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Pathology in Focus

Lipomatosis of the minor salivary glands

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Abstract
Lipomatosis has not previously been reported in minor salivary glands. Its occurrence in the parotid gland is well recognized. We present the first reported case of lipomatosis of the minor salivary glands in the nasal cavity. We also review the tumours of the minor salivary glands, lipomas and lipomatosis of the parotid, and the few reported cases of lipomas of the sinonasal tract.

Key words: Salivary glands, minor; Lipomatosis; Nasal cavity

Introduction

Minor salivary glands are small, predominantly mucus-secreting glands. Each gland has its own duct which merges directly into the glandular structure. They are widespread in the upper aerodigestive tract, being more abundant in the oral cavity, particularly in the palate (Manning and Batsakis, 1991; Jones *et al.*, 1998).

Tumours of the minor salivary glands constitute 14–23 per cent of all salivary gland tumours (Enroth, 1971; Spiro *et al.*, 1973; Eveson and Cawson, 1985). Their distribution mirrors the anatomical distribution of the minor salivary glands in that they predominantly originate in the palate. Those originating in the nasal cavity ranged from 0 to 9.6 per cent in four reported series (Spiro *et al.*, 1973; Eveson and Cawson, 1985; Ma and Yu, 1987; Jones *et al.*, 1998). The commonest tumour types in this region were adenoid cystic carcinoma and pleomorphic adenoma.

We present a case of lipomatosis of the minor salivary glands. No description of a similar case at any site has been identified in the literature.

Case report

A 38-year-old female presented with a two-year history of worsening left-sided nasal obstruction. There were no associated symptoms, and she was otherwise healthy. Nasal examination showed a smooth round white mass arising from the posterior part of left nasal floor and occupying the left side of the nasopharynx. A computed tomography (CT) scan confirmed the origin of the mass and showed no evidence of bony destruction (Figure 1).

An incisional biopsy failed to reveal the nature of the lesion but showed no evidence of malignancy. A transpa-

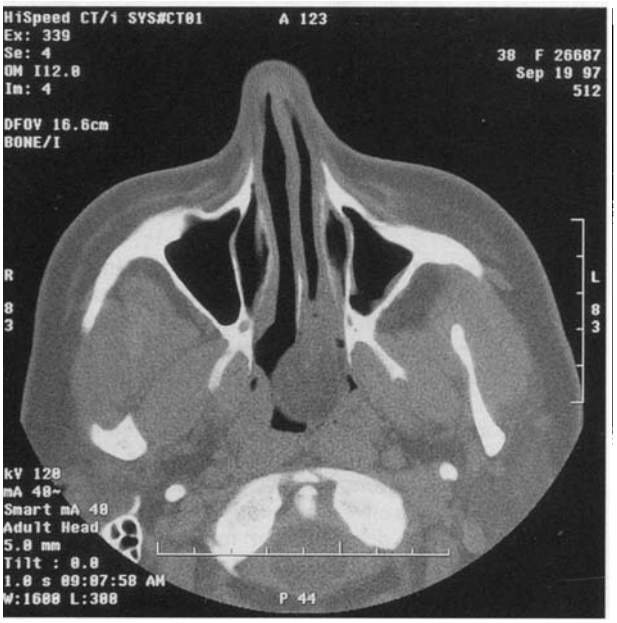

FIG. 1
Axial CT scan showing the tumour originating from the left nasal cavity and extending into the nasopharynx.

On histopathology the lesion exhibited glandular structure with ducts arranged in an appropriate anatomical architecture, surrounded and dispersed by mature adipose tissue (Figure 2). The glandular structures were of seromucinous type (Figure 3) and were not invaded by

two pieces. These measured 20 × 20 × 15 mm and their cut surfaces had the appearance of adipose tissue.

Four months post-operatively, the patient's symptoms have resolved and the nasal mucosa has completely healed.

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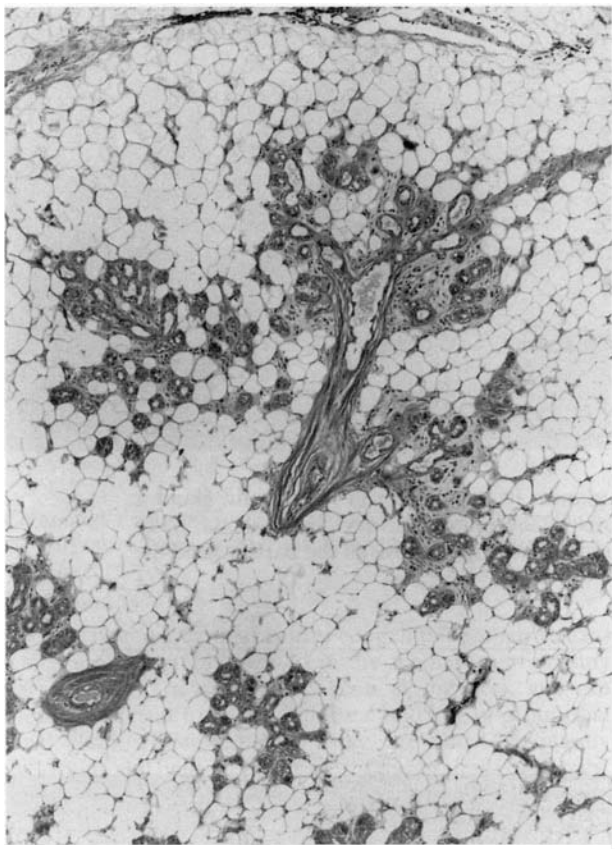

