Introduction

The diagnosis of thyroid lesions poses significant challenges for surgeons. Fine needle aspiration cytology (FNAC) and stains are the mainstay in the diagnosis of thyroid lesions. However, frozen section technique is still considered as the gold standard for rapid intraoperative diagnosis. Although the rate of success in this regard may be high, there may be comparable diagnostic errors in up to 20% of cases. It is highly likely that in such circumstances, the surgeon may have to proceed to thyroidectomy. Hence, the aim of the current study was to demonstrate the validity of imprint cytology as an alternative to frozen section for rapid intraoperative diagnosis.

Methods and materials

A total of 57 cases were included in the study. All of them were from the fresh specimen sent for frozen section from departments of otolaryngology and surgery of BSMMU. Imprint slides were prepared from the fresh specimen with thyroid fixative. These slides were also stained with rapid H and E stain. The imprint slides were observed by an experienced pathologist. The sensitivity, specificity, positive and negative predictive values as well as accuracy were calculated. The results of these examinations were compared with final histological diagnosis.

Results

Diagnostic accuracy, sensitivity, specificity, positive and negative predictive values of imprint cytology were determined comparing with final histological diagnosis. Diagnostic accuracy, sensitivity, specificity, positive and negative predictive values of imprint cytology were 81.25%, 66.66%, 92.59%, 100% and 100% respectively.

Discussion

Diagnostic accuracy of imprint cytology was close to that of frozen section. However, sensitivity was relatively lower. It pointed out very low rate of false positivity. Since only one case was false positive, the positive predictive value and negative predictive value of imprint cytology were 100% and 100% respectively.

Conclusion

Imprint cytology, although, was an effective tool for rapid intraoperative diagnosis of thyroid lesions. It is recommended to use imprint cytology as an alternative to frozen section in hospitals where facilities are not available. It can solve the diagnostic problem in emergency cases and can help the surgeon in making a right decision.

References


5. Taneri F et al (2001) 96% 83.3% 97.7%

6. Francis and Das (1999). But specificity of imprint cytology was close to that of frozen section.


9. Taneri F et al (2001) 96% 83.3% 97.7%