Diagnostic Efficacy of Fine-Needle Aspiration Biopsies of Head and Neck Lesions: A Review of 153 Cases at a Large Academic Medical Center

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Fine-needle aspiration biopsy (FNAB) is a simple, inexpensive, easily accessible, and safe procedure with high diagnostic yield for head and neck lesions. We conducted a retrospective study of FNAB cases from the head and neck region and correlated the results with subsequent histologic diagnosis when available. We reviewed FNAB results for head and neck lesions for a period of 6 years (2006-2011) at a tertiary medical center. Cases only with subsequent surgical resection were selected for this study. The cytohistologic correlation was done. With the available data, the sensitivity, specificity, positive predictive value, and negative predictive value were calculated.

During a period of 6 years, 153 FNABs with subsequent surgical resection were performed for head and neck lesions at our institution. There were 88 male and 65 female patients with a mean age of 30 years (range, 2-83 years). There were 73 benign diagnoses and 80 malignant neoplasms. Of the benign diagnoses, pleomorphic adenoma was most common (n = 23); others were reactive lymphoid hyperplasia (n = 8), sialadentitis (n = 3), and Warthin tumor (n = 9). Of the malignant neoplasms, squamous cell carcinoma was most common (n = 29). Of the 153 cases, 35 (22.9%) showed cytohistologic disparity; following exclusion of 12 nondiagnostic specimens, the cytohistologic disparity rate fell to 16.3% (23/141). For benign and malignant lesions, the cytohistologic correlation rates were 80% (35/44) and 86% (83/97), respectively. After excluding nondiagnostic specimens, FNAB sensitivity, specificity, positive predictive value, and negative predictive value were 85%, 79%, 92%, and 62%, respectively. At our institution, the low cytohistologic disparity rates of FNAB for head and neck lesions suggest a high level of preoperative diagnostic accuracy. Nondiagnostic specimens comprised only a few of the FNAB cases, which may reflect sampling errors or technical difficulties. Despite these limitations, FNAB is a highly effective first-line diagnostic modality for head and neck lesions.

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