Lung Cancer

A randomized control trial to study the efficacy of time dependent versus volume dependent chest drain removal protocol for talc slurry pleurodesis in patients with malignant pleural effusion

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Background: Chemical pleurodesis helps in preventing reaccumulation of pleural fluid and alleviates the dyspnea in patients with malignant pleural effusion. As patients with terminal disease are anxious to stay for prolonged duration in hospital, rapid pleurodesis helps in shorter hospital stay with effective pleurodesis and less hospital acquired complications.

Aim: To study the efficacy of time dependent versus volume dependent (<150ml/day) chest drain removal protocol for TALC slurry pleurodesis in patients with malignant pleural effusion.

Methods: All patients with biopsy/cytology proven malignant pleural effusion were recruited into the study. After talc slurry pleurodesis, they underwent randomization into short or standard chest tube removal protocol after lung expansion is confirmed. The success of pleurodesis was followed up at the end of 7 days, 1 month and 3 months by radiological or clinical questionnaire.

Results: 72 patients with malignant pleural effusion were enrolled in the study and followed at pre-set time intervals in either arm. There was no significant statistical difference between both the arm with regards to success of pleurodesis after 1 week, 1 month and 3 months. There was significant statistical difference in time needed from pleurodesis to ICD removal between both groups, which translated into significant difference between chest drain free days for patients among the two groups. Mortality or complications were not statistically different in either arm.

Conclusions: From our study, shorter term pleurodesis is safe and equivalent when compared to the standard
protocol with no difference between recurrence of pleural effusion post talc slurry pleurodesis.

A rare case of mediastinal yolk sac tumor

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Background: Mediastinal Germ Cell Tumors are extragonadal germ cell tumors (EGGCTS) commonly seen in children and young adults. They are more common in men. Clinically they are classified as teratomas, seminomas and non-seminomatous germ cell tumors. Primary mediastinal germ cell neoplasm is an extremely rare tumor (50-70% of all extragonadal germ cell tumors). Case Study: In this case, an 18 years old boy presented with cough and dyspnea from last 1 year and swelling of face and neck from last 3 months. CECT thorax shows a large heterogenous anterior mediastinal mass invading SVC. His serum alpha feto protein was raised and trucut biopsy report suggest malignant germ cell tumor favoring yolk sac tumor. Discussion: Extra gonadal primary GCT account for 1% to 5% is the most common site, constituting 50% to 70% of all extra gonadal GCT. These tumors probably derive from fail in migration of primitive germ cell that migrate through urogenital crest during embryogenesis to develop regular function and hematological transport formation. Conclusion: Primary yolk sac tumor has poor prognosis despite advances in therapy with surgical resection and cisplatin based chemotherapy. This poor prognosis is due to degree of invasion and unresectability in most patients by time of diagnosis.

Prospective study on changes in lung function of patients receiving chemotherapy and radiotherapy for nonsmall cell carcinoma (stage 3 and stage 4)

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Background: Non small cell lung cancer represents majority of lung cancer and most of these cases will be in an advanced stage at the time of presentation. Chemotherapy with radiotherapy is the treatment of choice in stage 3 and 4 Non small cell carcinomas ( NSCLC). Pulmonary toxicities has been reported with both modalities of treatment. Pulmonary toxicity presented at a median of 63 days after the start of combined modality therapy. Reduction in DLCO has strong correlation with grade of pneumonitis. When DLCO is below the predicted reference range it becomes a clue to the presence of a physiologic problem that can even affect long-term survival.

Objectives: 1. To compare pre and post treatment spirometry including DLCO to assess the effect of chemoradiation/ chemotherapy.

2. To evaluate the effects of patient factors (age, smoking habits, comorbidities) and tumor factors (size, location) to changes in pulmonary function.

Methods: This is a descriptive cohort study, over a period of 18 months with 56 non small cell lung cancer patients of stage 3 and 4 selected and divided into chemotherapy and chemoradiation group depending on the treatment initiated. PFT with DLCO was done before and after treatment in both groups. The difference of lung function in different treatment group was analysed by Anova test. Univariate and multivariate analyses were used to evaluate the effects of standard vs Brachy, patient factors like age, smoking habits, comorbidities etc. and tumor factors (size, location).

Results: Among the 56 study subjects, 50 were male (89%) and 6 (11%) were female. The mean age was 60 with a standard deviation of 10.25 in chemotherapy and 6.985 in chemoradiation group. In chemotherapy group, no correlation was found with age and pulmonary function test changes in pre and post treatment. Smoking habits was found to have an individual effect on pre treatment and post treatment DLCO (p value.014 and .007 respectively) and FEV1 ratio with pre and post treatment p value of .0001 and .001 respectively. When comorbidities like Diabetes mellitus, Hypertension, Dyslipidemias and their relation with pulmonary function test changes were studied in dyslipidemic and non dys-lipidemic group, it was found that DLCO changes have p value of .005 pre treatment and .032 post treatment. In chemoradiation group smoking habits had an effect on DLCO for pre and post treatment with p value .002 and .005 respectively and also on FEV1 ratio (pre and post treatment with .003 and .008 respectively). In chemoradiation group the site of the lesion that is central and peripheral when compared, central lesions have effect on pre and post treatment DLCO with p value .011 in pre treatment group and 0.002 in post treatment group. On comparing FVC, DLCO and FEV1 ratio among chemotherapy and chemoradiation group pretreatment and post treatment, FVC is found to be decreased in chemoradiation group with p value 0.0001. DLCO were decreased in both group with p value .0001. FEV1 ratio post treatment with p value of .0001 is increased in chemoradiation. Conclusion: In our study the lung cancer patients had a male predisposition. Maximum number of patient belongs to elder age group. The chemoradiation group had more changes in pulmonary function test parameters as compared to chemotherapy only group. FVC values are found to be mildly decreased in chemoradiation group. This can be explained by early interstitial changes induced by radiation. DLCO was decreased in both groups but more in chemoradiation group. FEV1 ratio found to be increased in chemoradiation partly due to increase in FEV1 after tumour regression relieving obstruction. So most reliable indicator is DLCO because improvements in lung function associated with tumor regression is difficult to incorporate into models of treatment-related lung toxicity. The limitation of the study include the fact that none of our patients develop symptomatic radiation pneumonitis so correlation of DLCO with radiation.
Pulmonary blastoma with scrotum and adrenal metastases: A case study

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Background: Pulmonary blastoma (PB), an uncommon malignancy consists of pleuropulmonary blastoma, classic biphasic PB, and fetal adenocarcinoma. It accounts for 0.25-0.5 percent of lung neoplasms. Albeit it presents itself as chest mass with haemoptysis, dyspnoea, and cough, it stays asymptomatic in many patients.

Case Study: A 57-year-old male was presented to the Emergency Department following a road accident. After being diagnosed with bilateral hip fracture, a chest Roentgen Ray was performed which revealed an elevation of opacity on left upper lobe. The CT scans had revealed a 9 x 6 cm tumour and lymph nodes on left upper lobe. Orthopaedic surgery manifested tubular glands in a cellular stroma in the tumor. Small oval to spindle cells was undergoing mitosis at a high rate. This led to the diagnosis of pulmonary blastoma. However, scrotum mass, leukocytosis, and neutrophilia in the patient led to emergency admission in the ICU. The result was multiple organ failure and death in three weeks.

Discussion: Pulmonary blastoma progresses at a rapid scale within a very short period. Its rapid progression demands early detection and careful measures to be taken. Despite being diagnosed during the advanced stages; surgical treatment is the ultimate care that needs to be quickly considered. The treatment strategy must be defined by a team of an oncologist, a pulmonologist, a general surgeon, and a thoracic surgeon. This treatment must be supported by chemotherapy or radiotherapy.

Conclusion: This pulmonary neoplasm should be treated with surgery, combination chemotherapy, and adjuvant radiotherapy with etoposide and cisplatin.

Differentiating tumor thrombus from bland thrombus: A case series

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Background: Tumour thrombus is a rare complication of solid organ carcinomas, where the tumour extends into a vessel, usually a vein. Unless clearly differentiated, it can be mistaken for an embolism and result in unnecessary anticoagulation therapy. This case series describes the clinical characteristics of patients with tumour thrombus secondary to an underlying primary carcinoma of the lung.

Case Study Methodology: This case series describes 3 patients identified between June to December 2021 with a primary carcinoma of the lung, who were found to have imaging suggestive of tumour infiltrating into greater vessels.

Discussion: There are specific imaging features consistent with tumour thrombus that can be seen on contrast-enhanced CT and MRI namely, the presence of enhancement, the appearance of vessel expansion and vascularisation within the tumour. MRI diffusion weighted imaging can help differentiate between the two when CT imaging is inconclusive due to similar signal intensities (SI) of both the neoplastic tumour and benign tumour. The clinician must differentiate between the two by radiological means to avoid unnecessary anticoagulation and treat symptoms of occlusion appropriately.

