ORIGINAL ARTICLE

Image Guided Chest Biopsy In Diagnosis Of Malignancy

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ABSTRACT

Aim: To determine USG guided lung biopsy in diagnosis of malignant disease
Methodology: Retrospective study for a period of five years from 2009 to 2013. Data was collected in patients of USG guided chest biopsy.
Department: Radiology department, RMI, Peshawar.
Sample size: 267 patients underwent USG guided chest biopsies.
Results: Out of 267 cases, USG guided chest biopsies were done in 73 cases. Out of 73 patients, 40 were males and 33 were females. Histopathology showed diagnosis in 53 (72.6%) cases. There is cancer in 40(54.7%) cases and non malignant lesions in 13 (17.8%). In 40 cases of malignancy, 12 cases had lung cancer. Out of these cases, adenocarcinoma was common lung cancer i.e. 25%, and squamous cell carcinoma was16% while 16% had small cell carcinoma.
Conclusion: 40 (54.7%) cases with cancer were diagnosed by USG guided biopsy of central and peripheral chest lesions. USG guided chest biopsy is an effective and safe method in diagnosis of lung lesions.
Keywords: UGS guided biopsy, Malignancy

INTRODUCTION

CT is now a day is important diagnostic method to evaluate lung lesions. When the pleural cavity is involved, then USG guided chest biopsy is valuable. USG is less expensive, widely available with mobile form of multiplanar imaging and also free from ionizing radiation as compared to CT scan. When the lesion is located in periphery of lung, pleura or mediastinum, USG guided chest biopsy is important[1]. Chest USG is frequently entered in ICU and in respiratory medicine[2].

METHODOLOGY

A retrospective study which is done in radiology department, RMI, Peshawar for 5 years.
Sample size: 73 patients with undiagnosed intrathoracic lesions and the origin of the lesions was pleural, pulmonary or mediastinal. Pre-biopsy USG was done to detect its diagnostic outcome. All patients were subjected to chest x ray before and after the method, latest CT chest with contrast and PT /INR coagulation study. Biopsy needle with 18-G needle and length of18 cm with core length 10 or 20 mm was taken

RESULTS

The detail of results is given in tables 1, 2, 3,4,5

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Table 1: Age distribution

Ages	N=
0-10 years	02
11-20 years	04
21-40 years	24
41-60 years	21
61 years & above	22

Table 2: Country of origin.

Country of origin	n=
Pakistan	23
Afghanistan	50

Table 3: Anatomical location and histopathological diagnosis

Anatomical location	n=	Malignant	Non-malignant	Inconclusive
Pleural	19	13	04	02
Pulmonary	32	13	07	12
Mediastinal	22	14	02	06

Table 4: Malignant and benign lesions

Histopathology	n=73
Malignant	54.7% (40)
Non-malignant	17.8% (13)
Inconclusive	27.3% (20)

Table 5: Malignant pulmonary lesions

Type of tumor	n=12
Bronchoalveolar	8% (1)
Squamous cell	16% (2)
Malignant spindle cell	16% (2)
Small cell	16% (2)
Non small cell	8% (1)
Adenocarcinoma	25% (3)
Nonspecific malignancy	8% (1)

DISCUSSION

In our study, USG guided chest biopsy was taken from mediastinum and hila. In another study by Hirche et al[3], CT is the gold standard for assessment of mediastinal lesions. In other study by Wernecke and Diederich[4], mediastinal USG is useful method for internal architecture of the tumor. USG also used to differentiate solid, cystic, calcified, and vascular structures.

In our study, benign lesions were seen in 13 cases. This study is comparable with Berquist TH[5], who also observed 10 benign cases. According to study by Richardson et al[6], those centers that performed cutting needle biopsies had similar pneumothorax cases when comparing with fine needle biopsies i.e. 18.9% vs 18.3%.

CONCLUSION

54.7% cases with malignancy were diagnosed by USG guided biopsy located in central and peripheral chest. In malignant lesions, adenocarcinoma was the most frequent tumor of lung. USG guided chest biopsy is effective and safe method in the diagnosis of peripheral lung lesions.

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