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Short Communication

Inflammatory myofibroblastic tumour: A case report and a clinical update

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ABSTRACT

The Inflammatory myofibroblastic tumor (IMT) is a heterogeneous group of rare lesions consisting predominantly of inflammatory cells and myofibroblastic spindle cells. Head and neck IMTs account for 14 to 18% of extra-pulmonary IMTs [lungs being the most commonly affected regions]. On account of its ambiguous clinical presentation, an IMT needs to be differentiated from other infectious, granulomatous, autoimmune and neoplastic lesions on the basis of histopathologic findings and immunohistochemical analysis. In this article, we report a case of IMT that presented in the anterior mandible that was treated by peripheral resection. Follow-up at 1 year showed satisfactory healing and no signs of recurrence. A special emphasis has been placed on the disputed nosology of this lesion and the latest therapeutic modalities.

1. Introduction

The Inflammatory myofibroblastic tumor (IMT) is a heterogeneous group of rare lesions consisting predominantly of inflammatory cells and myofibroblastic spindle cells.[1] The lung [most common site] and the gastro-intestinal system are the principally affected sites. Though rare in the maxillofacial region; it has been reported in the epiglottis, endolarynx, parapharyngeal space, maxillary sinus, orbits, submandibular region and oral cavity.[1–4]

On account of its ambiguous clinical presentation, an IMT needs to be differentiated from other infectious, granulomatous, autoimmune and malignant lesions on the basis of histopathologic findings and immunohistochemical analysis. The treatment modalities that have been suggested in the literature are steroid therapy, surgical excision and radiotherapy alone or in combination [based on the history of recurrence and location, extent and behaviour of the tumour].[5]

In this article, we report a case of IMT that presented in the anterior mandible of an adult male. The lesion was treated by peripheral resection and follow-up at 1 year showed satisfactory healing and no signs of recurrence.

2. Case report

A 35 year old male was referred to the Department of Oral & Maxillofacial Surgery for evaluation and treatment of a tumor of the lower jaw. The patient first noticed the swelling 15 years ago in the right body and para-symphyseal region of the mandible which gradually increased in size and eventually crossed the midline to involve the left para-symphyseal region as well. The patient did not have any previous radiographic records. The patient also gave a history of a previous biopsy being performed under local anaesthesia. The histopathological report was suggestive of inflammatory granulation tissue.

Extra-oral examination revealed a well defined swelling in the region of the anterior mandible and right hemi-mandible. Intra-oral examination revealed a large, expansile swelling involving the right body and bilateral para-symphyseal regions of the mandible. The teeth present in the affected alveolar region were displaced. The mucosa over the swelling was ulcerated on account of trauma from the maxillary teeth. On palpation, the tumour had a firm elastic consistency and was non-tender. The tongue was displaced to the posterior part of the oral cavity. The remainder of the physical examination was non-contributory and regional lymph nodes were non-palpable (Fig. 1).

The CBCT scan revealed a lytic expansile mass in the anterior and right posterior mandible. Expansion and perforation of the buccal cortical plate was noted with displacement of the associated teeth. There was loss of alveolar bone in the region occupied by the

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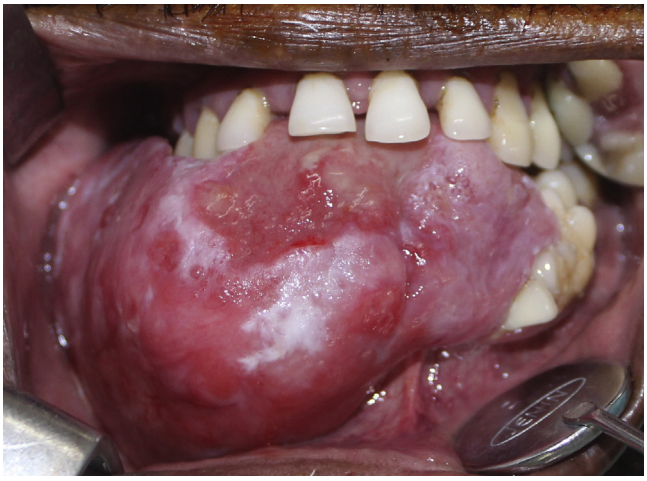

Fig. 1. Clinical picture: Large, exophytic ulcerated growth of the anterior mandible.

swelling and only basal bone was found to be present (Fig. 2). The chest X-ray did not reveal any abnormalities and hence pulmonary IMT was ruled out.

An incisional biopsy was repeated under local anaesthesia. The histopathological report was suggestive of inflammatory granulation tissue. Immunohistochemical staining proved it to be an inflammatory myofibroblastic tumour.