Conclusion: Diffusion weighted MRI imaging can help in differentiation in situations where the signal intensity is the same for both bland and neoplastic thrombus in CT imaging. Stenting of the concerned vessel can offer symptomatic and palliative relief, especially in those with a short life expectancy.

Malignant pleural mesothelioma: A rare cause of loculated pleural effusion in nonasbestos exposed female

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Background: Malignant pleural mesothelioma (MPM) is the most common primary pleural malignancy which arises from mesothelial surfaces of the pleural cavity. Most common risk factor is asbestos exposure, which is seen in 80% of cases while others are genetic, radiation exposure, viral oncogenes, idiopathic etc.

Case Study: 56 year old female, a housewife, presented with heaviness of left side of chest and breathlessness for 3 months. There was no history of asbestos exposure. On clinical evaluation, she was found to have left sided loculated pleural effusion with pleural thickening. Pleural fluid analysis was suggestive of haemorrhagic, exudative character with low ADA levels and negative cytology report for malignancy. It was followed by rigid thoracoscopy guided pleural biopsy, which on gross examination showed multiple loculations, pleural thickening and nodules on left side of parietal pleura. The biopsy was confirmatory for Malignant pleural Mesothelioma.

Discussion: Cases of mesothelioma have very sparsely reported from India. Usually seen in males as they are more likely to be exposed to asbestos and they can present in any age but the median is usually around 60 years. Biopsy is required to confirm the diagnosis with biomarker evaluation as Epitheliod type is almost similar to Adenocarcinoma. It has a very poor prognosis with a
Primary pleural synovial sarcoma: An extremely rare entity

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Background: Sarcomas are a rare, heterogeneous group of mesenchymal tumors. In sarcomas, primary pleural synovial sarcoma is an extremely rare tumor. It has four subtypes monophasic fibrous, monophasic epithelial, biphasic, and poorly differentiated.

Case Report: We report a case of 26 yr old male who presented with a history of cough, shortness of breath, and left-sided chest pain. Chest radiographs revealed a near-complete white-out of the left hemithorax with a mediastinal shift towards the right side, and computed tomography (CT) showed a 20x15x20.1 cm heterogeneously enhancing mass lesion in the left pleural cavity with mild pleural effusion. Ultrasound-guided core needle biopsy revealed spindle cell neoplasm. On immunohistochemistry, neoplastic cells expressed vimentin, epithelial membrane antigen, CD99, BCL2, and TLE1, and were negative for S100, cytokeratin, Desmin, STAT6, and CD34. PET scan showed primary lung malignancy with metastasis, and a final diagnosis of primary pleural synovial sarcoma was made. He was treated with palliative chemotherapy and radiotherapy due to the non-operable nature of the tumor.

Conclusion: Primary pleural synovial sarcoma is a very rare and aggressive tumor. Though it is rare, it must be considered in the differential diagnosis of lung and pleural malignancies. Histopathology and detailed immunohistochemical staining are essential for the confirmation of its diagnosis.

A comparative study of pleurodesis using doxycycline and dr bleomycin in patients with malignant pleural effusion

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Background: Malignant pleural effusion causes significant compromise in the quality of life. The recurrence of effusion can be prevented by pleurodesis. The aim of this study is to compare the efficacy and possible complications of chemical pleurodesis using doxycycline and bleomycin in patients with Malignant Pleural Effusion.

Methods: Thirty patients with malignant pleural effusion were included in the study. They were divided into two groups. Each group has 15 patients. Group A were subjected to doxycycline pleurodesis and group B were subjected to bleomycin pleurodesis. All the patients were assessed, during the course in hospital till discharge, one-week post pleurodesis and after 8 weeks of pleurodesis.

Results: 93.3% of those treated with doxycycline showed complete recovery and with bleomycin group only 53.3% showed complete recovery after 8 weeks of pleurodesis. This was statistically significant (p value < 0.05). Majority of our patients experienced complications and only 33.3% had no complications followed by pleurodesis. Most of the patients had chest pain, fever and both.

Conclusion: Doxycycline pleurodesis is better than bleomycin pleurodesis because doxycycline pleurodesis is simple, safe, effective, readily available and inexpensive method in the management of malignant pleural effusion. Bleomycin is a less effective, more expensive and less available when compared to doxycycline. The most common complication encountered is chest pain and is commonly seen with doxycycline. None of the patients in doxycycline had empyema but was occurred followed by bleomycin pleurodesis.

Case report of bronchogenic carcinoid

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Introduction: Carcinoid tumors are neuroendocrine tumors arising from Kulchitsky (APUD system) cells and are classified by the WHO into typical carcinoid (TC) and atypical carcinoid (AC) on the basis of the presence of necrosis and mitotic activity. Seventy-five percent of carcinoids are central, endobronchial tumors and present commonly with post-obstructive pneumonitis, hemothysis, or wheezing.

Case Study: A 22-year-old female patient, presented with recurrent fever, cough, with expectoration and moderate to massive hemothysis for the last 12 years, and was misdiagnosed as pulmonary tuberculosis and had received multiple courses of Antitubercular drugs without any response.

Discussion: Chest X-Ray showed a collapse right lung. CT thorax showing heterogeneous enhancing soft tissue mass in right lung. Fiberoptic bronchoscopy was performed which revealed a tumor obstructing the right main bronchus. Endobronchial biopsy showed Bronchial Carcinoid. The patient was advised surgery but was lost to follow up.

Conclusion: Carcinoid tumors of the lung are a captivating but rare group of pulmonary neoplasms. In the past, these tumors were clustered with benign or less aggressive malignant pulmonary tumors. they were placed together in a category of neoplasms called bronchial adenomas. This unsuccessful categorization is still used by many today, creating the impression that such tumors are benign neoplasms.
**A case of adenocarcinoma of lung**

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**Introduction:** Lung adenocarcinoma is a subtype of non-small cell lung cancer (NSCLC). Lung adenocarcinoma is categorized as such by how the cancer cells look under a microscope. Lung adenocarcinoma starts in glandular cells, which secrete substances such as mucus, and tends to develop in smaller airways, such as alveoli. Lung adenocarcinoma is usually located more along the outer edges of the lungs. Lung adenocarcinoma tends to grow more slowly than other lung cancers. Lung adenocarcinoma accounts for 40% of all lung cancers. It is found more often in women. Younger people (aged 20-46) who have lung cancer are more likely to have lung adenocarcinoma than other lung cancers. Most lung cancers in people who have never smoked are adenocarcinomas.

**Materials and Methods:** Case was report in Gandhi medical college in Tb chest department. Thorough investigation was done & followed protocol for diagnosis of ADENOCARCINOMA OF LUNG.

**Results:** history, clinical examination, radiological findings (HRCT CHEST, USG), bronchoscopy, biopsy, histopathological examination are suggestive of ADENOCARCINOMA OF LUNG.

**Discussion:** Lung cancer is also widespread globally. Despite new treatments, the 5-year survival is less than 12% to 15%. Over the past 4 decades, there has been a marked increased in lung adenocarcinoma in women, and this has been linked to smoking. The mean age of diagnosis of lung adenocarcinoma is 71 years, and this particular cancer is very rare before the age of 20. In the last 2 decades, adenocarcinoma has replaced squamous cell cancer of the lung as the most prevalent non-small cell cancer.

**Askin’s tumor: A rare primitive neuroectodermal malignancy**

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**Introduction:**  
- The Ewing sarcoma family of tumors (ESFTs) is a group of rare malignancies arising from the migrating cells of the neural crest, characteristically composed of small cells arranged in cords and embedded in fibrous tissue.  
- Usually case present to us with left side thoracic mass with minimal pleural effusion. Malignant lesions included lymphoma, Ewing sarcoma, neuroblastoma, rhabdomyosarcoma, and primitive neuroectoderm tumor. Diagnosis of Askin tumor was established based on the following features: Aggressive nature of presentation and biopsy findings (round cell with basophilic cytoplasm and CD99 positivity).

**Case Study:**  
- A 17 years old male patient presented to emergency Guru Gobind Singh Medical College and Hospital Faridkot, Punjab with chief complaints of chest pain, cough, dyspnoea and fever (on and off) for 2 months.  
- Cough increased in frequency with time, it was non productive in nature with no postural/diurnal variation.  
- Dyspnoea was grade-3, tend to get increased on walking and decrease on lying.  
- General physical examination revealed pallor, icterus, axillary lymphadenopathy. Facial puffiness present with engorged veins over neck and left side of chest.  
- On inspection trachea was markedly deviated towards the right side. There is left sided chest bulge over upper chest over mammary area. The bulding mass was tender, firm to hard in consistency, non-pulsatile. Chest movements were markedly decreased over left side as compared to the right side.  
- On percussion stony dull note heard all over left chest areas, normal resonant note heard over right side chest. On auscultation breath sounds was absent on left side chest.

