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Case Report

MR IN COMPLETE CYSTIC AND MIXED INTENSITY PAROTID LESIONS : CASE REPORT AND REVIEW OF LITERATURE

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Abstract

Salivary glands are the first organs of digestion secreting their digestive juices into the oral cavity. Parotid glands are the largest glands in order of their size. In addition multiple small minor salivary glands are noted randomly distributed in the upper aero digestive tract, including the paranasal sinuses and para pharyngeal spaces. This article illustrates the role of magnetic resonance imaging in evaluating the various disease patterns of parotid glands.

Key words: parotid gland, MRI, warthin's tumor, adenocarcinoma.

INTRODUCTION

The demonstration of pathological lesions of salivary glands by magnetic resonance imaging (MRI) was achieved in 1993 (6) and the use of MRI is now widespread.

Parotid glands are superficial, to be well imaged by ultrasonography which gives good details but has limited role for deep parotid lobe. However, MRI scan gives more anatomical, morphological details which help in achieving more precise differential diagnosis.

Two abnormal cases of parotid tumors detected on sonography were later scanned by MRI in our Department of Radiology. Contrast enhanced studies were also done. We represent our experience with two such cases with FNAC and histopathological correlation.

DISCUSSION:-

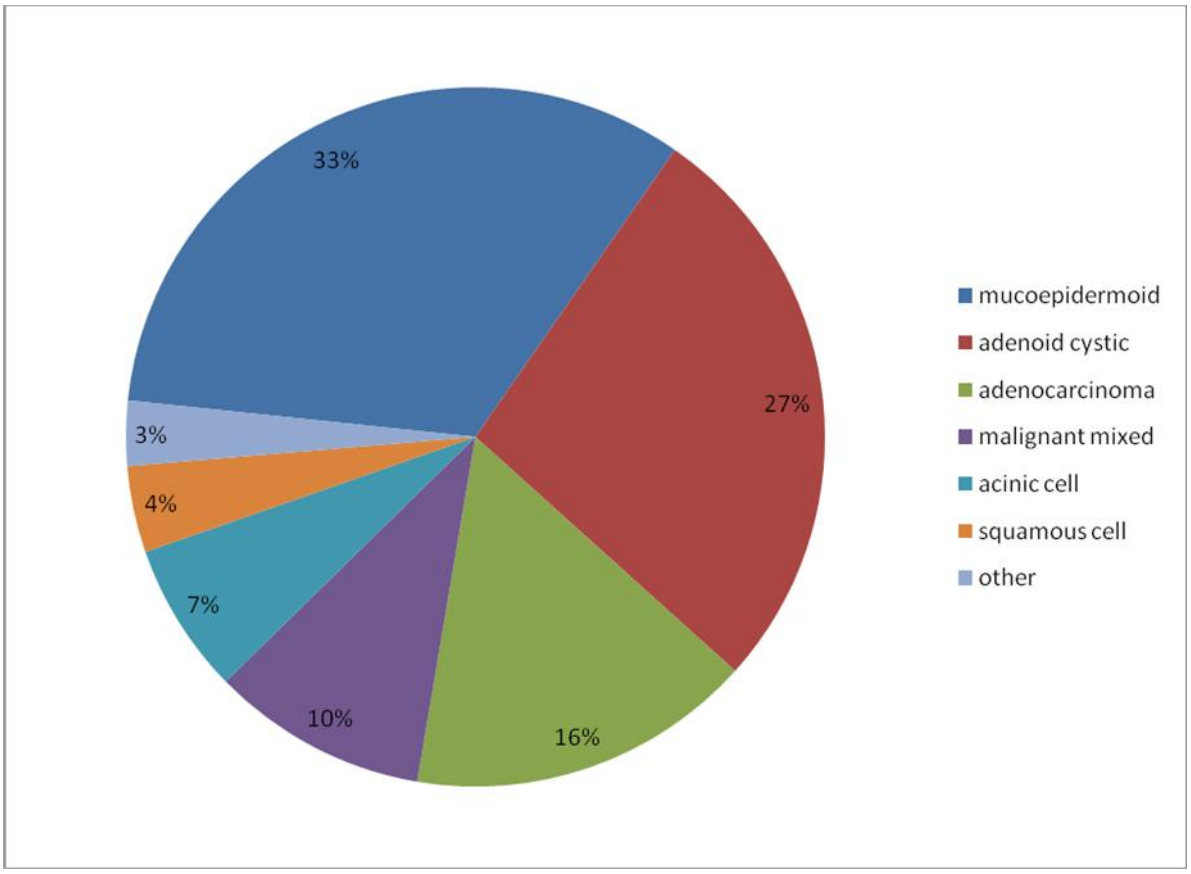
Salivary gland tumours are abnormal cells growing in the ducts that drain the salivary glands. The tumours, cystic and mixed intensity lesions usually cause a firm painless swelling in one or both the salivary glands, and the size of the swelling gradually increases. Sometimes, these tumours also cause facial nerve palsy or pain along the distribution of the nerve.

