

FP 16: Diagnostic Utility of Fine Needle Aspiration Biopsy and Frozen Section in Parotid Masses: a 5-year Retrospective Review in a Tertiary Government Hospital, An Update

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Background: Parotid lesions are common at the outpatient department. Routine use of fine needle aspiration biopsy (FNAB) in the evaluation of parotid gland lesions is unnecessary but in suspicion of malignant disease, preoperative FNAB may be useful prior to surgery. On the other hand, frozen section (FS) of parotid lesions, when indicated, guides the surgeon as to the extent of surgery. The goal of this study is to determine the diagnostic utility of FNAB and FS of parotid tumors.

Method: A retrospective cohort study design is used. Patients who underwent parotidectomy in our institution with preoperative FNAB were included in the study. Chart review were done and the results of FNAB, Frozen section, and final histopathologic results were recorded.

Results: There are 103 patients who underwent parotidectomy, 92 of which has pre-operative FNAB and 10 patients with intraoperative FS. There were 9 false negative results from FNAB and 0 false positive results. FNAB has a specificity of 100%, sensitivity of 64%, positive predictive value 100% and negative predictive value of 87%. Frozen section has a 100% sensitivity and specificity as well as positive and negative predictive value.

Conclusion: The results are comparable to the previous study by Hardillo et. al in the same institution. FNAB can correctly diagnose benign tumors. However, its lower negative predictive value cannot ensure that a negative result is still malignant after the final histopathologic result. We can now request for intraoperative FS as the diagnostic accuracy of FS is 100% with specificity and sensitivity of 100%.

References:

1. Schmidt RL, et al. A Systematic Review and Meta-Analysis of the Diagnostic Accuracy of Fine Needle Aspiration Cytology for Parotid Gland Lesions. 2011, American Journal of Clinical Pathology, pp. 135:45-50.
2. Dias, K, et al. High Diagnostic Accuracy and Reproducibility of Fine-needle Aspiration Cytology for Diagnosis in Salivary Gland Tumors: Cystohistologic Correlation in 182 Cases. : Oral Surg, Oral Med, Oral Pathol, Oral Radiol, 2014, Vols. 118:226-235.
3. Schmidt RL, et al. A Systematic Review and Meta-analysis of the Diagnostic Accuracy of Frozen Section for Parotid Gland Lesions. 2011, American Journal of Clinical Pathology, pp. 136: 729-738.
4. Piccioni, L, et al., et al. s.l.Fine Needle Aspiration Cytology in the Diagnosis of Parotid Lesions. : Acta Otorhinolaryngol Ital, 2011, Vols. 31:1-4.
5. Cruz, R. The Accuracy Of Fine Needle Aspiration Biopsy In Diagnosing Malignancy Of Major I' Salivary Gland Tumors. The Philippine Journal of Otorhinolaryngology, Head and Neck Surgery. 2004. 9:132-136
6. Hardillo JA, et al., Comparison of Fine Needle Aspiration Biopsy and Frozen Section in the Diagnosis of Parotid Neoplasms. The Philippine Journal of Otorhinolaryngology, Head and Neck Surgery. 1996. 16: 52—56
7. Cohen et al. Fine Needle Aspiration Biopsy of Salivary Gland Lesions in a Selected Patient Population. Arch Otolaryngol Head Neck Surg. 2004;130(6):773-778.