Cytopathology of salivary gland lesions with histopathological correlation. A two year study in a tertiary care centre in South India

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Objective: To elucidate the cytomorphological features of various salivary gland lesions and explore the diagnostic accuracy and pitfalls of FNAC.

Materials and methods: 130 patients with various salivary gland lesions referred to the cytology lab of our institute over a period of two years were taken up for the study. FNAC was done with prior consent after recording the relevant clinical details. Only 61 patients who underwent surgery ultimately were included in the study.

Results: In the present study, we obtained 130 cases of salivary gland lesions. The age range of the group varied from 1year to 88 years with a mean age of 45 years. Biopsy confirmation of diagnosis was available in 61 cases. Benign tumors constituted the largest category followed by malignant tumors and inflammatory lesions (Table 1). Pleomorphic adenoma was the most common benign tumor and mucoepidermoid carcinoma was the most common malignant tumor in our study. The overall diagnostic accuracy of FNAC was 86.7% with a sensitivity of 56.3% and a specificity of 97.7% for detecting malignancy (Table 2).

Table 1: Frequency of salivary gland lesions

Histopathology	Frequency	% of total
Inflammatory lesions	6	10
Benign tumors	38	62
Malignant tumors	16	27
Others	1	1
Total	61	100

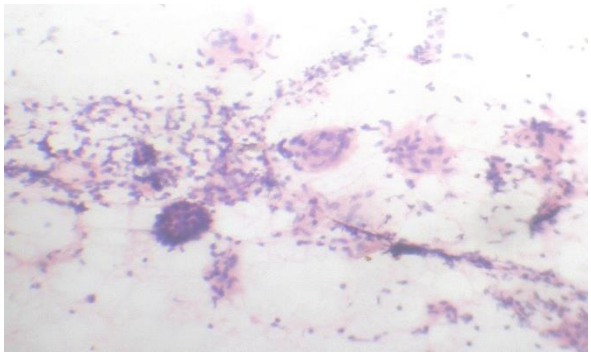
Table 2: Diagnostic accuracy of FNAC in various series

Author	No. of cases	Accuracy (%)
Lindberg et al[8] (1976)	461	81
Quizilbash et al[19] (1985)	101	93
Layfield et al[20] (1987)	171	92
Kocjan et al[17] (1990)	29	86
Al-Khafaji et al[18] (1998)	154	84
Postema et al[21] (2004)	388	96
Naderpour et al[1] (2008)	124	68
Omhare et al[22] (2014)	86	88
Present study	60	86.7

Conclusion: FNAC is a safe and economic procedure for preoperative evaluation and categorization of various salivary gland lesions. Proper sampling of lesions and adequate cellularity of the smears are the pre-requistes for an accurate diagnosis. Pitfalls in cytologic diagnosis were due to errors in sampling and interpretation of smears. This study highlights the utility of FNAC in distinguishing benign and malignant salivary gland tumors which are of utmost value in planning the further management of the patient.

Figures 1 to 4

Figure 1



Figure

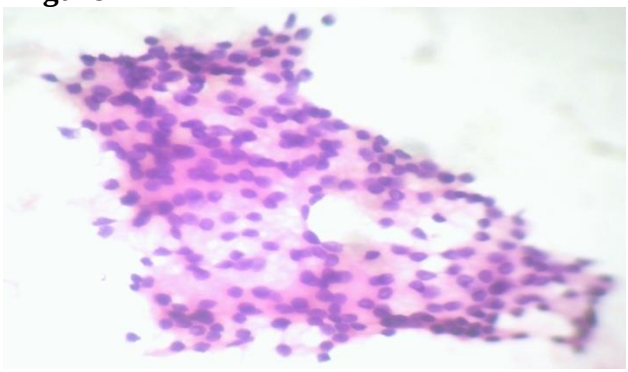


Figure 3

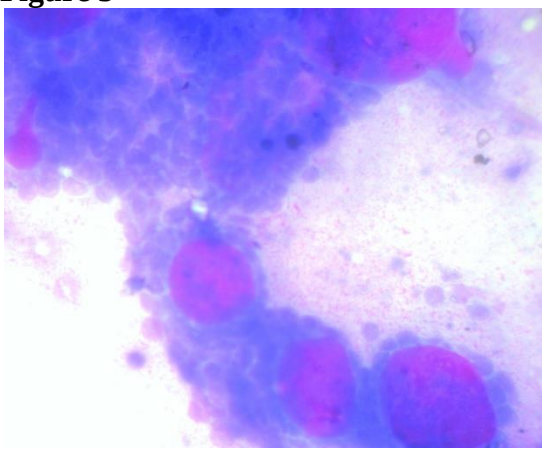


Figure 4

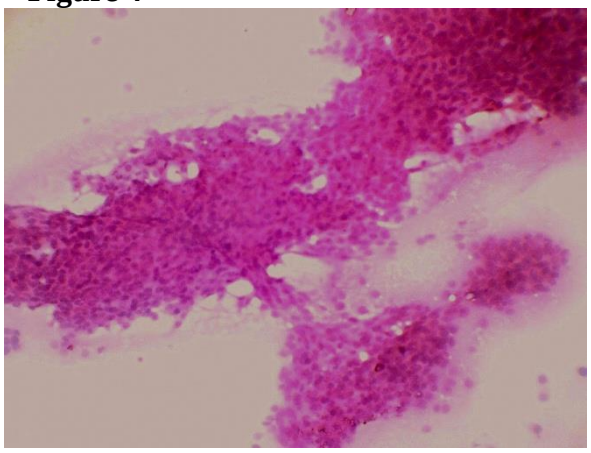


Figure 1 – Smear shows numerous granulomas composed of epithelioid cells, lymphocytes and plasma cells (Granulomatous sialadenitis) PAP x 100 **Figure 2** – Smear shows cells in clusters and microacinar pattern with abundant granular cytoplasm, round bland nuclei (Acinic cell carcinoma) PAP x 200 **Figure 3** – Smear shows cells in sheets with prominent hyaline stromal globules of varying sizes (Adenoid cystic carcinoma) Giemsa x 400 **Figure 4** – Smear shows small round cells in sheets and clusters (Small round cell tumor) Giemsa x 100