Marginal resection of the tumour was performed under general anaesthesia. Approximately 1.5 cm of healthy bone was preserved along the inferior border of mandible. The patient recovered with an uneventful post-operative course. Further prosthetic rehabilitation of the patient was planned for a later date. No recurrences or surgery related complications have been noted during the follow-up period of 1 year.

The final histological examination of the excised sample revealed a circumscribed tumor mass covered by atrophied para-keratinized stratified squamous epithelium. The tumor mass was composed of spindle shaped myofibroblast cells and chronic

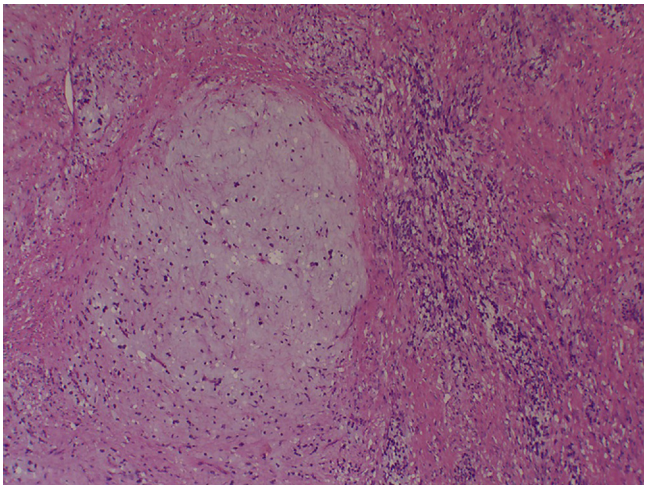

Fig. 3. The H & E stained section shows myofibroblast cells and chronic inflammatory cells composed predominantly of plasma cells with areas of myxomatous degeneration (H & E, ×100).

inflammatory cells [predominantly plasma cells]. Areas of myxomatous degeneration were also seen (Fig. 3). The tumor cells were strongly positive for immunohistochemical markers Smooth Muscle Actin (SMA), Vimentin and CD 68. The tumour cells were negative for the immunohistochemical marker Anaplastic Lymphoma Kinase (ALK). Based on the above findings and similar reports in the literature, a final pathological diagnosis of IMT was made.[1,3]

3. Discussion

In 1939, Brunn and colleagues first described the IMT when it occurred in the lung. The IMT has an uncertain pathogenesis, a wide range of clinical and histological presentations and a potential for recurrence. It was for the above reasons that this clinical entity had a disputed nosology and a controversial

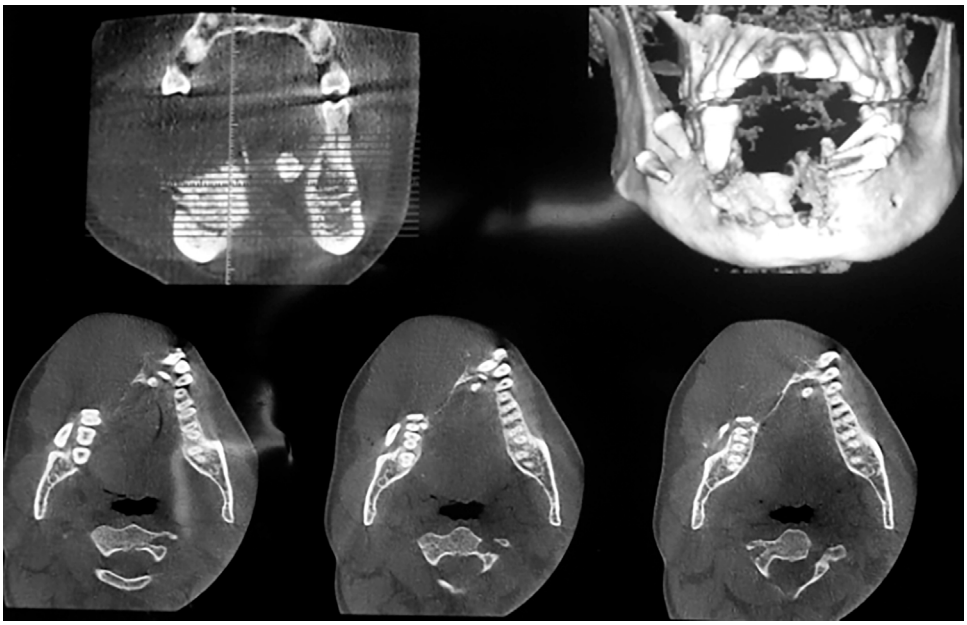

Fig. 2. The CBCT scan revealed a lytic expansile mass in the anterior and right posterior mandible.

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