**Cect Thorax:**  
- Contrast Enhanced Computed Tomography (CECT) scan of thorax demonstrated a large heterogeneously enhancing lesion involving and causing destruction of 3rd rib is seen anteriorly on left side occupying left hemithorax and extending into anterior mediastinum causing shift towards right side. It measures approx. 15X16x26 cms in size. Anterolaterally it is extending into anterior chest wall involving pectoralis muscle and subcutaneous tissue. It is compressing left main bronchus with collapse of right lung. Medially it is abutting/involving left heart border, main pulmonary artery and aorta.

**Biopsy and Immunohistochemistry:**  
- Biopsy was done which was suggestive of Malignant Small Round Cell Tumour.
- Immunohistochemistry examination: tumour cells diffusely positive for CD99, focally positive for CD 117, negative for Desmin, Leucocyte common antigen (LCA), and AE1/AE3.
- The final diagnosis of Askin tumour was established when all the above findings were in consistent with Ewing sarcoma/Primitive neuroectodermal tumour.

**Outcome and Follow Up**  
- Patient was discharged and referred to oncology for further treatment and management.  
- Patient was started on chemotherapy and improvement of symptoms were seen.  
- Pt was advised regular follow up.

**Nonresolving pneumonia: An indolent malignancy**

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53 years old male, non smoker, diabetic with past history of TB, used 6 months Course of ATT presented to OPD with one month history of Hemoptyysis. His HRCT chest showed dense consolidation with multiple cavities in left lower lobe. Bronchoscopy was performed, BAL sample sent for AFB stain and AFB cultures were negative. Fungal stain and Fungal cultures yielded nothing. Cytology for malignant cells were also negative. Bacterial Cultures showed streptococcus pneumonia sensitive to levofloxacin. Patient was started on Levofloxacin, used for 15 days. Patient still had hemoptyysis and there was no radiological Resolution. PET CT scan showed metabolically active segmental consolidation in left lower lobe With minimal effusion and mediastinal lymphadenopathy. CT guided biopsy was done. Histopathology showcased Non small cell lung carcinoma – adenocarcinoma. Patient was Referred to Oncologist for further management.

A rare case of coexistence of tuberculosis and malignancy

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Background: The simultaneous or sequential occurrence of pulmonary tuberculosis and lung cancer in the same patient has been reported in various case series.

Case Study: A 76year old male came with complaints of right sided dull chest pain with local tenderness, cough with whitish sputum, dyspnea associated with wheeze that progressed from grade 2 to grade 4 gradually, loss of appetite and loss of weight since 2 months. Chronic smoker, 25 pack years. CECT thorax revealed ill-defined heterogenous mass lesion in right upper lobe with adjacent 2nd, 3rd anterior rib erosions with invasion into anterior chest wall, pectoralis muscle with enlarged, heterogeneously enhancing pre-tracheal, para-tracheal, mediastinal lymph nodes. Sputum for CBNAAT detected M. tuberculosis. Trans-thoracic biopsy revealed features suggestive of small cell carcinoma. Patient was started on ATT under government sector and was advised for further work up and management of carcinoma. But the patient left against medical advice and was found that patient died of dyspnea and chest pain within 15 days of LAMA.

Discussion: In many cases an etiological relationship did exist between the two conditions, which can be either way. If the local immunity is deteriorated as in lung cancer, reactivation of a latent TB, primary mycobacterial infection, new exogenous infection may cause tuberculosis infection. Chronic inflammation like pulmonary tuberculosis process may lead to carcinogenesis of the lung tissue.

Conclusion: In any chronic pulmonary disease in a person of middle or past middle age, with persistence of symptoms accompanied by a progressive loss of weight and strength, the possibility of malignant disease should always be considered. The presence of pulmonary tuberculosis does not exclude the existence of a malignant process in the same lung.

Covert presentation of metastasis in lung due to primary clear cell carcinoma of kidney, imitating mesothelioma

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Background: Common sites of metastasis from Renal Cell Carcinoma (RCC) are the lungs, bones, liver, renal fossa, and brain, although may occur elsewhere. Lung/pleural metastases have been reported as a latent metastatic presentation in 29–54% of patients with history of RCC. Therefore, follow-up visits with at least a chest X-ray to screen for any pulmonary metastasis are necessary to detect recurrence.

Case Study: We are reporting 2 cases mimicking as pleural mesothelioma who had prior history of RCC. Both the patients were in their late 60s and had history of nephrectomy due to RCC-clear cell variant. The first case presented with right sided massive malignant pleural effusion with haemodynamic instability for which intercostal drainage was inserted. He underwent thoracoscopic guided biopsy and was diagnosed as malignant pleural mesothelioma. The other case presented as right sided Pancoast tumour with calvarial metastatic deposits in the scalp. Transthoracic biopsy showed high-grade epithelial malignancy. Immuno-histochemistry examination was positive for cytokeratin. Both the patients presented with poor-performance status (ECOG-4), thus were not applicable for systemic chemotherapy.

Discussion: The above-mentioned cases are extremely rare late metastatic manifestation of lung, due to primary RCC. These cases were morphologically and histologically verified, but due to poor performance status both of them were asked to seek palliative-care.

Conclusion: Many surgically-resected patients for RCC-clear cell variant, eventually relapses. Secondary metastasis from RCC has wide variability in presentation and in duration of relapse. These patients usually endure poor. Thus, optimal management including timely follow-up intervention can prolong the survival.

Diagnostic dilemma: Pulmonary tuberculosis versus lung cancer

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Background: Patients with lung cancer are often misdiagnosed as pulmonary tuberculosis leading to delay in the correct diagnosis as well as exposure to inappropriate medications.
Here we present a case of 55-year-old man who was on ATT for 1.5 months but still have progressive symptoms which later on diagnosed as lung cancer.

**Case Study:** A 55-year-old man, known COPD, hypertensive, chronic smoker presented with 2 months history of dyspnoea, fever, cough expectoration and hemoptysis. He was already on ATT (on clinico-radiological basis). His symptoms were progressively increased. Clubbing present. Blood investigations were normal. Chest x-ray revealed mediastinal widening. Computed tomography revealed heterogenous necrotic lesion in subcarinal region. Bronchoscopy showed endobronchial mass in right main bronchus. Biopsy was taken. Patient’s condition deteriorated with time. Repeat x-ray showed right lung collapse. Meanwhile biopsy report suggested Squamous Cell Carcinoma. Chemotherapy given and at present patient is under follow-up.

**Discussion:** A study conducted in 2009 to identify factors causing delay in diagnosis of lung cancer, suggested that patients was labelled initially as suffering from pulmonary tuberculosis. In our patient although clinical features and radiology did not make definite diagnosis but bronchoscopy and biopsy confirmed lung mass.

**Conclusion:** Missed or wrong diagnosis of lung cancer can lead to delays in treatment and cause progression of disease. An aggravated as well as appropriate investigative workup should follow to make an early diagnosis and treatment started for better outcome.

The BURGEONING DUO (Burgeoning- beginning to grow or increase rapidly, DUO - a pair of things)

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**Background:** Bilateral lung mass with chest wall swelling is most often due to metastases from extrapulmonary primary malignancy. Rarely, aggressive lung cancers can present with bilateral lung secondaries and chest wall metastasis.

**Case Study:** 62-year-old male, heavy smoker, presented with breathlessness and intermittent productive cough since 1 year, increased since 1 month; pain and limited movement of right arm and swelling over right chest since 1 month. On examination large, ovoid, firm, immobile swelling felt over right anterior chest wall, decreased vocal fremitus and breath sound intensity noted in right mammary area. Chest x-ray showed non-homogeneous opacities in left upper, right mid and lower zone. CECT thorax showed non-homogeneously enhancing lesions in left upper and right lower lobe, soft tissue lesion involving right anterior chest wall with intrapulmonary extension and bilateral adrenal metastasis. Bronchoscopy revealed growth in right lateral basal segment with narrowing of left upper lobe bronchus. Bronchoscopic and chest wall lesion biopsy showed poorly differentiated carcinoma. He received palliative radiation. He developed hyponatremia, hypotension and succumbed to illness one month after diagnosis.

**Discussion:** Left upper lesion showed irregular borders with heterogeneous enhancement suggesting a primary lesion. Right sided lesion showed smooth, well-defined borders without surrounding tissue invasion suggestive of secondary. Chest wall lesion showed extrapleural sign on imaging. Biopsy confirmed diagnosis of primary with chest wall secondary. Poorly differentiated malignancies are usually aggressive and may have multiple secondaries of varying sizes.

**Conclusion:** When a patient has multiple lung lesions and chest wall mass, imaging characteristics help to identify possible primary lesion and secondaries, which should be confirmed by biopsy and histopathology.

