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Original article:

Study of tissue effects of fine needle aspiration on salivary gland tumours: Observational study

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Abstract:

Introduction: Fine-needle aspiration (FNA) is used widely in the initial workup and diagnosis of both palpable and deep-seated masses. Salivary glands are among the commonly aspirated locations in the head and neck area.

Material and methods: Present study was conducted in our Laboratory. Study design and Sample size was estimated with the help of expert. In our study, we included salivary gland tumours patients in wide age range. Routine FNAC was performed by the attending pathologist.Granulomata are recognised cytologically by observing aggregates of histiocytes with, and without, associated multinucleated giant cells.

Results: In our study, we found in 74 % patients as benign tumours while in 26 % observed malignancy.

Conclusion: In conclusion, our final results say that salivary gland FNAC is an effective diagnostic procedure for the evaluation of salivary gland lesions.

Keywords: FNAC, Salivary gland tumours

Introduction:

Fine-needle aspiration (FNA) is used widely in the initial workup and diagnosis of both palpable and deep-seated masses. Salivary glands are among the commonly aspirated locations in the head and neck area. Complications and clinical side effects that have been ascribed to this procedure are minimal, as long as very fine (23- to 25-gauge) needles are used.[1] Various tissue effects and changes to the lesion itself also have been addressed in case reports and small series. These include tumor infarction, needle track tumor seeding, intratumoral hemorrhage, and squamous metaplasia.[2] Rare cases of spontaneous infarction in some salivary gland tumors not subjected to preoperative FNA also have been reported.[3]

Material and methods:

Present study was conducted in our Laboratory. Study design and Sample size was estimated with the help of expert. In our study, we included salivary gland tumours patients in wide age range.

Routine FNAC was performed by the attending pathologist.

Granulomata are recognised cytologically by observing aggregates of histiocytes with, and without, associated multinucleated giant cells.

The eventual diagnosis of granulomatous inflammation by FNAC was confirmed either by surgery and/or by clinical investigations. In our study, during last two years 40 patients were participated with sufficient inclusion criteria. We excluded the patients that were without proper follow up.

Results:

Table 1) Age wise distribution of patients

Age range (Years)	Number of patients	Percentage
20 – 40	12	32
41-60	20	50
> 60	8	18
Total patients	40	40

Table 2) Gender wise distribution of patients

Gender	Number of patients	Percentage
Male	14	44
Female	26	56
Total patients	40	--

Table 3) Diagnosis wise distribution of patients

Diagnosis	Number of patients	Percentage
Salivary gland tumours – Benign	28	74
Malignant tumours	12	26

In our study, we found in 74 % patients as benign tumours while in 26 % observed malignancy.

The surgical tissue slides were assessed for the following parameters: tumor infarction, intratumoral hemorrhage, substantial fibrosis or granulation tissue, needle track seeding by tumor cells (malignant neoplasms), and overall diagnostic adequacy of the material.

The extent of infarction and hemorrhage was estimated semiquantitatively as a percentage of the submitted material on the glass slides, with an average estimate given in cases with more than 1 slide.

Discussion:

Fine-needle aspiration cytology (FNAC) has proven its value as an essential step in the diagnosis of salivary gland lesions. Although the majority of salivary gland lesions, especially those that are common and benign, can be diagnosed with ease on FNAC, limited cellularity and morphologic lesion heterogeneity can pose diagnostic challenges and lead to false-positive and false-negative diagnoses.[4,5]

The use of FNA as a first-line diagnostic procedure in the evaluation of palpable lesions in different regions of the body is practiced widely in many centers where the expertise is available. In the head and neck area, salivary gland masses commonly are diagnosed by FNA.[6]

The cytologic features of salivary gland lesions in FNAC specimens have been well defined and are described in detail in the literature. However, many studies have also pointed to the lack of optimum diagnostic sensitivity and specificity of FNAC in achieving a conclusive differentiation between some benign and malignant entities.[7-10] Other studies have emphasized the high cost-effective value of this diagnostic procedure, because it leads to a

reduction in unnecessary surgery.[11, 12] It has been demonstrated that FNAC of salivary gland lesions is associated with high diagnostic accuracy in benign rather than malignant lesions because of the heterogeneous morphology and architecture of malignant tumors, especially in patients who have biphasic neoplasms.[13]

Conclusion:

In conclusion, our final results says that salivary gland FNAC is an effective diagnostic procedure for the evaluation of salivary gland lesions.

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