Role of Fine Needle Aspiration Cytology in the Detection of Lesions at a Tertiary Care Hospital in Bangladesh

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BACKGROUND

- For more than 60 years, fine needle aspiration cytology (FNAC) has been used as a diagnostic technique. FNAC enables a first-line examination of lesions to determine if the condition is non-neoplastic, benign or malignant.
- It is an economical, rapid, precise, less technically complex method and offers an alternative to conventional invasive biopsies in resource limited countries. FNAC is underutilized in both resource limited and developing countries.
- FNAC service is limited in the primary hospitals in Bangladesh. Despite having FNAC service in the tertiary hospitals in Bangladesh, the profile of the patients and their lesions is not well studied.

AIM

- The aim of this study was to determine the patient characteristics and the frequency and distribution of various lesions detected by FNAC at Dhaka Medical College Hospital (DMCH).

METHOD

- A cross-sectional descriptive study of all FNACs performed at DMCH during the period of February 2025 to April 2025 was conducted using an electronic database.
- The FNAC specimens were characterized according to gender, age, anatomical sites, and the cytological diagnosis. Chi-squared test was performed to analyze data. P <0.05 was considered significant.

RESULTS

Table 1: Gender and age of patients.

Variable	Total number = 640 (%)
Gender	
Female	333 (52)
Male	307 (48)
Age (years)	
≤18	110 (17.2)
19-64	505 (78.9)
≥65	25 (3.9)

RESULTS

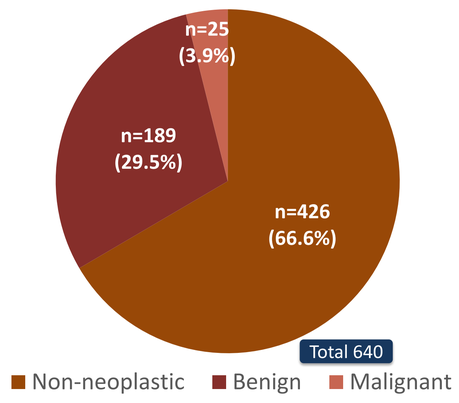

Figure 1. Types of lesions.

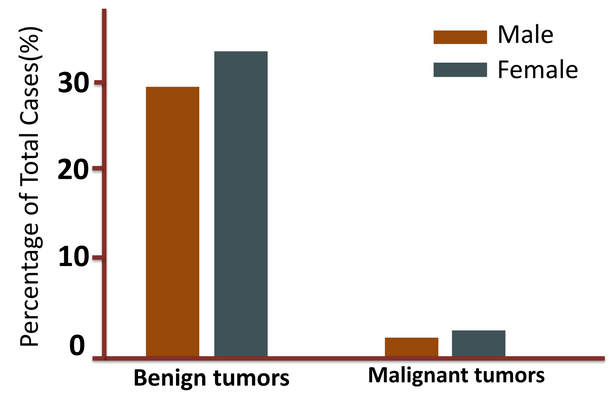

Figure 2. Frequency of neoplastic tumors in males and females.

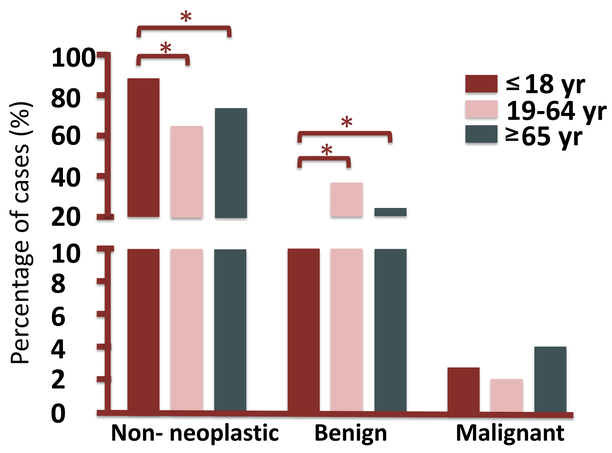

Figure 3. Frequency of cases in different age groups. Non-neoplastic lesions are higher in children. Benign tumors are higher in adults. Malignant tumors are higher in older adults.

