Case Report
Typical nodal calcifications in the maxillofacial region: a case report

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Abstract: Multiple nodal calcifications in the maxillofacial region are very rare. This case report described a 49-year-old female patient diagnosed with calcified lymph nodes due to chronic inflammation of the lymphatic nodes, including the parotid lymphatic nodes, the posterior auricular lymphatic nodes and submandibular lymphatic nodes in the right maxillofacial region. In clinical practice, we conducted ultrasonography, three-dimensional reconstruction of CT and sialography to make a preliminary diagnosis. Then we took surgery, while removing the calcified blocks within the lymphatic node and cleaning the wound cavity. After surgery, we used anti-inflammatory therapy for one week. Six months follow-up indicated no evidence of other calcified lymph nodes infection.

Keywords: Nodal calcification, oral and maxillofacial region

Introduction

Nodal calcifications in the neck region are uncommon, only occurring in about 1% of enlarged nodes [1]. Clinical studies have shown that calcifications of the soft face and neck tissues may occur in several mostly benign processes such as hemangioma, lateral cleft cysts, unspecific inflammations, or lymph nodes [2]. While neoplastic lesions of the major salivary glands usually do not calcify. Rarely, there may be small dot-like calcifications of the parotid gland in patients with Sjogren's syndrome. Carcinoma ex pleomorphic adenoma as well as low-grade mucoepidermoid carcinoma may both contain dystrophic calcifications [3]. Because fewer cases of maxillofacial calcified lymph nodes, an accurate clinical diagnosis is difficult.

The purpose of this article is to present a typical case of a 49-year-old female patient diagnosed with calcified lymph nodes due to chronic inflammation of the lymphatic nodes, including the parotid lymphatic nodes, the posterior auricular lymphatic nodes and submandibular lymphatic nodes in the right maxillofacial region. This case reported the typical nodal calcifications occurred in the oral and maxillofacial unilateral, which has rarely been reported in previous literatures.

Case report

A 49-year-old female patient was admitted to Department of Oral and Maxillofacial Surgery with the chief complaint of swelling and pain on the right side of parotid, which appeared for the first time 1 month before, with recurrent, clinical symptoms alleviated with anti-inflammatory treatment, intermittent episodes of swelling accompanied by pain and induration. The patient was in good general health with no history of trauma, facial infection, dental problem or major systemic disease, and there was no elevation in local temperature at the site of the swelling. Clinical examination showed limitation swelling in the right post-auricular region, resulting in facial asymmetry. Her physical examination showed a mass with the size of about 2.5 cm × 2.0 cm, hard texture, tenderness and unclear boundary in palpation of the right parotid area. The bilateral parotid gland secretion was normal, and without swelling of parotid...
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Figure 1. Three-dimensional reconstruction of CT of the patient. A number of high-density calcifications (2.5 mm × 2.0 mm × 1.5 mm) located in the parotid gland, the posterior auricular region and the submandibular region in the right maxillofacial region.
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Figure 2. The high-density calcification (2.5 mm × 2.0 mm × 1.5 mm) inside the parotid gland.

Histopathological examination of the tissue by hematoxylin and eosin staining revealed chronic inflammation spread over the gland. The acini were destroyed and atrophied because of the infiltration of lymphocytes and plasma cells, and replaced by proliferated fiber and histiocytes. Small focal hyaline degeneration of the fiber was found. Ducts of the gland were expanded and surrounded by proliferated fiber. Besides, slight hemorrhage was observed which may be caused by the rupture of small vessels during the operation. It is a pity that no calcified spots were found under microscope within the removed tissue.

After pathology surgery, we used anti-inflammatory therapy for one week. There was no evidence of clinical occurrence of other lymph nodes infection during 6-month follow-up.

Discussion

Physiologic and pathologic calcifications in the face and neck usually do not play a major role during the evaluation and diagnosis of diseases in the face and neck [2]. Calcified cervical lymph nodes are uncommon, but when they are identified, the most common etiologies include infection, inflammation and malignancy [4]. As surgeons dealing with the oral and maxillofacial region, we must not forget that clinical possibilities may simulate this phenomenon. The main differential diagnoses are foreign body, calcified lymph nodes, calcified parotid gland stones, tuberculous lymph nodes, calcified vascular lesions, haemangiomas, lymphangiomas, or as atherosclerotic plaques inside the major blood vessels, myositis ossificans and, finally, metastasis from distinct calcifying neoplasm [5]. The patient was in good general health with no history of trauma, facial infection, dental problem or major systemic disease, and there was no elevation in local temperature at the site of the swelling. So, we excluded the diagnoses of foreign body, tuberculous lymph nodes and malignant lymph node metastasis. Finally, the histological findings made the nodal calcifications with chronic inflammation of the parotid a definite diagnosis.
Nodal calcifications in the neck region are uncommon, only occurring in about 1% of enlarged nodes [1]. In this case an accurate clinical diagnosis was difficult because the nodal calcifications occurred in the oral and maxillofacial unilateral, which has rarely been reported in previous literatures. One of the most frequent misleading clinical states, calcified lymph node, will present as a non-painful swelling (without any “mealtime syndrome”), or as a randomly revealed radiopaque lesion in the maxillofacial region, usually after tuberculous infection [6]. Phleboliths are calcified thrombi occurring in venules, veins or haemangiomas. Their formation is thought to be as a result of vascular anomaly, which induces thrombus formation. The end result is calcium deposit with eventual stone formation [7]. However, further examinations must be held when the clinical and radiographic signs are not conclusive. We recommend performing plain radiographs from different angles, sialography of the adjacent salivary gland, ultrasound and three-dimensional reconstruction of CT. The final diagnosis must be obtained according to all relevant information gathered, and only then should the appropriate treatment take place.

In this case, histological examination revealed chronic inflammation spread over the gland with the infiltration of lymphocytes and plasma cells. So it was effective to take anti-inflammatory therapy clinically. However, the surgical intervention of removal of calcification or being removed along with the lymph nodes, was not implemented.

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Disclosure of conflict of interest

None.

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