FIG. 2
A low power photomicrograph showing minor salivary glands surrounded by adipose tissue (H & E; × 30).

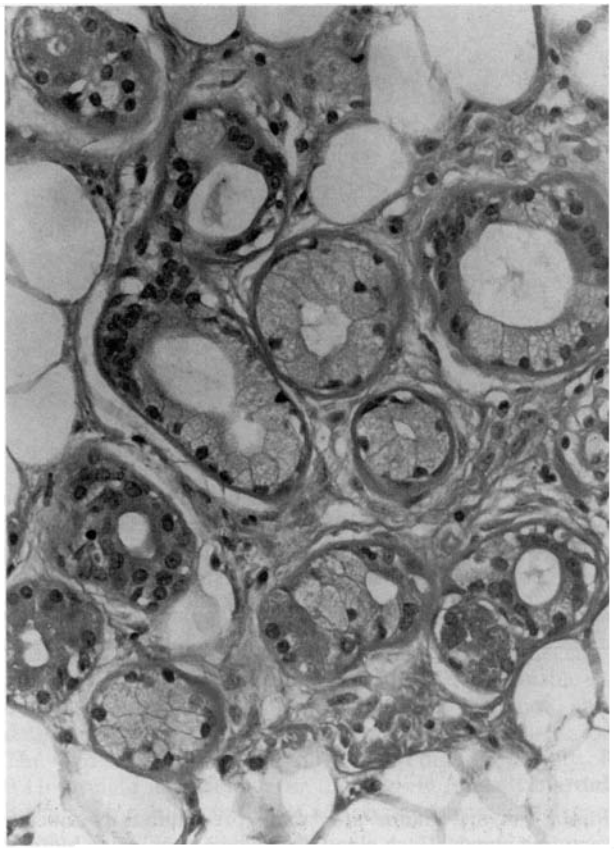

FIG. 3
A high power photomicrograph showing seromucinous glandular acini and adipose tissue (H & E; × 185).

Discussion

Minor salivary gland tumours exhibit a high incidence of malignancy compared to those originating from major salivary glands. Figures that vary from 53.9 per cent to 88 per cent have been reported in most large series (Spiro *et al.*, 1973; Eveson and Cawson, 1985; Ma and Yu, 1987; Jones *et al.*, 1998). Adenoid cystic and mucoepidermoid carcinoma are the most commonly encountered malignant tumours, while pleomorphic adenoma is the commonest benign tumour. Monomorphic adenomas, including Warthin's tumour are less frequently encountered. Similar findings have been described for tumours arising in the nasal cavity (Manning and Batsakis, 1991).

The mucosa of the nasal cavity contains seven to 10 minor salivary glands per square millimetre. This is less than in the palate, but considerably greater than in the paranasal sinuses (Batsakis, 1987). However, adipose tissue is rarely present in the nasal cavity, paranasal sinuses and nasopharynx (Fu and Perzin, 1977). For this reason fatty tumours are extremely rare in these regions. Only two cases of nasal lipoma (Preece *et al.*, 1988; Chmielik and Stelegowska-Piorkowska, 1993), three cases of lipoma in the maxillary antrum (Goldstein, 1915; Spilbernagel, 1938; Fu and Perzin, 1977) and four cases of nasopharyngeal lipomas (Puri *et al.*, 1979; Oddie and Applebaum, 1982; Grybauskas and Shugar, 1983; Fagan *et al.*, 1996) have been previously reported.

On the other hand, parotid gland lipomas are said to constitute two to three per cent of all benign parotid tumours (Walts and Perzik, 1976). These are distinguished from lipomatosis of the parotid by the presence of a fibrous capsule (Adams *et al.*, 1981). Lipomatosis constitutes a nontumoral deposition of adipose tissue throughout the gland resulting in its diffuse enlargement. It has also been associated with diabetes, cirrhosis, chronic alcoholism, malnutrition and hormonal disturbance although the exact pathophysiology is still unclear (Rosai, 1996). Our patient did not suffer from any of the conditions associated with lipomatosis of the parotid. It may be that the aetiology of lipomatosis of minor salivary glands differs from that of lipomatosis of the parotid.

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