Lung cancer in females: A diagnostic work up

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**Background:** Lung cancer is the second most common cancer in both men and women. American cancer society estimates for lung cancer in US for 2021 are about 235,760 new cases of lung cancer (119,100 in men and 116,660 in women). In India, lung cancer constitutes 6.9% of all new cancer cases and 9.3% of all cancer related death in both sexes, with the highest reported incidence from Mizoram in both males and females.

**Objective:** To assess clinical characteristics of lung cancer in females

**Methods:** This series consist of 14 female patients with primary lung mass, detailed history and symptoms were undertaken over the period of 6 months. Based on their presentation interventions were made to confirm the diagnosis by bronchoscopy and/or thoracoscopic procedures. Majority had Adenocarcinoma and nearly 25% presented with distant metastasis.

**Results and Discussion:** Studies of lung cancer in females indicate that there are differences in risk factors, histology, treatment, outcome and prognosis. In my study majority of the patients were from rural areas. Previously it was considered that only older people got lung cancer; however there is increasing trend in young females, which could be attributed to environmental exposure, passive smoking and other factors.

**Conclusion:** Lung cancer is not uncommon in females and also they exhibit better survival due to its non smoking status.

Lung adenocarcinoma masquerading as miliary tuberculosis

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**Abstracts**

**Background:** The miliary pattern on chest radiography could be a presentation of miliary tuberculosis (TB), histoplasmosis, sarcoidosis, pneumococcosis, bronchoalveolar carcinoma, or pulmonary siderosis. Primary lung cancer rarely presents as miliary nodules. A review of literature reports few cases of lung adenocarcinoma masquerading as miliary TB, thus warranting the need for strong suspicion of malignancy, so as to avoid delay in diagnosis.

**Case Study:** A 45 year-old female nonsmoking patient from a TB endemic area presented with miliary mottling on chest X-ray. Fiberoptic flexible video bronchoscopy revealed a pearly white mass in left lower lobe antero-basal segment. Histopathological examination of the biopsy specimen revealed a possibility of adenocarcinoma, while Immunohistochemistry confirmed the diagnosis of invasive lung adenocarcinoma. MRI of lumbar spine revealed metastatic deposits in lumbar and sacral vertebrae.

**Discussion:** Lung adenocarcinoma is the most common type among non-smokers and women. They are mostly located peripherally than central, often with metastasis to brain. The most frequent radiological demonstration of lung cancer is ground-glass, part-solid, and solid nodules on chest CT scans, rarely presenting as miliary shadows. In TB endemic areas, miliary shadows on chest imaging are often treated as miliary TB cases, thus delaying the diagnosis of adenocarcinoma.

**Conclusion:** The diagnosis of lung adenocarcinoma could be missed if no tissue biopsy is taken and patients are treated empirically in TB endemic areas based on a radiological diagnosis of miliary TB. Thus, adenocarcinoma of the lung may be considered a rare, but sinister differential diagnosis of miliary shadows on chest imaging.

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**A man with black bronchus**

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Melanoma is an abominable skin cancer with an estimated incidence of over 16000 cases annually and about 41000 melanoma related death per year worldwide. Malignant melanoma is non-epithelial neoplasm of melanocyte which occurs primarily in the skin. Malignant Melanoma has been described in other organs also. The Respiratory system is generally affected by aggressive tumors such as lung cancer and rarely by Primary Malignant Melanoma of Lung which is about 0.01%. Primary malignant melanoma of lung is a tremendously rare condition with lamentable prognosis. The occurrence on malignant metastasis is only 5% of all maximum prevailing melanoma metastasizing the lung. A 32 year male admitted with dry cough, unexplained weight loss of about 4 to 5 kg with bilateral cervical lymphadenopathy. He presented with a history of congenital nevus all over the body and blackish swelling over back which is gradually increasing since birth. HRCT showed tree in bud appearance in right middle lobe and right lower lobe with hilar mass. Bronchoscopic examination revealed a completely obstructed bronchus with large polypoidal melanocytic lesion. Histopathology of endobronchial biopsy revealed malignant melanoma. Bronchoscopic image showing completely obstructed right bronchus large polypoidal melanocytic lesion HRCT showing tree in bud appearance in right middle lobe and right lower lobe with hilar mass.

**Long term follow up of a case of multisystem langerhans cell histiocytosis showing lung parenchymal cyst resolution with vinblastine chemotherapy**

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**Introduction:** Multisystem Langerhans Cell Histiocytosis has a high propensity for late sequelae with increased mortality.

**Case:** A 43-year-old female, diabetic, nonsmoker was diagnosed as breast LCH on histopathology in 2010 and
biopsy confirmed pulmonary LCH in 2012. As a sequel, she developed large thick walled bullae and cysts with bilateral pneumothoraces requiring bilateral chest drain insertion in 2014. The patient was started on vinblastine chemotherapy and responded well. In 2016 she developed a nodule at the ICD scar that was suggestive of transcutaneous seeding of LCH, confirmed on histopathology. In Jan 2017, CT chest showed resolution of pneumothoraces and cyst in the left upper lobe. Multiple small cysts were present in both lung fields. Another cycle of vinblastine chemotherapy was given. The cutaneous LCH nodule developed into a discharging sinus tract that extended into the subcapsular region with multiple discharging fistulae by 2019, requiring incision and drainage with debridement. PET-CT in 2019 was suggestive of soft tissue hypermetabolic density in the right axillary, sub-pectoral, and subcutaneous regions. Vinblastine chemotherapy was continued until March 2020. Post chemotherapy, CT chest showing a significant reduction in the size of the large left upper lobe cystic lesion and expansion of right lower lobe

Discussion: Besides LCH being a rare entity in itself, this case is unique since it was an adult-onset multisystem LCH in a female, non-smoker with cystic lung disease and cutaneous manifestations. There was a significant reduction in the size of pulmonary cysts post vinblastine chemotherapy.

Pulmonary sarcomatoid carcinoma “a rare case of massive pleural effusion”

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Background: Pulmonary Sarcomatoid carcinoma (PSC) is a rare subtype of NSCLC accounting for 0.1-0.4% of lung tumours. Here we are presenting a case of PSC of lung primarily presenting as massive effusion.

Case Report: A 54 year old married female, never smoker, presented with complaints of dry cough, breathlessness and left sided chest pain of three weeks duration. The chest Xray showed left sided gross pleural effusion. The pleural fluid was serosanguineous, lymphocytic and exudative with low adenosine deaminase levels and was negative for malignant cells, AFB/ geneXpert and sterile on pyogenic and fungal culture. The contrast enhanced computed tomography of thorax showed gross left pleural effusion. The pleural fluid was sent for pleural biopsy confirming diagnosis of sarcomatoid carcinoma. She was subjected to CT guided pleural biopsy with washings and cytology, which showed atypical cells, following which modified radical mastectomy was done with dissection of axillary lymph nodes. Final histopathology showed carcinomatous tissue along with atypical cells. The cutaneous lesion developed into a discharging sinus tract that extended into the subscapular region with multiple discharging fistulae by 2019, requiring incision and drainage. PET-CT in 2019 was suggestive of soft tissue hypermetabolic density in the right axillary, sub-pectoral, and subcutaneous regions. Vinblastine chemotherapy was continued until March 2020. Post chemotherapy, CT chest showing a significant reduction in the size of the large left upper lobe cystic lesion and expansion of right lower lobe.

Discussion: Besides LCH being a rare entity in itself, this case is unique since it was an adult-onset multisystem LCH in a female, non-smoker with cystic lung disease and cutaneous manifestations. There was a significant reduction in the size of pulmonary cysts post vinblastine chemotherapy.

Role of fob in lung malignancy

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Introduction: There is great interest in the histological characterization of lung cancer in view of newer histology guided therapeutic modalities and genomic classification of lung carcinoma.

Objective: To evaluate the role of FOB & compare the efficacy of bronchial brushings with biopsy.

Methodology: Patients with clinicoradiological suspicion of malignancy were subjected for bronchoscopy after necessary investigations. After visualization of an endo bronchial mass in 41 cases, both brushings & biopsy were taken and sent for analysis to establish a histological diagnosis.

Results: Out of 41 cases mean age was 56% were smokers. Most common symptoms in the order of frequency were cough(92.7%), dyspnea(80.5%), chest pain(56.1%). Clubbing was present in 52.1% of patients. 7 out of 41 patients had a known primary carcinoma elsewhere & 3 of them were diagnosed to have a new lung primary malignancy. All the patients included were above stage IIIA and majority were stage IVA. The yield of bronchial brushings was 70.7%, the yield from bronchial biopsy is 90.2%. The most common histological type was adenocarcinoma(39%).

Conclusion: Biopsy is more sensitive & specific compared to brushings. There is increasing incidence of adeno carcinoma.

