Abstract:
FNA Smears stained with Hematoxylin and Eosin stain obtained from 93 patients with salivary gland enlargement were compared with those of histopathology wherever feasible. Histopathological correlation could be done in 29 cases. The accuracy rate of FNAC was 100 percent for cystic lesions, 88.8 percent for benign lesions and 85.7 percent for malignant neoplasms.

Keyword: FNAC, Cytology Histopathology, Inflammatory, Benign Malignant lesions

FNAC - A DIAGNOSTIC TOOL IN THE PREOPERATIVE WORKUP OF SALIVARY GLAND LESIONS WITH HISTOPATHOLOGICAL CORRELATION

INTRODUCTION:
Fine needle aspiration cytology (FNAC) of salivary gland lesions has an established role in preoperative diagnosis and management of patients. The interpretation of FNA of suspected salivary gland lesions has to be done step by step.

In the first place one has to decide whether the lesion is of salivary gland origin or a clinical mimic. The next step is to identify cells and their morphology to classify them into cystic, inflammatory or neoplastic lesions. This essentially eliminates unnecessary surgery in non neoplastic lesions.

MATERIALS AND METHODS:
In this retrospective study, cytological records of 93 salivary gland aspirates performed during 18 months (January 2010 to June 2011) were reviewed and histopathological correlation was done wherever feasible. FNA smears stained with Haematoxylin & Eosin of 93 salivary gland aspirates were evaluated according to cell size, amount of cytoplasm, cytologic atypia and presence of lymphocytes. Based on the cytological features diagnosis was arrived. This was then correlated with the paraflin embedded histopathological sections of the corresponding surgical specimen. Among the 93 aspirates,
29 surgical specimens were available for histopathological correlation.

RESULTS:
Review of the cytological records revealed, inflammatory lesions 36.55% (n=34), sialadenosis – non neoplastic, non inflammatory condition 7.52% (n=7), cystic lesions 5.4%(n=5), benign tumours 35.48% (n=33) and malignant neoplasms 15.05% (n=14).

DISCUSSION:
Fine needle aspiration cytology (FNAC) is commonly being used with increasing frequency for the pre-operative diagnostic work-up of salivary gland lesions. However, it has areas of considerable interpretational difficulties, the reasons being the extraordinary diversity of morphology in salivary gland lesions. Sialadenosis is a non-neoplastic, non inflammatory enlargement of salivary glands, mainly affecting the parotid. FNAC yields plenty of acinar epithelial cells, which appear normal or slightly increased in size. There are no inflammatory cells. In sialadenitis, the smear shows mainly ductal epithelial cells, few acinar cells and variable number of lymphocytes. Non-neoplastic cysts included, cysts associated with sialolithiasis, salivary duct cysts and lymphoepithelial cysts. Aspirated fluid was poor in cells but there were variable number of histiocytes, inflammatory cells and few degenerated epithelial cells.
It was established that over 90% of pleomorphic adenomas and most malignant tumours would be correctly typed by FNAC. The diagnosis of pleomorphic adenoma is based on presence of three elements, ie) 3-dimensional cohesive clusters of ductal cells, background of singly lying plasmacytoid myoepithelial cells and dense fibrillar chondromyxoid stroma with partially obscured entrapped myoepithelial cells. Tumours with intermediate size cells and bland cytology included low grade mucoepidermoid carcinoma and cystic lesions. Salivary duct carcinoma & high grade mucoepidermoid carcinoma revealed large cells and abundant cytoplasm with or without atypia.

However, there are also many pitfalls. These may be due to sampling problems. Most false – negative diagnosis relate to cystic tumours. Pleomorphic adenoma, warthin’s tumour, low grade mucoepidermoid carcinoma and acinic cell carcinoma can all occasionally be predominantly cystic. False - positive diagnosis can be caused by regenerative epithelial hyperplasia and squamous metaplasia in sialadenitis or warthin’s tumour.

CONCLUSION:
Fine needle aspiration cytology (FNAC) of salivary gland lesions has an established role in preoperative diagnosis and management of patients. FNAC helps to classify salivary gland lesions into cystic, inflammatory or neoplastic lesions. This essentially eliminates unnecessary surgery in non-neoplastic lesions. Perfect agreement in a majority of the lesions. The technique is simple, safe, convenient and an accurate screening method. Hence, FNAC is an effective diagnostic tool in investigating salivary gland lesions.

REFERENCES:


