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Pulmonary Medicine

A STUDY ON ETIOLOGY OF PLEURAL BASED LESIONS AT A TERTIARY CARE HOSPITAL

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ABSTRACT Pleural diseases can be of infective , inflammatory or neoplastic origin . Pleural lesions contribute to a significant subset of thoracic diseases . Tumors of pleura are not uncommon and the diagnosis is clinched by combined clinical , imaging and histopathological evidence . Biopsy remains the gold standard for diagnosis . Metastatic malignant tumors of the pleura greatly outnumber the primary pleural tumors . The aim of our study is to identify the etiology of pleural based lesions at our center . Tuberculosis and malignancy are the most common etiologies encountered at our center.

Although percutaneous pleural biopsy has high diagnostic value thoracoscopy is safe and effective procedure with both diagnostic and therapeutic value.

KEYWORDS : pleural lesions, thoracoscopy, tuberculosis, malignancy

INTRODUCTION :

Pleural diseases can be of infective , inflammatory or neoplastic origin . Pleural lesions Contribute to a significant subset of thoracic diseases . Tumors of pleura are not uncommon and the Diagnosis is clinched by combined clinical , imaging and histopathological evidence. Biopsy remains The gold standard for diagnosis . Metastatic malignant tumors of the pleura greatly outnumber the primary pleural tumors.

AIM : To study the etiology of pleural based lesions among patients attending NRIGH.

MATERIALS AND METHODS: It is a prospective observational study conducted at NRIGH from January 2018 to January 2019 . A Total of 23 patients were included in this study . A detailed clinical Examination was done . Investigations like chest radiographs , ultrasonography of the chest and a computed Tomogram of the chest were ordered accordingly . Pleural fluid was sent for Glucose , Proteins LDH , ADA , CBNAAT , cell count , cytology , malignant cells and cultures . Tissue diagnosis was done by Thoracoscopy, ultrasound and CT guided biopsies.

INCLUSION CRITERIA : Patients presenting with pleural based lesions radiologically and those giving consent .

EXCLUSION CRITERIA: Patients not giving consent ,patients who are severely ill, patients with bleeding disorders.

RESULTS: Study included a total of 23 patients .The following are the observations.

Figure 1 : Sex distribution

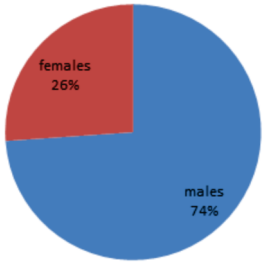

Table 1: Risk Factors

	NO OF PATIENTS
NO RISK FACTORS	5
SMOKING	14
BIOMASS EXPOSURE	4
TOTAL	23

Table 2: Age wise distribution of the disease

Age in years	Total number of patients	Percentage
<40	3	13
40-60	14	61
60-80	6	26
	23-total	100

Table 3: Diagnostic procedure employed

Procedure	No of patients	Percentage
Thoracoscopy biopsy	15	65
CT guided biopsy	5	22
Ultrasound guided biopsy	3	13
	23-total	100

Table 3: Etiology of the pleural lesions

Etiology	No of patients	Percentage
Adenocarcinoma	11	48
Tuberculosis	5	22
Squamous cell carcinoma	3	13
Malignant mesothelioma	2	9
Inflammatory myofibroblastic tumor	1	4
Benign neural tumor	1	4
	23	100

Among 23 patients only one had family history of malignancy , 4 patients were positive for pleural fluid cytology for malignant cells and 3 patients – pleural fluid cbnaat positive. Immunohistochemistry markers for malignant mesotheliom as was focally positive for cytokeratin and vimentin positive and TTF1 negative for imt smooth muscle actin was positive and cd 34 negative favouring inflammatory myofibroblastic tumor and for adenocarcinoma TTF1 was positive .

Table 4:Post op complications of the procedure employed

Procedure	No of patients	Complication	No of patients with complication	Percentage of patients with complication
Thoracoscopic biopsy	15	Surgical emphysema, pain	5	33
CT guided biopsy	5	Pneumothorax	2	40
Ultrasound biopsy	3	No complication	0	0

DISCUSSION:

The pleura is a membranous structure covering the entire surface of the lung and Lining the inside of the chest cavity . It is composed of a thin mesothelial layer with underlying fibroblasts and varying amounts of collagenous fibrous tissue with interdigitating capillaries and venules.

Variuos lesions of pleura are Benign (solitary fibrous tumor , lipoma , mesothelial cyst etc..),Malignant (metastasis , malignant mesothelioma, lymphoma ,malignant fibrous tumor etc..) and Tumour like condtion (pleural thickening , pleural plaque etc..) can involve pleura.

The most common tumors of the pleura are metastatic predominantly of lung , breast , colonic Inorigin.

Tumors arising from the pleura are rare but constitute a variety of bening and malignant lesions from several different cells of origin.

CONCLUSION:

Pleural lesions are not uncommon and biopsy is the gold standard for diagnosis.

Tuberculosis and malignancy are the most common etiologies. Although percutaneous pleural Biopsy has high diagnostic value thoracoscopy is safe and effective procedure with both diagnostic and the therapeutic value.

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