A rare case of recurrent phyllodes with lung metastasis

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Background: Phyllodes tumors (PT) are rare fibroepithelial tumor of breast which are classified as benign, borderline, malignant. Malignant PT accounts for < 1% of malignant breast tumors. Malignant spectrum poses challenge for the clinician due to high risk of recurrence and metastasis.

Case Study: A 32 year old female patient presented with cough, expectoration, left sided chest pain and SOB. H/o left sided phyllodes tumor treated with lumpectomy twice, 6 months after surgery she again developed left sided breast lump for which trucut biopsy was done, which was showing atypical cells, following which modified radical surgery was done. After surgery, she was subjected to CT guided needle biopsy with washings and cytology, which showed atypical cells. The cutaneous lesion developed into a discharging sinus tract that extended into the subscapular region with multiple discharging fistulae by 2019, requiring incision and drainage. PET-CT in 2019 was suggestive of soft tissue hypermetabolic density in the right axillary, sub-pectoral, and subcutaneous regions. Vinblastine chemotherapy was continued until March 2020. Post chemotherapy, CT chest showing a significant reduction in the size of the large left upper lobe cystic lesion and expansion of right lower lobe.
mastectomy was done. HPE specimens showed spindle cells with positive margins. CECT was done to rule out lung metastasis and was showing mass lesion. CT guided lung biopsy done which was showing scanty spindle cells.

Discussion: The clinical behavior of PT is unpredictable. Malignant PT has highest risk of distant metastasis and associated with poor prognosis. The most common sites of metastasis being lung, bone, liver. Therefore, preoperative diagnosis and proper management are crucial because of their tendency to recur and also malignant potential in some of these cases.

Conclusion: In the changing scenario, even phyllodes tumour may present with recurrence and distant metastasis. Therefore, vigilant search for histopathological features S/O malignant phyllodes should be done in all cases, to reduce the morbidity and mortality due to the disease.

Clinico-histological diagnostic study in patients of lung cancer

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Background: The diagnostic workup for lung cancer must include histological confirmation of the diagnosis, evaluation of how far tumor has spread, analysis of the patient’s functional status with a view to treatment possibilities.

Methods: 35 confirmed cases of lung malignancies were enrolled from pulmonary medicine OPD of a tertiary care teaching hospital by taking Histopathologic proven cases of lung malignancies, patients in which complete data record was available, patients who gave informed consent.

Results: Among the 35 patients, 62.86 % patients were smokers while 37.14 % patients were non-smokers. Chronic exposure to biomass fuel was present in 17.14 % patients. Cough, dyspnea and chest pain were present in 62.86 %, 74.29 % and 71.43 % patients respectively. Fatigue, hemoptysis and weight loss was seen in 37.14 %, 45.71 % and 40 % patients respectively. Adenocarcinoma was histopathologic diagnosis in 62.86 % patients while squamous cell carcinoma (SCC) was the diagnosis in 34.46 % patients. Small cell carcinoma was present in 1 patient (2.68 %). FOB findings were positive for malignancy in 91.43 % patients while it was negative in 8.57 % patients. TBNA was done in 60 % patients while TBLB was done in 40 % patients.

Conclusion: Early diagnosis of lung malignancy in patients of various groups is essential to give a better management and prognosis.

Incidence of nonmalignant cases in lung masses, which were suspected as malignant

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Background: Lung cancer is the leading cause of death in developed countries and now rates are increasing in developing countries also. Cytological techniques such as bronchoalveolar lavage (BAL), bronchial brush cytology, and Endobronchial lung biopsy (EBLB) can aid in the early diagnosis of lung malignancies and its differentials.

Materials and Methods: A total of 70 cases, suspected of lung cancer from October 2018 – July 2020 were selected where samples of BAL, Bronchial brush cytology, EBLB, were taken and processed according to the standard procedures of cytology and histology. The aim of this study was to compare the differentials of lung mass cases which were suspected as malignant neoplasms of the lung.

Results: Combined Sensitivity and specificity of BAL, Bronchial brush cytology was nearly approximate to the EBLB for differentiating lung masses into non-malignant and malignant cases of Lung.

Conclusions: Every homogenous opacity on X-ray and CT scan, which termed as Lung mass, need not to be Malignancy. It will decrease the burden and mental stress of patient and their family, and will improve the quality and living standard of human beings.

Case of a silent 5 cm lung mass

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Background: Lung cancers can present with atypical presentations and non-specific symptoms. This is a case of incidental diagnosis of Lung cancer in a patient who presented to the Orthopaedics department.

Case Report: 50 year old female, a known hypertensive presented to the Department of Orthopaedics with complaints of B/L knee pain. Radiograph of knee was suggestive of B/L grade 4 osteoarthritis and she was posted for total knee replacement. Chest radiograph in the pre anesthetic evaluation revealed right lower zone homogenous opacity for which further evaluation and workup was advised but she lost to follow up. Patient got readmitted after one and half years with similar complaints and chest radiograph at this admission revealed increase in size of the previous lesion compared to the previous Xray. She had no significant respiratory symptoms and had a weight gain of 4 kgs. CECT thorax showed a 4.7*4.5*4.2 cm heterogeneously enhancing soft tissue mass with lobulated margins and spiculations involving the right lower and middle lobes. Fibreoptic bronchoscopy with endobronchial biopsy was done and HPE with IHC revealed Adenocarcinoma.
Discussion: As lung tumour can present with nonspecific symptoms, early detection and timely curative treatment remains a challenge.

Conclusion: This case reveals the need for routine medical evaluation of middle aged patients presenting in a healthcare setup.

**Comparison of safety, efficacy and diagnostic value of bal cytology versus computed tomography guided lung biopsy in lung masses**

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Background: Lung cancer is one of the most prevalent and lethal cancers, accounting for 17.8% of all cancer deaths with 5 year survival <15%. Prognosis of lung cancer is strongly related with the stage of cancer at the time of diagnosis. Improving the detection rate of early stage lung cancer is essential for improving the prognosis of lung cancer.

Methods: It was a prospective intervention based Cross sectional study was conducted among patients at Sir Sunder Lal Hospital, BHU, Varanasi, with suspicion of lung Mass which were chosen on the basis of history, physical examination, Chest X-Ray and a size of >3cm on Computed Tomography of chest. All patients underwent bronchoscopy and CT guided lung biopsy and samples were sent for histopathological analysis.

Results: The sensitivity,specificity,accuracy and efficacy of BAL cytology and CT Guided biopsy technique in diagnosing lung cancer in all lung mass were 28.6%,76.47%,76% and 43.37% in BAL cytology, 93.82%,98.64%,89.86% and 92.47% in CT Guided biopsy respectively. Combined results of CT Guided biopsy and BAL cytology analysis had good efficiency in diagnosing malignancy in all lung masses. BAL cytology was more sensitive for central masses while CT guided biopsy showed more sensitivity for peripheral masses.

Conclusion: In this study it was found that BAL fluid cytology and CT guided biopsy are effective in diagnosing lung malignancy and non malignancy in pulmonary masses. They also proved efficient in identifying the cytological pattern of various lung carcinomas.

**Pulmonary spindle cell carcinoma: A rare case report**

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Background: Pulmonary spindle cell carcinoma is a rare variant with an incidence of 0.4% amongst all lung malignancies. It is also referred to as sarcomatoid carcinoma which is a rare and poorly differentiated type of Non small cell lung cancer.

**Case Report:** Here we present a case of pulmonary spindle cell tumour in a 65yr old female who came with Chief complaints of right sided chest pain, grade 2 dyspnea, cough since 2weeks along with Appetite loss since 1month. After initial evaluation she was diagnosed with right moderate pleural effusion on chest X ray. Therapeutic pleural tapping was done and sent for Contrast enhanced CT Chest which showed heterogeneous enhancing ill defined mass in right middle and lower lobes with Bronchial intermedius cut off - suggestive of Bronchogenic carcinoma.

Discussion: Ultrasound guided lung biopsy was done and sent for histopathology which revealed spindle cell tumour. Later she was refered to higher cancer centre for further management and lost to follow up recently.

Conclusion: Pulmonary spindle cell carcinoma is a rare and aggressive malignancy with poor prognosis.

**An atypical presentation of adenocarcinoma of lung**

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Background: radiology remains to be the main tool in initial diagnosis of lung malignancies. so it is important for us to know it's various radiological presentations.

**Case Report:** 54year Old male patient who was a teacher by occupation presented with complaints of progressive shortness of breath, cough with whitish mucoid expectoration and occasional streaky haemoptysis since 8 months duration. He was never a smoker or an alcoholic. On presentation he had already completed multiple courses of antibiotics, steroids and 1 month of anti tubercular therapy which didn't give any symptomatic relief.