The most common type of salivary tumor is a slow growing non-cancerous (benign) parotid gland tumor, which gradually increases the size of the gland. However, some of these tumours can also be cancerous (malignant). The common benign tumor is pleomorphic adenoma and the most common malignant tumor is the mucoepidermoid carcinoma.

Table 1.

SALIVARY GLAND	MALIGNANCY RATE
PAROTID	20%
SUBMANDIBULAR	50%
SUBLINGUAL (MINOR)	65%

Figure 1 Types of parotid cancers



CASE REPORT ONE :

A 58 year old male presented with a mass around the mandibular angle with little discomfort at the jaw movements. The lesion is over a period of 5 to 6 months and is slow growing.

Ultrasonographic (USG) examination revealed a multiloculated/multiple mixed echogenic lesion dominantly involving the superficial part of the gland. Few enlarged adjacent submandibular lymph nodes noted.

Computed tomography (CT) and MRI are the usual investigations used for evaluating known/suspected salivary gland masses. Imaging alone cannot distinguish between different histologic types as all tumors are iso attenuating to glandular parenchyma on CT and hypo intense to gland on T1W MR Images. However both the modalities can sensitively differentiate between solid and cystic lesions. (4) (Figure 1).

MRI examination is preferred over CT when associated neural (facial, trigeminal, hypoglossal and lingual nerves) and meningeal involvement is suspected. The signs of malignancy on imaging include invasion of adjacent structures (nerves, bones, skull base, meninges and adjacent cervical spaces) and ruptures of the capsule. All of these are better delineated by MRI. Post gadolinium, fat suppressed T1W images are preferred for determining the invasion. Ill defined margins of the tumor on post contrast images are also highly suggestive of malignancy. (4) (Figure 2)

Incidental finding of mixed intense well defined subcutaneous lesion is seen in occipital region. (Figure 3)

Ultrasound guided FNAC of the lesion done. It turned out to be an adenocarcinoma as histopathological diagnosis. (Figure 4)

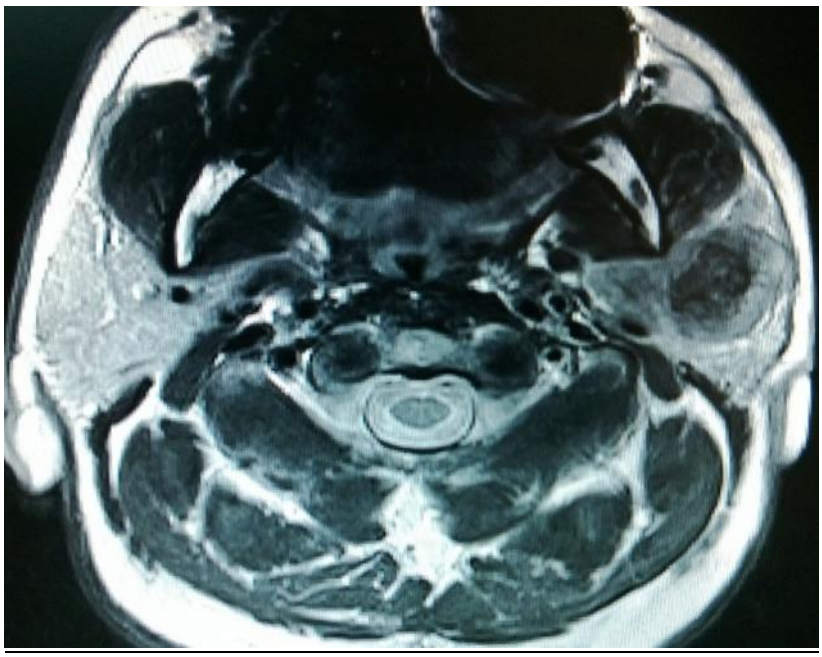


Figure 1 Axial image T1W showing hypo- to intermediate intensity lesion within the gland substance involving deep & superficial part