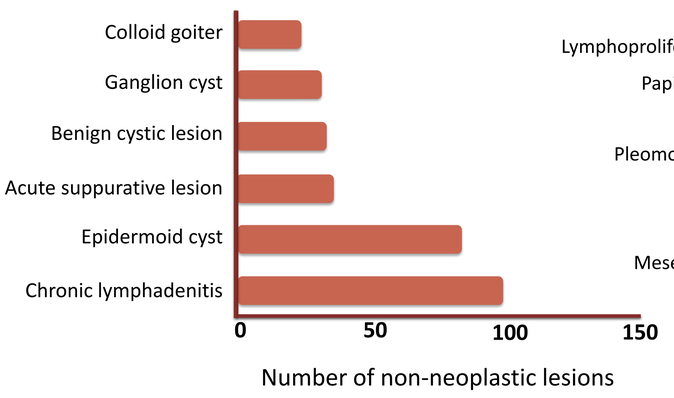

Figure 4. Types of non-neoplastic lesions.

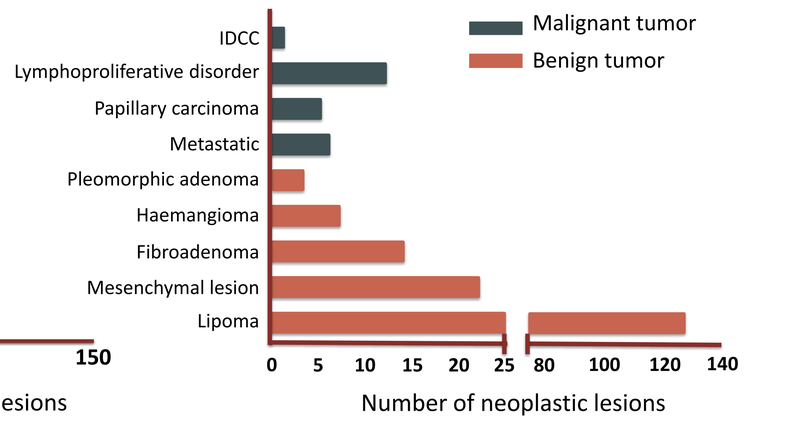

Figure 5. Types of neoplastic lesions.

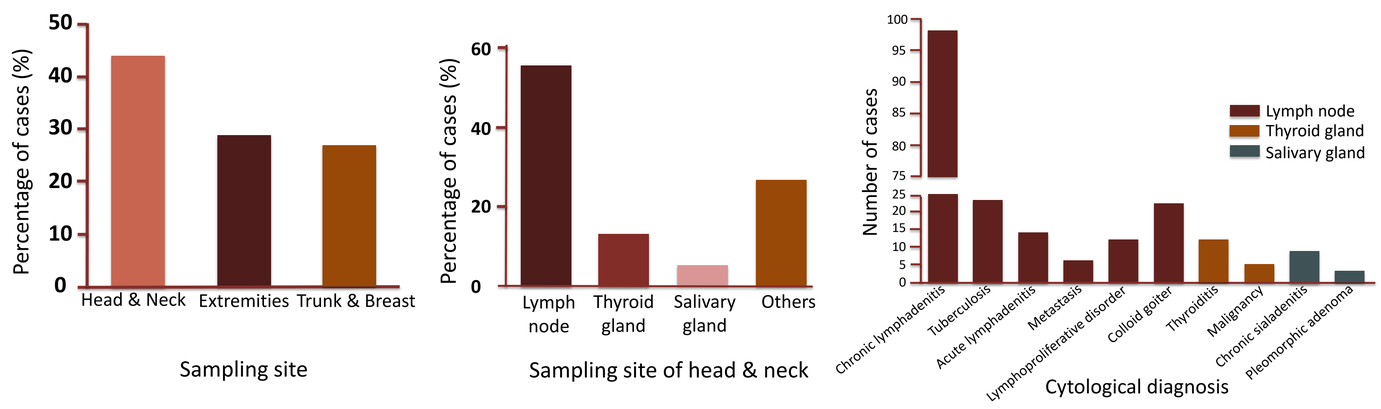

Figure 6. Frequency of cases in different sampling sites

CONCLUSION

- Non-neoplastic conditions and benign tumors diagnosed by FNAC can be followed conservatively, thus reducing the number of surgical cases.
- These findings will help in planning of establishment of FNAC services more widely in Bangladesh.
- Future research with bigger sample sizes and prospective designs are necessary to confirm these findings, to determine the accuracy of FNAC and to improve procedural methods.

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