

# Study Of Salivary Glands Masses by Cytology and Confirmed by Histology : An Evaluation of Complication With FNAC

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## ABSTRACT

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In this paper, we studied about the salivary glands masses by cytology and confirmed by histology, and an evaluation of complication with FNAC.

**Keywords :** Salivary Glands, Aspiration Cytology, FNAC

## I. INTRODUCTION

Fine needle aspiration cytology is the sampling of a palpable or non-palpable (Radiological) mass by means of fine needle with negative pressure applied by an attached syringe. The clinical value of FNAC is not limited to neoplastic condition only but it is also valuable in the diagnosis of inflammatory, infectious and degenerative condition. The major salivary glands are the sources of most glandular lesions. The localized swelling of the salivary gland may be caused by neoplastic, cystic, or sialolithiasis, sialadenitis or systemic disease; often difficult to differential diagnosis. Surgical biopsy has never gained wide acceptance for diagnosis of salivary gland lesion mainly because of the risk of fistula formation and complication. Moreover, certain neoplasms like pleomorphic adenoma to recur after excision has added to this fear.

## II. METHODS AND MATERIAL

The materials for the present work comprise of smears prepared from aspiration of masses from salivary glands attending the outdoor as well as admitted indoor patients of various department of Patna Medical College and Hospital, Patna. The clinical examination and investigation procedures were performed according to the performan given below:

### REGISTRATION AND HISTORY

Registration of Patient

- (i) Name
- (ii) Age/Sex
- (iii) Religion
- (iv) Occupation
- (v) Date of admission
- (vi) Registration number

Presenting complaints

History of present complain

- Duration of mass
- Any recurrent increases in growth
- Any pain in lump

**General Examination of the Patient**

**Local Examination of the Swelling of Salivary Gland**

**Investigation :**

- Routine examination of blood and urine.

### **FNAC (FINE NEEDLE ASPIRATION CYTOLOGY) OF THE SALIVARY GLAND SWELLING**

**Technique of FNAC:**

**Equipments:**

Needle and syringes: Standard disposable 22 gauge (<0.1 mm) 38 mm length mounted on a 10 ml plastic disposable syringe.

**Glass Slides:**

Fixatives: 90% ethanol in coupling jars

Others: Skin disinfectants, spirit, cotton swab, cover slip etc.

**Patient Preparation:**

The patients were explained the procedure to ensure co-operation. Most of the patients were made to lie down supine on the couch for convenience. The skin was disinfected at the area over the mass with spirit.

### **III. RESULTS AND DISCUSSION**

In case of salivary glands 55 cases were diagnosed as true positive (84.62%) and false positive (zero). True negative 5 cases (7.63%) and false negative 5 case (7.69%).

**Table 1:** Showing fallacious result in 65 cases of salivary glands masses by cytology and confirmed by histology

Tissue of origin	True positive	True negative	False positive	False negative
Salivary glands	55	5	0	5

The sensitivity of cytological diagnosis in this series

$$\text{Sensitivity} = \frac{\text{True} + \text{ve}}{\text{True} + \text{ve} + \text{false} - \text{ve}} = \frac{55}{55 + 5} = \frac{55}{60} = 91.67\%$$

Was 91.67%.

And specificity

$$\text{Specificity} = \frac{\text{True} - \text{ve}}{\text{True} - \text{ve} + \text{False} + \text{ve}} = \frac{5}{5 + 0} = \frac{5}{5} = 100\%$$

Was 100%.

**Practical Observation During FNAC:**

In this series only those patients were including who had presented themselves for both aspiration cytology as well as excision by surgical procedure. It was observed that majority of the parents were willing to subject their children to needling but not for surgical maneuvers. It was found that even some clinicians were reluctant to suggested for such maneuvers. The middle and older aged patients were willing for both aspiration and excisional biopsy. The needle aspiration could be done easily in relatively larger masses but with some different in smaller ones. Oozing of blood was observed in many cases but all were easily controlled by local pressure. Materials aspirated were usually sufficient for cytological examination except in a few cases. No complications due to fine needle aspiration were observed in this series.

### Evaluation of Complication with FNAC:

The postulated complication of FNAC like spread of tumor along needle tract, hematoma formation and infection were not noticed during the period, the patient stayed in the hospital. Local oozing of blood was noticed in many cases and they were controlled easily by firm pressure with dry cotton or gauze piece. Reported complication of the procedure are also minimal especially when fine needles of 21 to 23 gauge are used. In the present series 22-gauge needles were used. Many workers have studied the incidence of needle tract seeding after the FNA biopsy. **Edward H Smith, 1984** found the incidence as approximately 0.5: 10,000.

**Livargi et al., 1983** published literature showing 2 cases of needle tract seeding out of 11,000 cases.

**UEngzell PL Epostic (1971)** conducted a survey and followed the patient of FNAC for 10 years. There was no occurrence of tumour along the needle tract.

**Kline and Neal (1978). HO et al. (1977) Lalli et al. (1978)** have with much shorter follow up reported no evidence of significant complication, including needle tract seeding.

As regard to the vascular and lymphatic dissemination of tumour cells following FNA biopsy, no evidence of any complication has been observed in the series. Similar reports of **Berg and Robbins (1962), Engzell et al.** were documented.

**H. Mayanja, Kizza et al. (1985)** found no complication, especially of infections.

It can be thus inferred from these observations that fine needle aspiration cytology is not associated with any significant complication.

### IV. CONCLUSION

The overall diagnostic accuracy of fine needle aspiration cytology was 90.90%. There was zero false positive diagnosis cytologically with incidence of zero % out of total 95 cases of salivary glands masses diagnosis by fine needle aspiration cytology were possible in 65 cases. There was no complication whatsoever in the series as a result of fine needle aspiration biopsy.

We can conclude that FNAC of salivary glands masses has good diagnostic value in our centre. However, unbiased mind and thorough search of smear with patience are important pre-requisites for correct diagnosis.

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