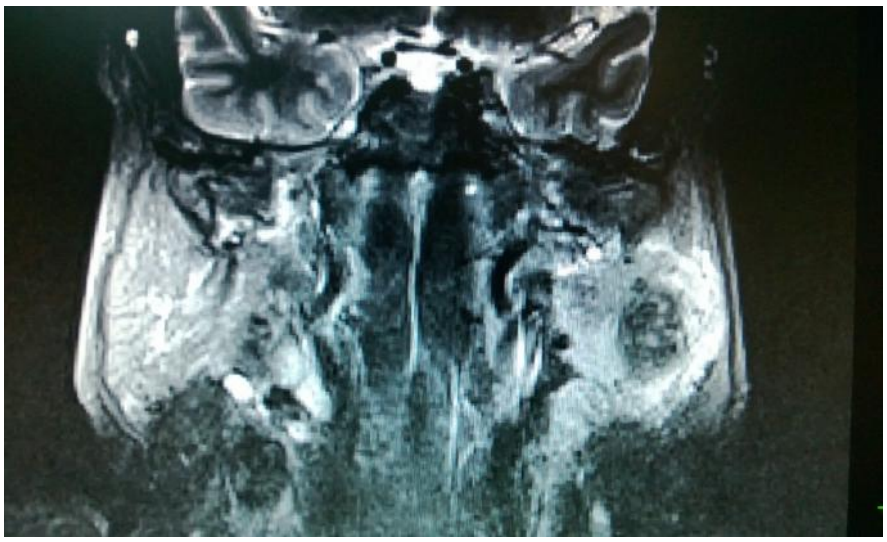


Figure 2: P**ost contrast T1 weighted image showing no obvious contrast enhancement in the lesion**

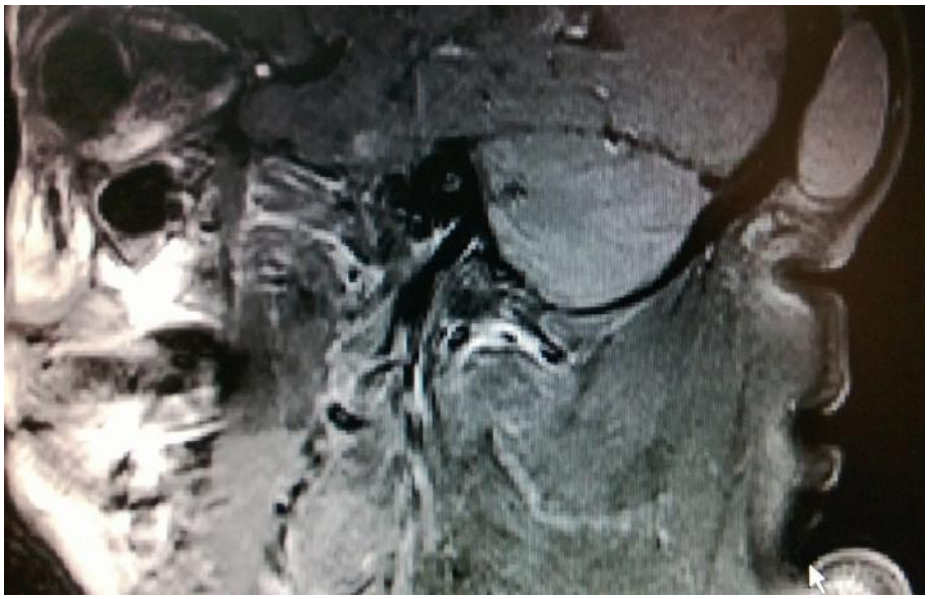


Figure 3: Soft tissue intensity lesion seen in subcutaneous plane in occipital region, an incidental finding

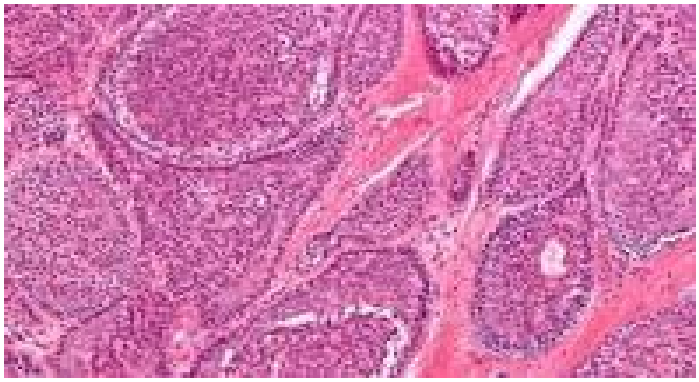


Figure 4: Histopathology

CASE REPORT TWO:

50 year old male patient came with painless swelling over right parotid region since 6-7 months. The lesion is mixed intense on T2 & FLAIR sequences with dominant hypointensity on T1 weighted images seen. Patchy areas of T2 hyperintensity seen within the substance of the lesion. No contrast study was done as the intraglandular ducts, sub/retro mandibular vein reveal no significant abnormality.

Warthins tumor (Syn. Adenolymphoma, papillary cystadenoma lymphomatosum) is a well recognized benign salivary gland neoplasm consisting of an epithelial as well as a lymphoid component .Malignant transformation in warthins tumor is rare.(5)(7).

The tumor may develop at any age, although it is rare under the age of 40, and shows slight male predominance. (5).

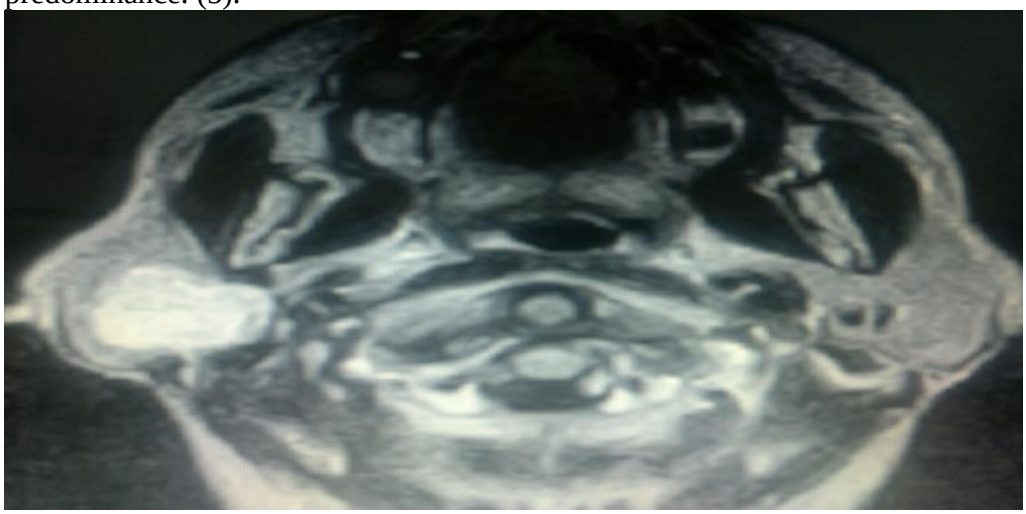


Figure 5: Hyperintense to mixed intense lesion in right parotid gland with extension to deep lobe

To present with, patient is asymptomatic, slowly growing oval to round mass is felt over the period of 6 months. Although the etiology of a benign parotid gland tumor is unknown, there is strange association of the tumor incidence with cigarette smoking. (7)

It may be complete cystic or of mixed intense variety (8). It was named after pathologist at the University of Michigan who was the first to report two cases in United States.

It occurs almost exclusively in the parotid gland and typically involves the lower pole of the parotid gland. It may be bilateral in 10% cases. (8). Post operative histopathology confirms the diagnosis.

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