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Pseudolymphoma of the parapharyngeal space

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Abstract
A case report of pseudolymphoma of the parapharyngeal space is presented, together with a literature review of pseudolymphoma and management suggestions for such lesions when they occur in the head and neck. To the best of the authors' knowledge, this represents the first case report of pseudolymphoma presenting within the parapharyngeal space. The key to management of these lesions is based on accurate diagnosis, with differentiation of pseudolymphoma from lymphocytic lymphoma, the disease process which it mimics.

Introduction

Pseudolymphoma is a benign lesion of lymphoid tissue, comprised of marked reactive hyperplastic changes. Pseudolymphomas have been reported in a variety of sites including the GI tract, skin and lungs. In the head and neck they have been noted within the orbit, salivary glands and oral cavity (Hutchinson *et al.*, 1964). The authors have been unable to document cases of pseudolymphoma presenting in the parapharyngeal space.

Pseudolymphoma must be differentiated from lymphoma, an entity with which it is commonly mistaken. In point of fact, some authors believe pseudolymphoma to be a premalignant lesion. Recently, monoclonality has been demonstrated in some lesions histologically diagnosed as pseudolymphoma, suggesting that some of these lesions may represent localized extranodal lymphomas (Knowles and Jakobiec, 1985).

Case report

A 65-year-old Caucasian male who presented with persistent serous otitis media, was found to have a left-sided parapharyngeal mass. Two transoral biopsies were performed elsewhere, which were negative for tumour. The patient was referred to our service for definitive treatment. The patient denied fevers, night sweats or weight loss. He smoked one pack of cigarettes per day. At this time he was noted to have medial displacement of his left lateral pharyngeal wall, which on palpation revealed a rubbery feeling mass (Fig. 1). His cranial nerves were intact. Other than a P.E. tube in his left tympanic membrane the remainder of the Otorhinolaryngologic examination was normal.

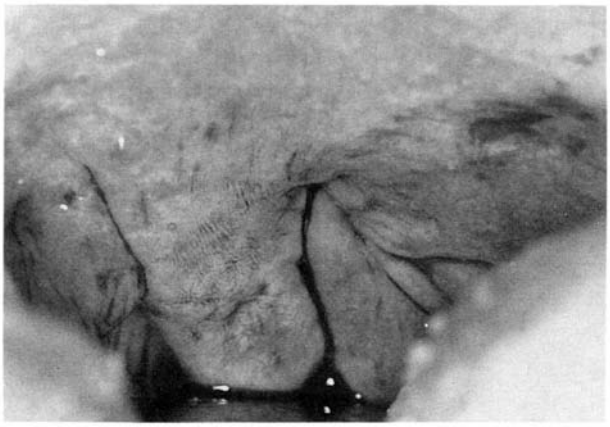

Fig. 1
Medial displacement of lateral pharyngeal wall due to pseudolymphoma in the parapharyngeal space.

Pre-operative workup included a CT scan (Fig. 2) and carotid angiogram (Fig. 3) demonstrating a soft tissue mass in the left parapharyngeal space extending into the nasopharynx, and displacing the internal maxillary artery. There was no evidence of bone erosion or metastatic spread.

The patient underwent resection of the mass through a mandibular-swing approach (Fig. 4). His peri-operative course was uneventful. The pathology was initially described as 'well differentiated lymphocytic lymphoma'. It was referred to the haematopathology section of the National Cancer Institute where the diagnosis was changed to 'pseudolymphoma'. (Report: 'Although the tumour is present within skeletal muscle and salivary gland, it does not appear to have a truly infiltrative or destructive growth pattern. It is composed mostly of small normal appearing lymphocytes, but numerous plasma cells are present, predominantly at the periphery of the lymphoid aggregates. Occasional small abortive germinal centres are also seen. Atypical lymphoid hyperplasia of tumour-like proportions, so-called pseudolymphoma').

Discussion

This is the first known case report of pseudolymphoma of the parapharyngeal space. The term 'parapharyngeal space', synonymous with 'lateral pharyngeal space' and 'pharyngomaxillary space' represents a triangular funnel-shaped potential space between the superficial layer of the deep cervical fascia and the buccopharyngeal fascia above the hyoid bone. The base of the funnel lies at the skull base adjacent to the jugular foramen with the apex directed toward the greater cornu of the hyoid bone.

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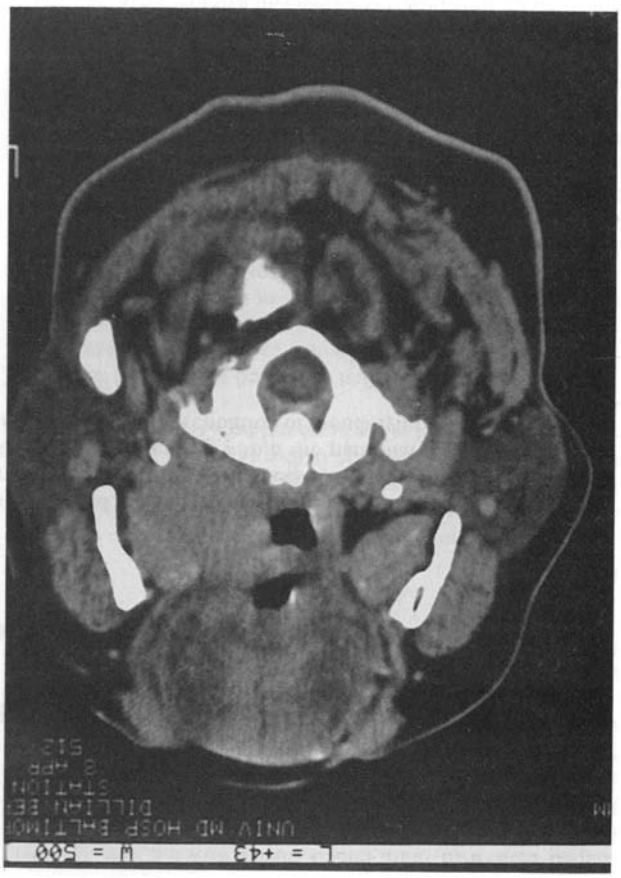

FIG. 2
CT scan demonstrating soft tissue mass in left parapharyngeal space. No bone destruction is noted.

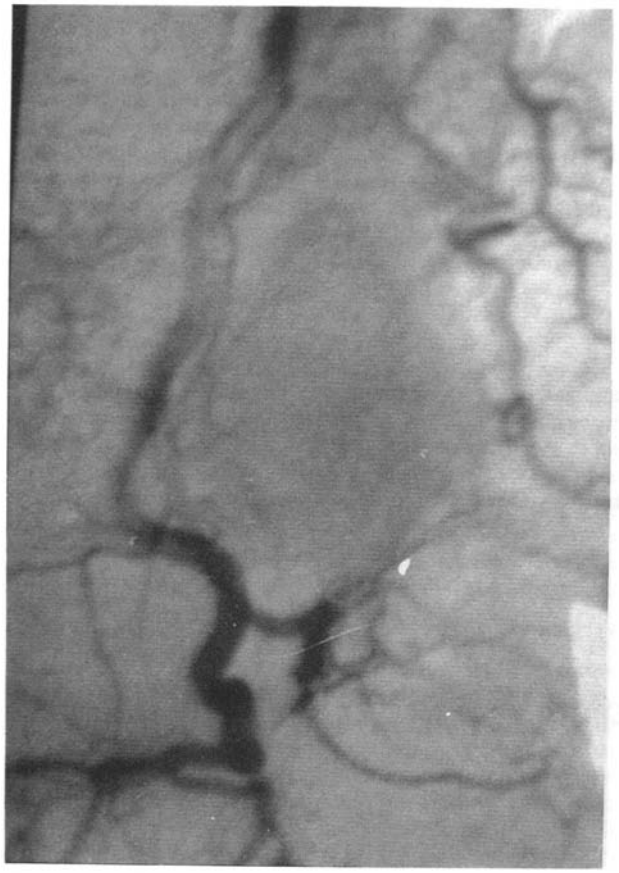

FIG. 3
Carotid angiogram demonstrating superior displacement of left internal maxillary artery by the mass. Note associated tumour stain.

The lateral boundaries include the ascending ramus of the mandible, the insertion of the medial pterygoid muscle and the parotid gland. The medial boundaries include the superior constrictor muscle, the pharyngeal mucosa and the palatine tonsil. Posteriorly the space is limited by the prevertebral muscles, the transverse process of the first cervical vertebrae and the mastoid process. Anteriorly, the space is limited by the pterygomandibular raphe.

A lesion developing in the parapharyngeal space can only extend medially and inferiorly, thus explaining the mode of presentation. The space is divided by the styloid process into the anterior prestyloid and posterior retrostyloid compartments. The prestyloid area lies adjacent to the lymph nodes and adipose tissue. The retrostyloid or visceral compartment

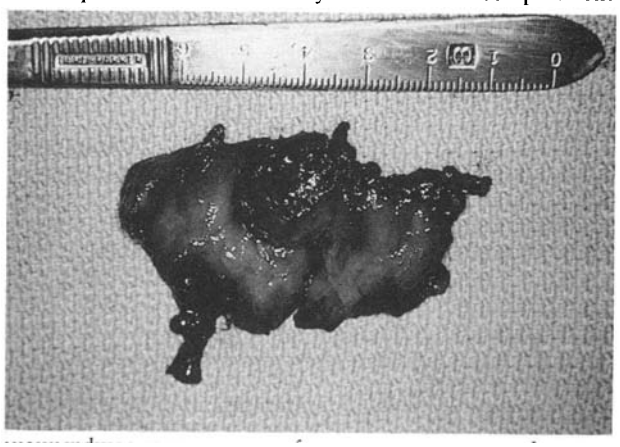

FIG. 4
Specimen (pseudolymphoma) upon removal.

FIG. 5
Photomicrograph of mass showing lymphoid tissue divided by broad fibrous bands. Scattered germinal centres are present.

