Tumours of the Parapharyngeal Space

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Abstract

A series of 14 parapharyngeal tumours has been studied with regard to their symptology, pre-operative evaluation and surgical management. High resolution computed tomography is now the best initial diagnostic study because it helps to determine the size and extent of the tumour, differentiate tumours of parotid and extraparotid origin, demonstrate degree of tumour vascularity, separate benign from malignant lesions, plan the surgical approach and predict prognosis.

Tumours of the parapharyngeal space are rare, comprising only 0.5% of head and neck neoplasia (Work 1974). Because of the relative rarity of these lesions, description of these tumours has often been limited to small series and a few case reports. The anatomic characteristics of the parapharyngeal space make clinical examination of these tumours difficult and unreliable (Carrau et al, 1990). High resolution computerized tomography imaging has proved to be a very useful adjunct in the diagnosis and management of parapharyngeal tumours. The following study evaluated our experiences with the diagnostic and therapeutic approaches to tumours of the parapharyngeal space.

Analysis of Cases

The present paper is based on the clinical experience of 14 patients who presented with parapharyngeal masses in the OPD of the Department of E.N.T., SMS Medical College & Hospital, Jaipur. All patients in our study presented with a bulge in the lateral pharyngeal wall. Most patients had a visible or palpable mass at the angle of the mandible. Other symptoms seen included foreign body sensation, difficulty in swallowing, change in voice, respiratory distress (in 1 patient with a very large lymphoma) and other symptoms secondary to paralysis of cranial nerves. Clinical palpation with ballotment of the mass was done in all cases.

A CT scan was done in all cases. A carotid angiogram was done only if an enhancing mass was seen on CT.

The study of the lucent line on CT scan helped us to differentiate lesions arising from the deep lobe of the parotid gland from extra-parotid masses.

The histological diagnosis of the cases is shown in Table-I. It was seen that among the 24 cases only 2

Table - 1 Parapharyngeal Space Neoplasia	
Neurofibroma	5
Parotid adenoma	3
Ectopic Salivary Gland	2
Haemangioma	1
Tubercular Lymphadenitis	1
Lymphoma	1
Fibrosarcoma	1

were malignant while the rest were benign. The most common tumour group was neurofibroma followed by parotid adenoma. We came across only 2 malignancies-one lymphoma in a child presenting with a very large mass and respiratory distress while the other was a fibrosarcoma. Only in these malignant cases did we do an FNAC to determine the histological diagnosis and decide management. After studying the CT scan, we noted the extent of the tumour, its origin, probable histology and then we decided the surgical approach. In all benign tumours, we used an external approach for surgical excision as is shown in Table-II, except in the case of tuberculous lymphadenitis where anti-tubercular treatment was

Table - II
Management of Parapharyngeal Lesions

Transcervical Submaxillary	8
Transparotid	3
Chemotherapy	2
Radiotherapy	1

given. Chemotherapy was given to the lymphoma patient while fibrosarcoma was treated by radiotherapy as it was inoperable. There were few significant complications encountered following surgery. These have been enumerated in Table-III.

Table - III
Complications of Surgery

Temporary	
Hematoma	2
Neuropathies	
X	1
XII	1
XII	1
Marginal Mandibular	5
Permanent	
Neuropathies	
X	1
XII	1

Discussion

Tumours of the parapharyngeal space have been of interest to head and neck surgeons because of the wide variety of histologic tumours that occur in this area, the large size they often attain prior to diagnosis, the diagnostic dilemma they may present initially and finally the significant challenge that adequate resection may pose to their therapeutic management (Shoss et al, 1985). The unique characteristic of tumours of the parapharyngeal space is that they all present in a very similar fashion inspite of their wide variety of origin. Tumours originating within the parapharyngeal space usually grow in the path of least resistance into the lateral pharyngeal wall causing downward and medial displacement of the tonsils and palatal arches in the oropharynx. The pharyngeal and palatal mucosa is usually smooth without superficial ulceration because these lesions are anatomically lateral to the superior pharyngeal constrictor muscle.

High resolution CT scanning has facilitated and contributed significantly to the pre-operative assessment of these lesions. It helps in determining the size and extent of the tumour, differentiates tumours of parotid and extra-parotid origin, demonstrates the degree of tumour vascularity, separates benign from malignant lesions, helps in giving an idea of the histology of the tumour and thus assists in planning

Fig. 1. Parotid Swelling

the management of the tumour. The key features that can be delineated on CT scan are the “**Fibrofatty lines**”, enhancement with intravenous contrast and integrity of soft tissue planes. Som et al (1981) described a lucent line or zone of attenuation that occurs at the posterolateral margin of the parapharyngeal mass and the contrast filled parotid gland and represents the fibrofatty supporting matrix of the parapharyngeal space as it is compressed. If this radiolucent line is not seen on the scans through mid tumour planes, then the parapharyngeal mass is likely to be a tumour of the deep lobe of parotid. However if this radiolucent line is seen, then the mass is most likely of extraparotid origin. Tumours that enhance following injections of intravenous contrast material are suggestive of vascular neoplasms. If the lesion enhances, then arteriography is indicated.

The most common tumours presenting in the parapharyngeal space were of neurogenic and salivary gland origin. This was also seen in our series. 80% cases in a review cited by Shoss were benign. Our findings were similar.