INTRODUCTION

In the evaluation of the neoplastic diseases of the parotid gland, the clinical features and imaging do not allow an accurate distinction among benign and malignant lesions. For this reason Fine Needle Aspiration Biopsy (FNAB) has had an increasing role in the preoperative diagnosis of parotid neoplasias. Safe, rapid and cost-effective alternative. However, there is still controversy in its usefulness in the study of neoplastic lesions with great divergence among several validation studies. In addition, in Latin America it has not been evaluated before.

Objective

Evaluate the accuracy of fine needle aspiration cytology in the diagnosis of cancers lesions of the parotid gland using the final histopathological exam of the gland as the gold standard.

MATERIALS Y METHODS

Study Subjects and Samples

The study included patients of 7 health institutions: Hospital Universitario de Santander, Clínica Chicoamaco, Clínica Comuneros, Clínica Carlos Ardiña Lulle, Clínica Bucaramanga, Clínica de SaludCoop and Clínica Metropolitana, located in Bucaramanga, Colombia between 2004 and 2005. The study subjects were seen at the head and neck unit due to palpable masses in the parotid area. Clinical interview and FNABs were performed by head and neck surgeons.

The slides were PAP stained and interpreted by cytopathology-certified pathologists without the knowledge of the subject’s clinical data. Diagnostic results were classified based on the World Health Organization (WHO).

After 30 to 60 days a partial vs. total parotidectomy performed by head and neck surgeons. The surgical specimens were submitted for histopathological evaluation. Hematoxilin-eosin stained slides were reviewed by surgical pathologists without patient knowledge of the clinical data and FNAB results. The resulting diagnosis was classified using the WHO classification.

DISCUSSION

Parotid gland FNAB is largely used due to the implicity and minimal risk associated with the procedure although it is not entirely accurate. This has been associated to a number of factors.

In our study FNAB had a 53.8% moderate sensitivity and 90.9% high specificity, indicating their usefulness to confirm a diagnosis rather than to detect the healthy population. The PPV was 99.9%, the NPV was not efficient, indicating a high rate of false positives. The (+) and (-) LR show a small but important change in the likelihood of having or not a cancerous lesion, based on a positive or negative result. Lastly a 48.21% kappa value shows a poor correlation among the FNA and tissue histopathology with an important divergence in the results.

It is of special interest the great divergence of the results among different series. With sensitivity for malignant lesions ranging from 90% to 100% and specificity between 82 and 100%.

In our study 3 false positives were identified (0.5%) all corresponded to pleomorphic adenomas, on the other hand, 6 false negatives (13%) were documented which corresponded to adenoid cystic carcinoma (2 cases), lymphoma (2 cases), mucous epitheloid carcinoma (1 case), and acinar cell carcinoma (1 case). These are also consistent with the commonest false positive results previously reported.

However, it should be made clear that this study is not deficient, in this stage that is used it isn’t the only test to clarify the type of lesion that has compromised the gland, except that it is part of the total preoperative diagnostic study that is done. If it is done in conjunction with an adequate clinical and imaginological exam, and the results of the exams are in conjunction, the preoperative approximation is sufficiently precise that is the reason that these 3 combined tools are recommended.

In conclusion, our study of FNAB had an average accuracy in the diagnosis of parotid gland cancer, this coincides with other studies that have done been associated to a number of factors. The low sensitivity and negative likelihood ratio limits its usefulness as a screening technique and the low kappa demonstrates a poor correlation among the FNA and tissue histopathology with an important divergence in the results.

The result of our study FNAB had an average accuracy in the diagnosis of parotid gland cancer, this coincides with other studies that have been done. However, it should be made clear that this study is not deficient, in this stage that is used it isn’t the only test to clarify the type of lesion that has compromised the gland, except that it is part of the total preoperative diagnostic study that is done. If it is done in conjunction with an adequate clinical and imaginological exam, and the results of the exams are in conjunction, the preoperative approximation is sufficiently precise that is the reason that these 3 combined tools are recommended.

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