A Cyto-Histopathological Study Of Image Guided Core Biopsies

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Background

Non-operative pathology diagnoses should constitute an essential part of comprehensive work-up of mass lesions. A quick and reliable preliminary diagnosis is essential in the management of such cases as information is valuable for the same day patient counselling and management planning. The possibility of severe complications such as respiratory distress or circulatory compression mandates rapid diagnosis and treatment of lung/mediastinal masses. With an on-site approach, imprint cytology(IC) on core biopsy (CB) can assess the adequacy of biopsy specimens, optimise the biopsy procedure and provide a rapid diagnosis regarding the malignancy or benignity of a lesion. It is an attempt to get the best of both worlds i.e., cytology and histology without significant extra cost.

Imprint cytology(IC) on core biopsy (CB) offers an attempt to get the best of both worlds i.e., cytology and histology without significant extra cost.

Aims & Objectives

To study and compare IC and histopathology (HP) of CB.

Material & Methods

Image guided core biopsy was done on patients with a clinically or radiologically detected mass lesion. Co-axial needle of 18-gauge in a core biopsy gun was used. Imprints were made on 4-6 slides by rolling the core of tissue over them. The slides were evaluated using May Grunwald Giemsa, Papanicolaou, Haematoxylin & Eosin stains. Biopsies were placed in 10% formalin for histopathological examination and special stains were done wherever necessary.

Results

Core biopsy and IC were done in 57cases. Out of which, 39cases (68.43%) were neoplastic and 18cases (31.57%) were non-neoplastic/inflammatory. IC correlated with histopathology examination (HPE) in 54cases (94.73%). IC correlated with HPE in all cases of neoplastic lesions. Out of 17 non-neoplastic/inflammatory cases, IC correlated with HPE in 14cases (82.35%). The overall sensitivity was100 %, specificity was 94.73 %, positive predictive value was 97.43%, negative predictive value was 100 % and diagnostic accuracy was 98.24%.

Conclusions

Imprint cytology provides a rapid, accurate preliminary diagnosis and might contribute to the final diagnosis. IC helps to guarantee that the specimens obtained adequately represent the lesion. When IC is used, there is a reduction in diagnostic waiting time (over CB) and an increase in diagnostic performance (over FNAC). Regardless of the diagnosis of benign versus malignant, assessment of the adequacy of the specimen and immediate interpretation of the results leads to better treatment planning.

Keywords: Imprint cytology; Core biopsy; Mass lesions.