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THE DIAGNOSTIC VALUE OF FINE NEEDLE ASPIRATION BIOPSY OF HEAD AND NECK MASSES

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ABSTRACT

In an attempt to determine the diagnostic value of FNA biopsy of head and neck masses, we reviewed FNAs performed on target lesions of the head and neck in 159 patients who subsequently underwent surgery in Khalili hospital during a 55 month period.

Results of FNAs were compared with postsurgical histologic diagnoses. These 159 cases were broken down into four categories: thyroid masses 34, lymph nodes 36, salivary gland masses 58, and masses not classified in the first three categories 31.

Values of specificity, sensitivity, positive predictive vlaue (in diagnosing malignancy) and negative predictive value (in diagnosis of benign disease) were calculated for each category and for all masses.

Overall, we obtained a sensitivity of 77%, specificity of 94%, positive predictive value of 84% and negative predictive value of 90% that was comparable with several other studies performed elsewhere, except that our elevated numbers of false negative in the salivary gland category lowered the sensitivity of FNA in this category to 57% and the overall sensitivity to 77%.

The other disparity between our results and those of other studies[1] is our slightly elevated false negative rate (6.9%),
overall sensitivity.
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INTRODUCTION

The use of needle aspiration for purposes of diagnosis can be traced back to 1847 when Kun described "a new instrument for diagnosis of tumors". There followed occasional sporadic reports of this technique toward the end of the 19th century. In 1927 in the U.K. Dudgen and Patric proposed needle aspiration as a means of rapid microscopic diagnosis.[1] During the past two decades FNA has gained popularity as a valuable adjunct in the evaluation of head and neck masses.

Masses in the head and neck often pose a diagnostic dilemma. For decades head and neck surgeons have advocated a careful search for primary malignancy before the presenting neck lump is biopsied. The reasons for avoiding ill-advised early biopsy have been well described[3-4] and include seeding of tumor cells into avascular planes making them resistant to curative radiotherapy or chemotherapy, and the placing of a biopsy incision in an area which may subsequently be inappropriate for radical neck dissection flaps.

It is generally accepted that when metastatic squamous cell carcinoma in the head and neck recurs after an original ill-advised neck node biopsy, it invariably does so at the site of that biopsy regardless of whether the patient was treated by radiotherapy, surgery or both.

Despite the efforts of several generations of head and neck surgeons to prevent the too early biopsy of masses in the neck, the urge to biopsy a prominent lump seems overwhelming.

Surgeons and nonsurgeons alike continue to excise ma-

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by different pathologists. Our high false negative rate and "insufficient for diagnosis" reports is most likely due to inadequate sampling and/or failure to smear and preserve the specimen properly.

It seems that the number of insufficient specimens can be decreased if: 1) residents, cytopathologists and surgeons performing FNA receive adequate training in the proper aspiration techniques; 2) multiple aspirations are taken from each mass; 3) insufficient aspirations are repeated; and 4) cytologic specimens be reported by trained cytopathologists.

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