FINE NEEDLE ASPIRATION CYTOLOGY OF BODY MASSES WITH HISTOPATHOLOGICAL CORRELATION: A FIVE YEAR STUDY IN TIKRIT CITY-IRAQ

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RESULTS

A total of 1162 patients underwent FNA during the study period, patient age ranged from 9 months - 90 years, with median age was 45 years. Out of these 89 cases (7.6%) are nondiagnostic. 14% (14 cases) were inadequate & 6.4%(75 cases) were inconclusive. The majority of FNA procedures were performed on female patients (817 females; 70% of the study group).

The FNA results according to the site of origin are illustrated in table (1), when the most common site aspirated is the breast (387 cases) followed by thyroid gland(296 cases), followed by lymph nodes (260 cases), soft tissue 134 cases), salivary glands(47 cases), skin(25 cases) & testes(13 cases). The majority of aspirates were benign for each individual body sites (225 out of 387 breast aspirates), 257 out of 296 for thyroid, 148 out of 260 for lymph nodes, 116 out of 134 for soft tissues, 45 out of 47 for salivary glands, 5 out of 13 for testes & 12 out of 25 for skin aspirates. The most common benign lesion was colloid goiter nodules, they were 234 cases(20%), followed by mesothelial disease of the breast 99 cases(8.5%), reactive follicular hyperplasia 58 cases (5%), soft tissue lipomas 30 cases(2.6%) & pleomorphic adenoma of salivary glands 16 cases(1.4%), malignancy is represented most commonly by carcinoma which represent 100% of breast, thyroid, salivary glands & skin malignancies while in lymph nodes it represent 48%, sarcoma represents 100% of soft tissue malignancies & seroma represent 100% of testicular malignancies. Indeterminate or nondiagnostic results were divided into inconclusive & indefinite. If the aspirate material is inadequate then defer diagnostic & concordant if it is positive or suspicious then consider it as positive & one false positive. The sensitivity, specificity, positive predictive value, negative predictive value & accuracy are show in (table 3).

Overall sensitivity for FNA was 87.4% (range, 87.7%-90.1%) with a specificity of 95.9% (range, 95.5%-96.4%) and accuracy of 91.6% (range, 89.8%-93.8%). The sensitivity for thyroid was the lowest, this is because of sampling error in fine nodular goiter.

Suspicious cases were included with the malignant cases to achieve greater sensitivity, when the suspicious cases also need histopathological confirmation. In total 533 patients underwent surgical diagnostic procedures for histopathological confirmation of their FNA results are summarized in table (2), 49 patients of these 533 had inconclusive FNA with subsequent surgical biopsies. In 82 cases either no surgery is done despite an indication by FNA or no available informations. In 21 cases(4%) were spared surgery as these patient had benign lesions & receive conservative treatment or on occasions they diagnosed as medically treated malignancy.

Of 533 cases those underwent FNA & also had available histopathological results, 459(83%) had diagnostic results either benign or malignant, and concordant FNA-histopathological results, there were nine cases that have discrepant FNA-histopathological results representing cases of missed malignancy & one false positive. The sensitivity, specificity, positive predictive value, negative predictive value & accuracy are show in (table 3).

SUMMARY

Fine needle aspiration (FNA) is accepted as the diagnostic procedure of choice in the management of superficial palpable body masses. The purpose of this study is to evaluate the diagnostic accuracy of fine needle aspiration with histopathological confirmation when it is performed by experienced hands to get a more reliable results.

Highly reliable results can be obtained when patients are referred to specialty-trained cytologist for FNA biopsy of superficial palpable mass lesion.

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