

**Original article:**

## **Study of Fine Needle Aspiration Cytology of head and neck masses at tertiary care hospital**

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**Abstract:**

**Introduction:** The use of fine needle aspiration cytology (FNAC) in the investigation of lymphadenopathy has become an acceptable and widely practised minimally invasive technique, which is safe, simple, rapid and relatively pain-free.

**Material and methods:** Present study was conducted in our pathology Laboratory. Study design and Sample size was estimated with the help of expert. In our study , patients with superficial nodes were referred to a Head and Neck clinic for physical examination and further assessment. Routine FNAC was performed by the attending pathologist. Aspiration of superficial enlarged lymph nodes was performed free hand using a 23 G needle mounted on a Cameco handle. Both air-dried and wet-fixed slides were prepared.

**Results:** In our present study , mean age of patients was 51 years with female dominance cases. The eventual diagnoses based on surgical biopsy and clinical investigations were with 17 tuberculosis, 6 with NHL, 4 with Hodgkin's disease and 3 were with other confirmation.

**Conclusion:** From this study , we conclude that , FNA of head and neck masses proved to be a very useful diagnostic tool in separating inflammatory lesions (no surgical excision required) from cystic and neoplastic lesions. Tuberculosis type is to be most commonly observed in our country.

**Keywords:** FNAC , Neck masses , inflammatory lesions

**Introduction:**

The use of fine needle aspiration cytology (FNAC) in the investigation of lymphadenopathy has become an acceptable and widely practised minimally invasive technique, which is safe, simple, rapid and relatively pain-free.<sup>1</sup> FNAC is highly cost effective and accurate as a first line investigative technique with differential diagnoses including reactive hyperplasia/inflammatory conditions, granulomatous disorders and malignancy, stratifying cases requiring further investigations, surgical intervention or clinical follow-up.<sup>2</sup> FNA of head and neck masses proved to be a very useful diagnostic tool in separating inflammatory lesions (no surgical excision required) from cystic and neoplastic lesions.<sup>3</sup> It enhanced surgical planning for malignant diseases, allowing rapid referral of lymphomas and cancer cases to tertiary care centers for management. FNA is simple, cost effective and suitable for developing countries and small, secondary care hospitals with limited resources. Skilled personnel and routine audits are the keys to success.<sup>4</sup>

**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 , patients with superficial nodes were referred to a Head and Neck clinic for physical examination and further assessment. Routine FNAC was performed by the attending pathologist. Aspiration of superficial enlarged lymph nodes was performed free hand using a 23 G needle mounted on a Cameco handle. Both air-dried and wet-fixed slides were prepared.

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 three years 30 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
15-40	2	7
41-60	18	60
> 60	10	33
Total patients	30	100

**Table 2) Gender wise distribution of patients**

Gender	Number of patients	Percentage
Male	11	34
Female	19	76
Total patients	30	

**Table 3) Diagnosis wise distribution of patients**

Diagnosis	Number of patients	Percentage
Hodgkin's disease	4	14
NHL	6	24
TB	17	54
Others	3	8

In our present study , mean age of patients was 51 years with female dominance cases. The eventual diagnoses based on surgical biopsy and clinical investigations was with 17tuberculosis , 6 with NHL, 4 with Hodgkin's disease and 3 were with other confirmation.

### Discussion:

Fine Needle Aspiration Cytology (FNAC) is a simple, quick and inexpensive method that is used to sample superficial masses like those found in the neck and is usually performed in the outpatient clinic. FNAC as a first

line screening method has been recommended in suspected malignancy.<sup>5,6</sup> The presence of granulomata in an aspirate may indicate the presence of a neoplastic process.

In our present study, mean age of patients was 51 years with female dominance cases. The eventual diagnoses based on surgical biopsy and clinical investigations was with 17 tuberculosis, 6 with NHL, 4 with Hodgkin's disease and 3 were with other confirmation.

The background cell population needs to be scrutinised if a malignant lymphoma is suspected. Granulomata may be encountered in both Hodgkin's disease and non-Hodgkin's lymphoma, particularly T-cell lymphoma.<sup>7</sup> Hodgkin's lymphoma is characterised by the classic Reed-Sternberg cells in a background of sarcoid-like granulomata, reactive lymphoid cells and occasional eosinophils.<sup>8,9</sup> Occasionally, lymph nodes containing metastatic carcinoma may also show features of granulomata. Previous reports have been described in metastatic nasopharyngeal carcinoma, seminoma and malignant melanoma.<sup>10</sup> Histologically, non-caseating granulomata composed of epithelioid histiocytes with multinucleated giant cells are seen, but these can be indistinguishable from granulomatous inflammation from other causes. A series by Khurana *et al*<sup>11</sup> highlighted the difficulties encountered in making a definitive diagnosis of malignant neoplasm that mimics, or occurs, in association with granulomata.

In our present study, mean age of patients was 51 years with female dominance cases. The eventual diagnoses based on surgical biopsy and clinical investigations was with 17 tuberculosis, 6 with NHL, 4 with Hodgkin's disease and 3 were with other confirmation. We found it to be best methods for diagnosis purpose.

#### **Conclusion:**

From this study, we conclude that, FNA of head and neck masses proved to be a very useful diagnostic tool in separating inflammatory lesions (no surgical excision required) from cystic and neoplastic lesions. Tuberculosis type is to be most commonly observed in our country.

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