Polymorphous Low-Grade Adenocarcinoma

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INTRODUCTION

Polymorphous low-grade adenocarcinoma (PLGA) is a rare, malignant salivary gland tumor, first described in 1984.\(^1\) It has been termed as lobular carcinoma of the minor salivary glands, low-grade papillary carcinoma of the palate, polymorphous low-grade adenocarcinoma of minor salivary glands, and terminal duct carcinoma of the minor salivary glands.\(^2\) PLGA mimic many benign and malignant salivary gland tumors and was probably misdiagnosed as adenoid cystic carcinoma. PLGA can be summarized as a tumor with cytological uniformity, morphological diversity and a low metastatic potential.\(^3\)

CASE REPORT

A 58-year-old male presented with a palatal swelling on right side. He had first noticed the swelling approximately three years earlier and it had gradually enlarged thereafter. On examination, a firm, irregular and nontender mass measuring approximately 4 × 3 cm was seen on the partially edentulous ridge on upper right posterior region (Fig. 1). The patient was complaining of nasal stuffiness one month back with added symptoms of sinusitis. Neither lymphadenopathy nor enlargement of any other salivary glands was present. CT showed a well-defined right unilateral mass on the palate (Fig. 2). Axial CT showed involvement of floor of maxillary sinus (Fig. 3). The clinical impression was of a malignant low-grade salivary gland tumor. Incisional biopsy was performed and subjected to histopathological examination. It revealed tumor cells arranged in morphological patterns, such as solid, glandular, nodular and tubular patterns (Fig. 4) indicating morphodiversity. These cells were round to oval with vesicular nuclei. Cellular and nuclear pleomorphism with increased nuclear cytoplasmic ratio was observed. Abnormal mitotic activity was also a prominent feature. Focal areas were occupied by mucous and clear cells. Psammoma bodies were also seen. Based on these features, histopathological diagnosis of PLGA was given. The excision of tumor mass was performed. The histological findings were consistent with previous diagnosis.
pattern of growth. The tumor cells were arranged in the form of nodules with multiple round and narrow elongated lumens. The cells were round to oval with vesicular nuclei. Abnormal mitotic activities were noted focally in the tumor cells. Mucous and clear cells were also seen. Small eosinophilic acellular concentric structures, psammoma bodies were also observed. Heterogeneity of growth patterns, both within each case and between cases, is a characteristic feature of this lesion, which is observed in the present case. 7 Tumor cells are positive for epithelial markers, S100 protein, and vimentin but negative for alpha-smooth muscle actin, muscle-specific actin, and glial fibrillar acidic protein. 8 The histopathological findings is usually difficult to be distinguished from adenoid cystic carcinoma and can be differentiated by the galactin-3 expression. Expression of galectin-3, a nonintegrin beta-galactosidase-binding lectin, has been reported to be significant in PLGA and decreased in ACC.9,10

PLGA is an indolent neoplasm. Although recurrence of this tumor is common, distant metastasis has not been reported. Review of literature revealed 80% of patients are alive and well without evidence of tumor in periods ranging from few months to as long as 25 years after excision. 5,11 Thus, local excision is the treatment of choice, which is also supported by the mild proliferating cell nuclear antigen (PCNA) and Ki-67, which tell about the lesser proliferative potential of this neoplasm.

REFERENCES