Clinical Findings: Patient had peripheral cyanosis, no clubbling. Patient had a respiratory rate of 35 per min, spO2 was 68% with room air. On auscultation of chest bilateral diffuse crepitations were heard and tubular brochial breath sounds were heard. HRCT CHEST : Large areas of consolidations with interspersed areas of ill defined ground glass opacities, inter and interlobular septal thickenings and small cystic changes in all the lobes of both the lungs, predominantly in bilateral lower lobes. Multiple cystic bronchiectatic changes in the apical anterior segment of right upper lobe, medial and lateral segment of right middle lobe. Cytological examination of BAL :Features were suggestive of adenocarcinoma. TRANSTHORACIC LUNG BIOPSY:Features were suggestive of moderately differentiated adenocarcinoma.

Discussion: initial differential diagnosis included resolving bronchopneumonia, pulmonary alveolar proteinosis,diffuse alveolar haemorrhage and nsip pattern.

Conclusion: It is important to keep lung cancer as a differential diagnosis even for a case of multilobar consolidation with ground glass opacities and interlobar septal thickenings.
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A rare duo of primary pulmonary synovial sarcomas: Case study

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Background: Synovial sarcoma is a rare soft tissue sarcoma comprising of 8% of soft tissue tumours in the body. The term is a misnomer since it is originating from pleuripotent mesenchymal tissue. Only 0.5% of all primary pulmonary malignancies is due to pulmonary sarcomas of which two are common: Malignant fibrous histiocytoma and synovial sarcoma.

Case Study: A 25 year and 36 year old female patients presented with progressive breathlessness, cough, right sided chest pain for 15 days and progressive breathlessness for 6 months with haemoptysis, left sided chest pain, hoarseness of voice for 2 months respectively. Chest x ray showed right sided homogenous opacity in first patient and on the left in second patient. CECT chest showed right sided 21*15.2*14 cm heterogenous soft tissue mass in the first patient and similar left sided 20*16.3*14.5 cm mass in the second. USG guided transthoracic trucut biopsy and IHC was suggestive of primary pulmonary synovial sarcoma in both. The first patient expired and the second was referred for further surgical management.

Discussion: Primary pulmonary synovial sarcoma is a rare, aggressive malignant tumour. It is seen in young males contrary to cases here where both are females. Usually the patients present with chest pain, cough, breathlessness, hemoptysis. A huge heterogeneous, intrathoracic mass is seen at presentation. Diagnosed by lung biopsy and On immunohistochemistry cells are positive for CK, EMA, bcl-2, vimentin and CD99. The prognosis of patients is poor. The treatment of choice is complete surgical resection.

Conclusion: All lung tumors are not bronchogenic carcinoma. FNAC is inconclusive. Histopathology and Immunohistochemistry are required for diagnosis.

Immunohistochemical characteristics and driver mutation profile in patients with lung adenocarcinoma

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Background: Lung cancer is leading cause of cancer related deaths worldwide, with adenocarcinoma being the most common subtype. Immunohistochemistry (IHC) helps in accurate subtyping. The driver mutations that lead to progression of lung adenocarcinoma is of paramount importance as it forms the basis of targeted therapies which gives better outcomes in these patients.

Objective: To study the immunohistochemical characteristics and driver mutation profile in lung adenocarcinoma.

Methodology: IHC and driver mutation profile of 47 patients with adenocarcinoma lung were collected retrospectively. IHC was used for accurate subtyping after histopathological diagnosis. Amplification refractory mutation system (ARMS) and fluorescence in situ hybridization (FISH) were used to detect driver mutations EGFR, ALK and ROS. The correlation of IHC and driver mutations were also studied.

Results: There were 47 patients (n = 47) with histopathological diagnosis of adenocarcinoma of which IHC showed expression of CK7 41.3% (n = 19), TTF1 32.6% (n = 15), p63 6.5%, Napsin 6.5% (n = 3), CK20 2.2%, p53 2.2%, Vimentin 2.2% (n = 1), lepidic pattern in HPE 6.5% (n = 3), glandular pattern in HPE 2.2% (n = 1). Among the driver mutations the highest in frequency was EGFR 46.8% (n = 22), equivocal for ROS 4% (n = 1). Among EGFR positive patients IHC expression was higher for TTF1 38.1% (n = 8) followed by CK7 23.8% (n = 5).

Conclusion: In adenocarcinoma lung there is increased IHC expression of CK7 and TTF1 and EGFR driver mutation had the highest frequency. The outcome of the study will support the development of precise targeted therapies resulting in improved outcomes for lung adenocarcinoma patients.

Deadly metastatic adenocarcinoma of the lung presenting as isolated chronic cough for “3 months”: A cautionary tale

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Background: Lung cancer is the leading cause of cancer death worldwide. Adenocarcinoma accounts for 38.5% of all lung cancer cases.

Case Study: A 70 year old nonsmoker female with chief complaints of dry cough since 3 months, no history of hemoptysis, chest pain, fever, weight loss, loss of appetite, jointpains, no past history of COVID-19. Chest X-ray showed bilateral nodular opacities. In view of persistent symptoms HRCT chest was done that revealed large nodular lesions and paraseptal emphysematous changes in the periphery of both lungs. PET scan was done with high index of suspicion of bronchogenic carcinoma with multiple bilateral lung secondaries that revealed multiple mass lesions in bilateral lungs with lymphangitis carcinomatosis, adrenal, skeletal and abdominal metastasis. CT guided biopsy from the mass lesion revealed adenocarcinoma. EGFR mutation was positive.

Discussion: Lung cancer being the most common cause of cancer death warrants meticulous evaluation including chronic cough without constitutional symptoms.

Conclusion: Initial clinical presentation and investigations can be deceptive. Patient should be re-evaluated if there is no improvement. Diagnosis of malignancy can be delayed due to low index of suspicion.
VATS lobectomy for lung cancer – The Indian perspective

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Introduction: VATS lobectomy is now the standard of care in patients with early carcinoma lung. In our country it has not yet gained wide-spread acceptance, due to apprehensions about adhesions with difficult hilar lymph nodes raising concerns about its safety in Indian patients. To the best of our knowledge there is no data from India regarding the safety and feasibility of the procedure specifically in Indian population. This study aims to analyse the surgical outcomes of VATS Lobectomy for Non-Small Cell Lung Cancer.

Methods: This observational Study was designed to assess surgical outcomes of patients undergoing VATS Lobectomy for Non-small cell Lung cancer from 2013-2020. The demographic variables, presenting complaints, intraoperative variables, histopathology, along with postoperative pain and complications were recorded and analysed.

Results: A total of 100 patients were included in this study with 66 males (mean age 60.98 years) and 34 females (mean age 55.2 years). Vast majority of the females were non-smokers. The mean blood loss was 100 ml. R-0 resection was achieved in all patients with an average lymph node yield of 13 lymph nodes. Post-operative air leak was the most common complication (17%), followed by atrial fibrillation (6%). The average VAS score was 3/10. There was no in-hospital mortality/30-day mortality. The mean hospital stay was of 7.4 days.

Conclusion: In this only study from India VATS lobectomy for Non-Small Cell Lung cancer was found to be safe and feasible in Indian patients with surgical outcomes comparable to internationally reported series.

A profile of patients with lung malignancies attending a tertiary care hospital

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Background: Globally, Lung cancer is the largest contributor to new cancer diagnoses (12.4% of total new cancer cases) and to death from cancer (17.6% of total cancer deaths).

Materials and Methods: A total of 105 lung malignancy patients, over a period of 18 months were included in the study. Demographic data, symptoms, duration and history of smoking enquired. Physical examination, Investigations like Chest X-ray, CECT chest, pleural fluid analysis, bronchoscopy, FNAC, biopsy done.

Results: Among 105 patients, 71 were diagnosed with lung cancer, 34 were diagnosed with extra pulmonary malignancies with lung metastasis. Among 71 with lung cancer, 69.01% were males, 30.98% were females. Mean age was 58.12 ± 15.16 years. Most common clinical presentation being cough 87.3%. Clubbing 30.98% was the most common physical finding. 69.01% were smokers. Right hemithorax 56.33%, upper lobe 59.15% involvement was more common. Most common histological subtype being adenocarcinoma 49.29%. Most of the patients were diagnosed in stage3 60.56%. Among 34 secondary lung malignancies, 55.88% were females and lymphoma was the most common type 26.47%.

Conclusion: Early recognition, staging, radiological and histological diagnosis may improve the outcome in patients with lung malignancies.

Unusual presentation of adenocarcinoma as pleural thickening

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Background: Adenocarcinoma is most common primary lung cancer. It falls under the umbrella of non small cell lung cancer. It usually evolves from mucosal gland and represents about 40% of all lung cancer, usually occurs in lung periphery and most common in people who have never smoked.