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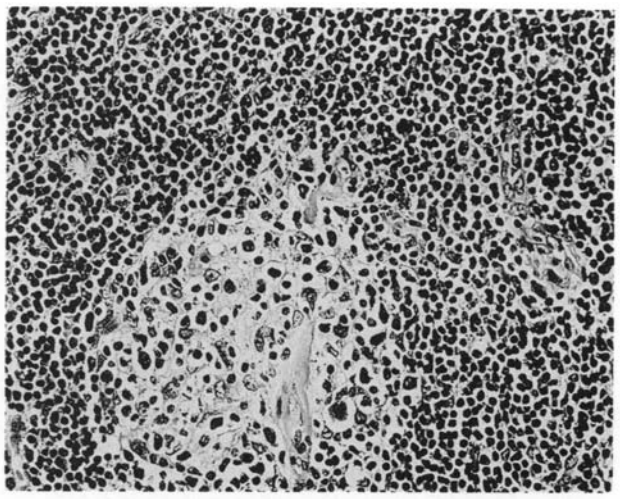

FIG. 6

Higher power showing a germinal centre surrounded by an infiltrate of small lymphocytes.

contains the carotid sheath and the last four cranial nerves. (Hutchinson *et al.*, 1964).

Tumours of the parapharyngeal space are uncommon, representing only 0.5% of head and neck tumours. The literature indicates 80 per cent to be benign and 20 per cent to be malignant. Fifty per cent are of salivary origin of which the pleomorphic adenoma is the most common. Neurogenic tumours represent 30 per cent; neurolemmomas from the vagus or sympathetic trunk predominate. Lymphoma is also fairly common. Branchial cleft cysts, lipomas and liposarcomas have also been identified in the literature. (Hutchinson *et al.*, 1964; Lawson *et al.*, 1979).

The patient with benign disease usually presents with minimal symptoms. An incidental bulge in the lateral pharyngeal wall may be noticed. The classic triad of intra-oral medial displacement of the lateral pharyngeal wall, tonsil and palate, lateral displacement of the parotid gland with retromandibular fullness and trismus are the major signs. The most frequent symptoms are throat discomfort, dysphagia, hearing loss and swelling in the upper neck (Lawson *et al.*, 1979). Involvement of the four caudal cranial nerves or the sympathetic chain may be present with tumours that are larger or malignant (Som *et al.*, 1981).

In 1963, Saltzman introduced the term 'pseudolymphoma' to describe a chronic inflammatory process in which the lymphocyte is the predominant cell. Since that time, most of the work has revolved around pseudolymphoma of the lung, where the lesion occurs most commonly (Fisher *et al.*, 1980; Costa and Martin, 1985). The second most common location is the stomach. Other areas include rectum and testes. In the head and neck, the diagnosis has been made in the orbit, salivary gland and tongue (Hutchinson *et al.*, 1964; Work and Hybels, 1976).

The aetiology is unknown. Most investigators consider pseudolymphoma to be a stage in a chronic inflammatory process. (Hutchinson *et al.*, 1964). Some consider it to be a prelymphoma or an intermediate phase between hyperplasia and lymphoma. Most reports concur that there are no gross features that differentiate pseudolymphoma from lymphocytic lymphoma (Greenberg *et al.*, 1972; Cheng and Douglas, 1978; Costa and Martin, 1985).

Histologically, pseudolymphoma is characterized by mostly mature lymphocytes with an admixture of plasma cells. Germinal centres are prominent. Lymph node involvement is not seen (Figs. 5 & 6) (Greenberg *et al.*, 1972; Cheng and Douglas, 1978; Julsrud *et al.*, 1978; Costa and Martin, 1985).

Pseudolymphomas are composed predominantly of B lymphocytes which are polyclonal when examined for immunoglobulin light chain expression (Koss *et al.*, 1983; Colby and Yousem, 1985; Gephardt *et al.*, 1986). The differential diagnosis includes small cell lymphocytic lymphoma, which expresses monoclonal surface immunoglobulin. Recently many lesions histologically characteristic of pseudolymphomas have been found to be monoclonal, suggesting that they represent an early form of lymphoma (Knowles and Jakobiec, 1985). Nevertheless, even if monoclonal, the process, if localized, may pursue a benign clinical course. Therefore, some have advocated that immunological markers need not necessarily be used as a guide to clinical management (Colby and Yousem, 1985).

In the present case fresh tissue for immunological markers was not available, and surface immunologic expression is not evaluable to paraffin sections. However, the histologic appearance was characteristic of a pseudolymphoma. The lesion was unique only by virtue of its location in the parapharyngeal space.

The true natural history and prognosis of pseudolymphoma are still not known; therefore, definitive treatment has not yet been established. Simple resection with careful follow-up has been advocated for localized disease (Lawson *et al.*, 1979), as was done in this case. For recurrences, both radiotherapy and immunosuppressive chemotherapy have been attempted (Fisher *et al.*, 1980).

Conclusion

A case report of pseudolymphoma of the parapharyngeal space is presented herein. The parapharyngeal space is an unusual location for this uncommon process. Pseudolymphoma must be differentiated from lymphocytic lymphoma, a disease process which it mimics. Appropriate management would seem to be initial excision followed by watchful waiting; radiation therapy and possibly immunosuppressive chemotherapy would be appropriate for recurrences.

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