INTRODUCTION

The most commonly encountered malignancy across the globe are lung tumours, making it the leading cause of cancer related mortality with an average of 4.5 years survival rate. (1) There is an increase in utilisation of CT thorax as an imaging tool to evaluate symptomatic patients leading to incidental findings of suspicious lesions. Earlier bronchoscopy was done but, the diagnostic accuracy of bronchoscopy was 60% (2) that's when role of CT came into picture. CT guided fine needle aspiration cytology (FNAC) and Biopsy are simple methods to diagnose lung cancer especially in peripherally situated or sonographically unattainable lesions. CT guided FNAC implied by Martin and Ellis first as a tool for diagnosis. (3) Later Nordenstrom continued the work was carried forward by Nordenstrom who gave promising results that showed that this procedure can achieve accuracy in diagnosis with less complication. (4) The diagnostic accuracy of FNAC and biopsy is 93% and sensitivity rate is 95% (5) There are various however manageable complications noted with this procedure in 2 pneumothorax (8-69% of cases (6)), haemoptysis and pulmonary haemorrhage.

The present study was undertaken to know the pathological spectrum of thoracic lesions, their characteristics and appearances on CT and correlate cytological findings with histological features with assessment of the accuracy of biopsy/ FNAC in evaluation of thoracic masses

MATERIALS AND METHODS

We did a cross sectional study on 72 Patients with thoracic masses referred for CT and guided biopsy/ FNAC in our department between June 2015 and January 2017 at a tertiary care centre. Patients with intrathoracic lesions detected on chest X-ray/ CT scan and Biopsies of thoracic lesion not approachable by USG were included in our study, whereas, Patients with Severe Chronic obstructive pulmonary disease (COPD), bleeding disorders, pulmonary arterial hypertension (PAH), Contra lateral pneumonecctomy cases and that were unable to hold breath and Patient who were not willing for the procedure were excluded.

Complications encountered during the procedure or post procedure were very minimum, 3 patients developed small pneumothorax and 2 patients developed hemoptysis and were managed conservatively.

DISCUSSION

Lung cancers accounts for a high rate of mortality. (1) In this cross sectional study of CT-guided lung FNAC/ biopsies of 72 patients, we analyzed the diagnostic accuracy, risk factors for diagnostic failure and complications. The procedure is extremely helpful due to its good sensitivity rate in detecting malignant lesions and classifying them. A specific diagnosis whether benign or malignant reduces the unnecessary surgery and the consequential mortality in many cases. (7)

In our study, 72 patients underwent CT guided FNAC of suspicious lung lesions. Male predominance was noted (65.27%) which is similar to the study done by Saha et al (8). Maximum of our cases belonged from fourth to sixth decade with mean age of 51 years which agrees with the observations done by Sumana et al (9) and Sunita et al (10). FNAC was diagnostic in 65 out of 72 cases, providing ananalytical accuracy of 90.2 %, which is close to the findings of study done by Li et al (11) and Jaya et al (12) who got 96 % and 91 % accuracy. Sensitivity and diagnostic accuracy of CT guided biopsy was 100% in our study which can be compared with Rishi et al (13) who found similar results. Our maximum diagnostic failure was in cases that had lesions of size less than 2 cm which is similar to the findings of Tsukada et al, (14) who reported diagnostic exactness of 67% for lesions <1cm and 79% for lesions measuring 1-2 cm. R. Prasad et al (15) concluded...
that the principal reason for failure to diagnose was inadequacy of the aspirate due to small size.

Among the malignant lesion the commonest lesion that we came across were Adenocarcinoma (41.5 %) which is possible due to the recent increase in the cases with diagnosis of adenocarcinoma(16). However according to the studies found in literature the commonest malignant lesion found is squamous cell carcinoma (13.15). The commonest benign lesion that was diagnosed was tuberculosis vs pneumonic exudates which can be due to tuberculosis prone region and is comparable with study done by R. Prasad et al (15)

The complication rate was very less in our study, pneumothorax and hemoptysis were noted and the patients were managed conservatively and no intervention was needed which correlates with study done by Simpson BW et al (17), Sharma et al (18)did not observe any complication hence supporting the fact that CT guided FNAC and Biopsy are relatively safe procedure.

CONCLUSION
CT guided lung FNAC is a relatively safe and cost effective procedure which confirms the diagnosis in majority of cases of Lung cancer. Sensitivity of FNAC is excellent for diagnosing Lung cancer and transthoracic Biopsy would be preferable due to its better sensitivity than FNAC. Complications encountered are rare and can be managed conservatively without active intervention.

CT SCAN REVEALS SOFT TISSUE ATTENUATION MASS NOTED IN (POSTERIOR BASAL SEGMENT OF LOWER LOBE) OF RIGHT LUNG WITH FEW SPICULATIONS.
FNAC: ADENOCARCINOMA

CT SCAN REVEALS MULTIPLE (2) ROUNDED LESION OF VARYING SIZE WITH PERIPHERAL ENHANCEMENT AND HYPODENSE CENTRE SEEN IN RIGHT MIDDLE LOBE.
FNAC: SQUAMOUS CELL CARCINOMA

CT DEMONSTRATES SOFT TISSUE ATTENUATION MASS LESION POSTERIOR SEGMENT OF RIGHT UPPER LOBE
FNAC: PNEUMONIC EXUDATES

HETEROGENEOUSLY ENHANCING LOBULATED MASS LESION WITH NECROTIC AREAS NOTED PREDOMINANTLY IN ANTERIOR MEDIASTINUM EXTENDING INTO SUPERIOR AND MIDDLE MEDIASTINUM CAUSING ENCASEMENT OF VASCULAR STRUCTURES
FNAC: GERM CELL TUMOR

Table 1 : Final diagnosis of malignant lesions

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<th>CYTOLOGICAL FINDINGS</th>
<th>NUMBER</th>
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<tr>
<td>ADENOCARCINOMA</td>
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<tr>
<td>SQUAMOUS CELL CARCINOMA</td>
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<td>LARGE CELL CARCINOMA</td>
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<td>NON-HODGKINS LYMPHOMA</td>
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Table 2 : Final diagnosis of benign lesions

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<td>PNEUMONIC EXUDATE</td>
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</tr>
<tr>
<td>OTHERS</td>
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REFERENCES
1. Surveillance, epidemiology and end results (SEER) statistics fact sheets: Lung and Bronchus by National Cancer Institute.