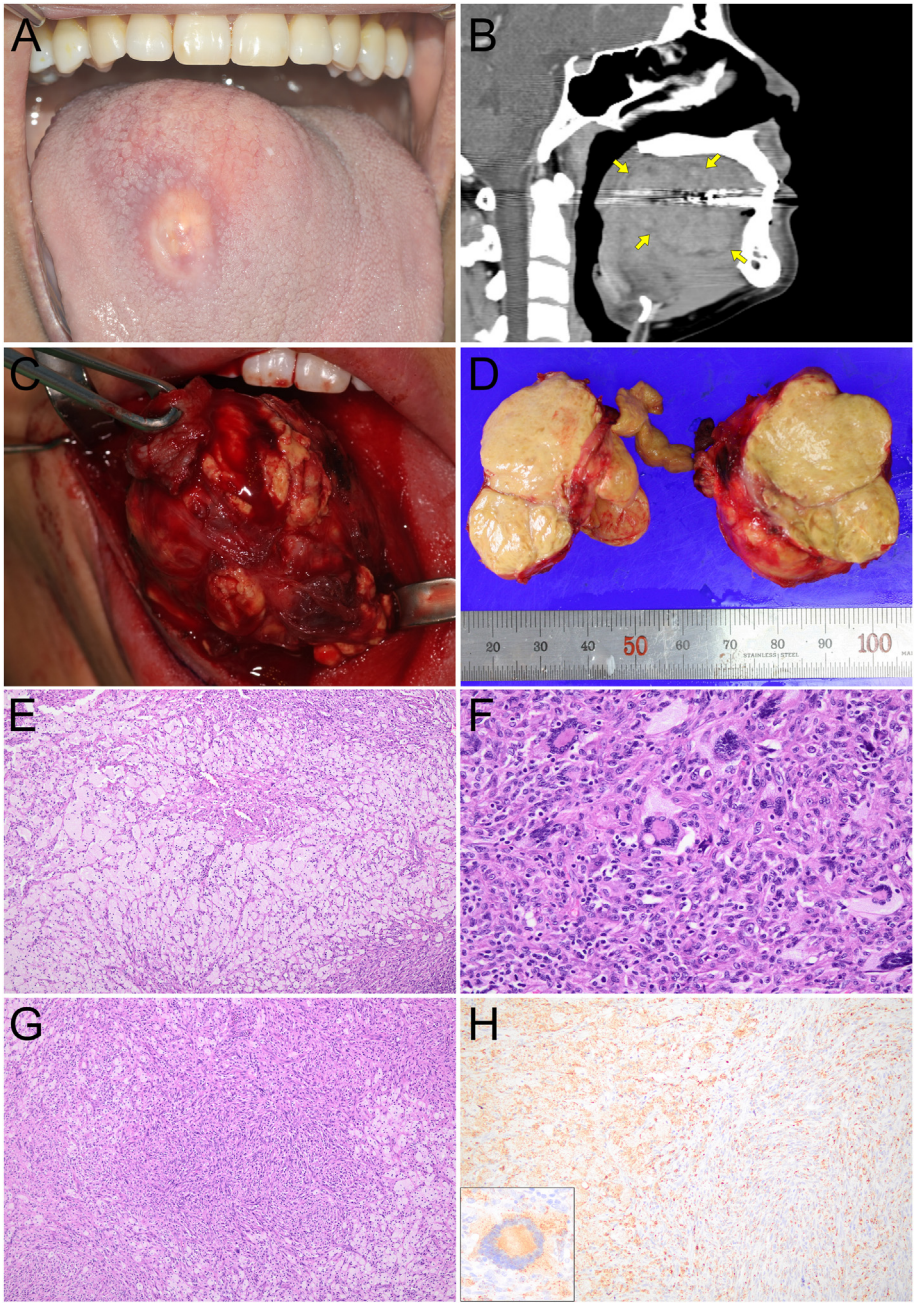

Figure 1 Clinical, radiological, macroscopic, and microscopic findings of lipidized fibrous histiocytoma of the tongue. (A) Preoperative clinical image showing a large swelling in the right tongue. (B) Computed tomography image demonstrating a well-defined heterogeneously enhancing mass (arrows) within the tongue. (C) Intraoperative clinical image showing a well-circumscribed multinodular mass. (D) Gross image showing a homogeneously yellow cut surface. (E) Collection of lipid-laden foamy histiocytes of varying sizes (original magnification × 100). (F) Occasional Touton-type giant cells (original magnification × 400). (G) Spindle-shaped tumor cells arranged in a storiform within a collection of foamy histiocytes (original magnification × 100). (H) CD68 immunoreactivity in foamy histiocytes (left), a Touton-type giant cell (inset), and spindle-shaped to round cells typical of fibrous histiocytoma (right) (original magnification × 200). (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

and atypical subtypes. On the other hand, none of the reported LFH patients had recurrence after surgery,[2,4] which may indicate a relatively good prognosis of this histologic subtype.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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