Case Study: A 45-year-old male, manual laborer, presented with pain in right side of chest along with shortness of breath on exertion since 3 months. There was no evidence of clubbing or lymphadenopathy. There was no significant past history. Chest examination revealed dull note on percussion and decreased breath sounds on right hemi thorax. Chest x ray and USG thorax were suggestive of right sided pleural effusion. CECT chest was suggestive of Para tracheal and sub carinal lymphadenopathy and effusion with pleural thickening on right side. Patient underwent medical thorascopy and biopsy with immune histochemistry examination was suggestive of adenocarcinoma.

Discussion: Among the varied presentations of adenocarcinoma, diffuse pleural thickening has been less encountered with it, occurs in smokers between 50-60 years of age Differentiation from epithelial mesothelioma requires immunohistochemistry examination.

Conclusion: Diffuse pleural thickening creates a diagnostic dilemma between adenocarcinoma and mesothelioma. Our case represents such a clinical situation thus immunohistochemistry examination required to reach the diagnosis.

Mysterious metastasis in papillary carcinoma of thyroid

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Abstracts

**Background:** Papillary Thyroid Carcinoma usually has an indolent course and metastasis occurs in less than 5% cases with distant metastasis being as less as 4%-15% incase of well differentiated Thyroid Carcinoma.

**Case Study:** A 65 year old male patient with complaints of breathlessness, generalised weakness and weight loss. Patient had a history of thyroidecmy 7 years ago. On examination, there was presence of Right Cervical lymphadenopathy for which FNAC was suggestive of Papillary Carcinoma of Thyroid. X-ray Chest (PA) showed white out lung in the left side with varying size nodules in the right lung, CECT Thorax showed massive left sided pleural effusion with multiple pleural masses and varying size parenchymal nodules in the right lung. Thoracocentesis was done which showed haemorrhagic pleural fluid which had a lymphocyte predominance with 33% mesothelial cells. CT Guided Biopsy of the left pleural mass was done which was further sent for Immunohistochemistry. Immunohistochemistry was positive for CK-7,CK-19,TTF-1 and EMA suggestive of Papillary Carcinoma of Thyroid.

**Discussion:** Papillary thyroid carcinoma is the most common thyroid malignancy. It is typified by a nonaggressive nature. Neck lymph nodes, lung parenchyma(67%) and bone(25%) are the commonest sites of metastasis while pleural metastasis has been reported in only 0.6% cases.

**Conclusion:** Papillary Thyroid carcinoma has an excellent prognosis and survival rate overall but presence of pleural metastasis is a poor prognostic factor. The survival duration after pleural effusion development is seen to be 11 months and hence early diagnosis is essential.

A case series of primary pulmonary synovial sarcoma in a tertiary care center in Jabalpur Hospital

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**Background:** Synovial sarcoma is a rare malignant mesenchymal tumor that can develop at any anatomical site. It constitutes about 5-10% of all soft tissue sarcomas with characteristic chromosomal translocation t(X;18)(p11;q11). Most common site is peri-articular tissue. Pulmonary sarcomas constitute 0.1%-0.5% of all primary lung malignancies. Primary pulmonary synovial sarcoma is rare. It occurs usually between 15 and 35 years, with equal sex predisposition. Multimodality treatment is the mainstay of therapy.

**Methodology:** Case series of 3 cases presented to pulmonay OPD in the period of January 2019 to August 2021, NSCBMCH, Jabalpur. All were Men of age >35 years came with history of smoking and farmer by occupation. Clinical features were chest pain, dry cough, loss of appetite and weight. Decreased air entry on auscultation. Chest x ray and CECT scan showed heterogenous opacity with heterogenous enhancement. FNAC and lung biopsy examination showed malignant cells in spindle cell format but were inconclusive. Immuno-histochemistry – BcL2 positive in all cases and confirms the diagnosis of primary synovial sarcoma.

**Results:** All were Men of age >35 years with smoking index > 300 and farmer by occupation. Presented with common clinical features like chest pain, dry cough and, loss of appetite and weight. Immuno-histochemistry test was positive for BcL 2 in all the cases.

**Conclusion:** The primary synovial sarcoma of lung is a rare tumor. The diagnosis requires clinicopathologic and immunohistochemical investigations to exclude alternative primary tumors and metastatic sarcoma. Surgical excision is the most appropriate treatment. Adjuvant chemotherapy and radiotherapy have a limited role. It has high recurrence rate, hence follow up is necessary.

Solitary fibrous tumor of pleura

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**Introduction:** Solitary fibrous tumor of the pleura (SFTP) is a rare primary tumor(2 per 100000), arising from mesenchymal cells in the pleura, predominantly affecting patients in fifth and sixth decade.

**History and Examination:** 60 year old male, non-smoker, presented with complains of dull aching, non-radiating, right sided chest pain for 1 year along with non productive cough for 2 month. On examination he was tachypnic and on auscultation there was decreased air entry on right side.

**Diagnosis:** Routine investigation were normal (HB-13.4, TLC -10136, RBS- 136) Digital chest x RAY- Right gross pleural effusion. CECT thorax shows irregular circumferential pleural thickening in the right hemithorax, right gross pleural effusion. USG guided FNAC done which shows features suggestive of solitary fibrous tumor of pleura.

**Management:** Patient was managed with antibiotics, pleural fluid drainage and other supportive measures. After diagnosis and conservative management patient was refered to cardiothoracic and vascular surgery department for further management.

**Conclusion:** SFTP is a rare disease which should be kept always in differential diagnosis of an undiagnosed pleural effusion.

An unusual presentation of Ca lung

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**Background:** Lung cancer is the second most common cancer in the world, with adenocarcinoma involving about 50% of the cases. The following is a case of unusual presentation of adenocarcinoma lung.

**Case Study:** A 62 year old male chronic smoker admitted
Abstracts

Lung mass with endobronchial growth – Carcinoid

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Background: Pulmonary carcinoid tumors are rare neuroendocrine epithelial tumors accounting for less than 1% of all lung cancer. They divide into two subcategories: typical carcinoids and atypical carcinoids. Typical carcinoids and atypical carcinoids are, respectively, low- and intermediate-grade neuroendocrine tumors. Approximately 80% of pulmonary carcinoids occur centrally, and 20% are peripheral. All bronchial carcinoids are malignant and have the potential to metastasize.

Case Report: A 55 year old female patient presented with complaints of shortness of breath for 10 months and cough with expectoration for 8 months. She had a history of haemoptysis 3 years back for which she was treated symptomatically. Chest CT showed left upper lobe mass with endobronchial growth. Bronchoscopy guided biopsy was done and HPE showed poorly differentiated carcinoma. IHC was done which showed chromogranin, synaptophysin, and CD56 positivity. The HPE and IHC patient was diagnosed as carcinoid tumor. Patient was referred to CTVS for surgery.

Discussion: Carcinoid tumors are mostly central tumors or have an endobronchial growth. Any hilar mass or endobronchial tumor should be worked up to rule out carcinoid tumors. As in our country we have close differential diagnosis like tuberculosis, patients should not be started on ATT without proper diagnosis.

Conclusion: Typical carcinoid tumors are slow-growing and asymptomatic tumors which can metastasize. Prompt diagnosis and treatment are important to cure the patient.

The tale of haemoptosis

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Background: Bronchial carcinoid tumors were formerly known as bronchial adenomas, this terminology is not used now. They are typically a slow-growing neoplasm with varying behaviour, they can grow rapidly. Pulmonary carcinoid tumors are uncommon neuroendocrine epithelial malignancies. Approximately 80% of pulmonary carcinoids occur centrally, and 20% are peripheral located.

Case Study: A 36 year old male presented to our hospital, with complaints of cough with expectoration associated with on and off haemoptysis since 2 years, aggravated since 1 week. After clinical & radiological examination provisional diagnosis of right middle lobe collapse, FB aspiration was made. Diagnostic bronchoscopy was done, which showed obstructive lesion in right intermediate bronchus and biopsy was taken from the anterior wall of trachea.

A case of endobronchial carcinoid treated by VATS assisted sleeve resection lobectomy

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Background: Carcinoid tumors are rare neuroendocrine neoplasm that mostly occur in younger adults. Based on their histological characteristics, divided into typical and atypical. Most common presenting symptoms are due to central airway obstruction.

Case Report: A 30 year old male with no known comorbidities presented to the Chest OPD with complaints of dry cough for 2 months and haemoptysis for 2 days. CT thorax showed a soft tissue lesion 2x1.3cm within the right bronchus intermedius 1cm from carina with obliteration of right upper lobe bronchus. Bronchoscopy was done which showed a polypoidal growth. It was found to bleed on touch. Biopsy of the lesion showed features of neuroendocrine tumor; Grade I – typical carcinoid. 68Ga DOTANOC PET CT was done which showed a well-defined DOTANOC avid endobronchial lesion in right main bronchus and bronchus intermedius. Surgical oncology consult was obtained, and patient was taken up for VATS assisted sleeve resection with lobectomy upper lobe with end to end bronchial anastomosis. Surgery was successful and patient is on follow up.

