Solitary Fibrous Tumour of the Buccal Mucosa: Immunohistochemical and Ultrastructural Observation

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Abstract

Solitary fibrous tumour is a benign soft tissue tumour, most often localised in the pleura but recently described in other body sites. However, solitary fibrous tumour in the oral cavity is distinctly uncommon. A patient with this tumour in the oral cavity is described in this report. Magnetic resonance angiography revealed that the tumour was suspected to be a haemangioma. The tumour was surgically removed and was found to 3.5 x 2.8 x 2.5 cm in size. Histologically, the tumour was comprised of numerous ovoid- or spindle-shaped cells and many blood vessels with haemangiopericytoma-like appearance. The tumour cells immunoreacted for vimentin, CD34, and bcl-2. Ultrastructurally, a small amount of collagen fibrils were associated with the neoplastic cells, and cytoplasmic organelles were not developed. The tumour was considered to be predominantly composed of immature fibroblasts. The patient has had no recurrence.

Key words: Buccal mucosa, Immunohistochemistry, Tumor, Ultrastructure

Introduction

Solitary fibrous tumour (SFT) was initially described in the pleura by Klemperer and Rabin.1 SFT was once termed localised fibrous mesothelioma because of its mesothelial origin.2 SFTs are generally difficult to diagnose because of their broad range of morphologic characteristics.

Although SFTs had commonly been considered to arise in the pleura,3 recent reports indicate that these tumours may originate from extrapleural and extraperitoneal sites, including the nasal cavity,4 orbit,5 breast,6 thyroid,7 renal pelvis,8 pharynx,9 parotid gland,10 and submandibular gland.11 However, SFT in the oral cavity is distinctly uncommon, with only 30 previous cases reported in the English literature.11-20 A patient with SFT occurring in the buccal mucosa is reported in this article.

Case Report

A 32-year-old man was referred to the Division of Oral and Maxillofacial Surgery at Nagasaki University Graduate School of Biomedical Sciences, Japan, because of an asymptomatic submucosal mass involving the right buccal mucosa. He had noticed this 1 year earlier, and mentioned that the lesion was painless and that there was no increase in size.

Facial examination showed an elastic soft, nontender mobile mass that was approximately 4 cm in diameter and could be palpated intraorally and extraorally lateral to the philtrum. Intraoral examination revealed that the colour and texture of the overlying buccal mucosa was normal (Figure 1). At magnetic resonance imaging (MRI), the mass showed low signal intensity on T1-weighted images, high signal intensity on T2-weighted images, and heterogeneous enhancement on Gadolinium-enhanced MRI (Figure 2).

Coronal magnetic resonance angiography (MRA) showed high heterogeneous and surrounding enhanced lesion (Figure 3). The lesion was adjacent to the right maxillary and facial arteries. The lesion
was clinically diagnosed as a haemangioma. Surgical excision was performed under general anaesthesia. As the tumour surface was smooth and clearly defined, it could be easily dissected from the surrounding tissue.

The mass measured 3.5 x 2.8 x 2.5 cm and was well demarcated. Cut surface showed solid and greyish-white tissue (Figure 4). Histologically, the circumscribed specimen was composed of ovoid- or spindle-shaped fibroblast-like cells with various amounts of collagen bundles haphazardly arranged. Hypercellular, hypocellular, and myxoid areas were mixed within the tumour. Many intermingled blood vessels revealed irregular dilatation with stag-horn appearance that is occasionally seen in haemangio-pericytoma. There was no nuclear atypism and mitotic figures were hardly seen (Figures 5 and 6). Immunohistochemical examination demonstrated that the