Discussion: Carcinoids of the lung have better prognosis than carcinoma, gold standard for most cases is surgical resection.

Conclusion: 75% of carcinoids are central, endobronchial tumors presenting with post obstructive pneumonia, haemoptysis, or wheezing. Lung parenchyma preserving surgery in the form of sleeve resection lobectomy may improve long-term survival, quality of life, and postoperative functional status.

in our hospital, with complaints of dry cough and haemoptysis. Chest X ray showed anterior mediastinal widening and CECT showed an ill-defined soft tissue density lesion in the mediastinum encasing the main pulmonary artery and superior vena cava. Patient underwent bronchoscopy where a mass eroding the anterior wall of trachea was noted. Lavage was taken from the carina which showed atypical cells. Trans tracheal needle aspiration from the anterior wall of trachea just above carina and biopsy was taken from the tracheal growth. Histopathology report showed sheets of pleomorphic neoplastic cells suggestive of poorly differentiated carcinoma. IHC showed features consistent with a primary lung adenocarcinoma with tumour cells positive for Pan CK, Vimentin, TTF1 and Napsin which are in favour of primary adenocarcinoma of lung. Patients PET CT is awaited.

Discussion and Conclusion: Adenocarcinoma is the most common type of lung cancer among smokers in the world. Adenocarcinoma usually presents with aggressive parenchymal involvement. The above case is an example of adenocarcinoma with minimal parenchymal invasion eroding the trachea.

Case Study: A 36 year old male presented to our hospital, with complaints of dry cough and haemoptysis for 2 months and hemoptysis for 2 days. CT thorax showed anterior mediastinal widening and CECT showed an ill-defined soft tissue density lesion in the mediastinum encasing the main pulmonary artery and superior vena cava. Patient underwent bronchoscopy where a mass eroding the anterior wall of trachea was noted. Lavage was taken from the carina which showed atypical cells. Trans tracheal needle aspiration from the anterior wall of trachea just above carina and biopsy was taken from the tracheal growth. Histopathology report showed sheets of pleomorphic neoplastic cells suggestive of poorly differentiated carcinoma. IHC showed features consistent with a primary lung adenocarcinoma with tumour cells positive for Pan CK, Vimentin, TTF1 and Napsin which are in favour of primary adenocarcinoma of lung. Patients PET CT is awaited.
Abstracts

Adenoid cystic carcinoma (ACC) is a rare case report in Gandhi Medical College. The case was diagnosed late. Both typical and atypical carcinoids have almost similar radiologic features and definitive diagnosis relies on bronchoscopic tissue biopsy.

Discussion: ACC as pulmonary metastasis is rarely encountered and suspected in clinical practice. It is an indolent tumour metastasizing to distant sites such as lungs, but relatively little literature is available due to rarity of the tumour itself. The treatment encompasses surgical resection in combination with preoperative or postoperative irradiation.

Conclusion: ACC as pulmonary metastasis is rarely encountered and suspected in clinical practice. It is an indolent tumour metastasizing to distant sites such as lungs, but relatively little literature is available due to rarity of the tumour itself. The treatment encompasses surgical resection in combination with preoperative or postoperative irradiation.

Materials and Methods: Case was report in Gandhi medical college in Tb chest department. Thorough investigation was done & followed protocol for diagnosis of SMALL CELL CARCINOMA OF LUNG.

Results: history, clinical examination, radiological findings (HRCT CHEST, USG), bronchoscopy, biopsy, histopathological examination are suggestive of SMALL CELL CARCINOMA OF LUNG.

Discussion: Small-cell carcinoma is very responsive to chemotherapy and radiotherapy, and in particular, regimens based on platinum-containing agents. However, most people with the disease relapse and median survival remains low. The overall incidence and mortality rates of SCLC in the United States have decreased during the past few decades. In limited-stage disease, relative 5-year survival rate (both sexes, all ages, all races) is 21.3%; however, women have higher 5-year survival rates, 26.9%, and men have lower survival rates, 21.3%.

Trend of lung carcinoma in nonsmoking females

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Background: Lung cancer is one of the most common types of cancer causing high morbidity and mortality worldwide. The relative frequency and clinicopathological profile of different histological subtypes of primary lung cancer have been changing in recent years.

Aim and Objectives: The aim of study is to evaluate the clinical and pathological profile of primary lung cancer patients in Chennai, Tamilnadu, India, its association of smoking and histopathological type.

Materials and Methods: This observational cross sectional study was carried out over a period of 15 months in Thoracic medicine department, Kilpauk medical college. Lung cancer data were extracted from the Cancer registry in our college for the year 2020-2021.
Results: There were a total of 73 identified lung cancer cases in the study period (August 2020 to November 2021). Among them, 50 (68.49%) male and 23 (31.50%) female. Age distribution: <40 years (2.73%), 41-50 years (13.69%), 51-60 years (34.24%), 61-70 years (35.61%), 71-80 years (10.95%), 81-90 years (2.73%). Diagnosis was achieved by fob-41 (56.16%), CT guided biopsy-28 (38.35%) and thoracoscopic biopsy-4 (5.48%). The histopathology came as adenocarcinoma-39 (53.42%), squamous cell carcinoma-26 (35.61%), small cell ca-6 (8.21%), adenosquamous ca-1 (1.36%) and carcinoid-1 (1.36%). Out of them, smokers were 46 (63.01%) - all of them male and non-smokers were 27 (36.99%) - of which 4 (14.81%) male and 23 (85.18%) female.

Conclusion: This study shows that even in the people who are not exposed to smoking (Active & passive), there has been a significant incidence in lung carcinoma among them. It also depicts that adenocarcinoma is the most common type of cancer even among the non-smokers.

A rare case of small cell lung carcinoma with left hemidiaphragm evagination

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Background: Small cell lung carcinoma (SCLC) arises in peribronchial (central) parts of lungs with highly malignant potential. Diaphragmatic evagination is abnormal elevation of hemidiaphragm due to nerve or muscle injury.

Case Study: A 65-year farmer presented with 3 month history of productive cough, hemoptysis, left sided chest pain, exertional dyspnea without any postural or diurnal variation. He was Chronic smoker (20 pack years). Previous medical history was uneventful. On clinical examination he was well conscious, BP 116/82 mm Hg, pulse rate 84 beats per minute, respiratory rate 20 per minute. Decreased chest movement on left side. Trachea shifted towards left side. On auscultation breath sounds were absent, but gurgling sounds heard in left infrascapular and infra axillary region. The remaining physical examination was normal. Values of CBC, Blood sugar, Liver function and Renal function test were normal. ECG, 2d echo, USG abdomen, Sputum examinations were within normal limits. Chest X ray Shows Left sided opacity with elevation of hemidiaphragm. HRCT chest showed reduced left lung volume with mass lesion of 12×7×9 cm involving left hemithorax with abrupt bronchial cut off and elevated left hemidiaphragm. Bronchoscopy showed whitish shiny mass lesion obstructing Left main bronchus. Histopathology of Endobronchial biopsy specimen showed small cell lung carcinoma. On consultation with radiotherapy department, Cisplatin based based chemotherapy started.

Discussion: SCLC accounts for 10 to 15% of all lung carcinomas. Easily diagnosed with histopathological examination. Diaphragmatic evagination may be caused due to phrenic nerve compression, a complication of malignancy (mass).

Conclusion: SCLC is more responsive to chemoraiation however with poorest prognosis amongst all histological types.

Primary pulmonary angiosarcoma: A rare clinical entity

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Background: Angiosarcoma, a malignant endothelial cell tumour of vascular or lymphatic origin accounts for 2% of all soft tissue sarcoma. Primary pulmonary angiosarcoma is even rarer.

Case Study: 44 years old female presented with recurrent hemoptysis, progressive dyspnoea and left sided chest pain for 2 months. Her past medical history was unremarkable. On examination paller was present but no clubbing or lymphadenopathy. She had dull percussion note with diminished vesicular breath sound on left side of chest. Chest xray PA view showed opacification of left hemithorax with central trachea. CECT Thorax revealed left lower lobe mass measuring (7.6 cm×5.7 cm) with pleural effusion. No extra pulmonary lesion was identified by PET scan. Diagnostic thoracocentesis done and revealed malignant cell on smear and block. Fibre optic bronchoscopy (FOB) revealed lobulated endobronchial mass with necrotized area obstructing left lower lobe bronchus. HPE from EBLB specimen showed angiosarcoma.

Discussion: The patient was referred to medical oncology for further management. But the patient succumbed to her illness.

Conclusion: Understanding of primary pulmonary angiosarcoma is limited. So diagnosis is often delayed and it has no established therapy. It is an aggressive tumor that is not commonly considered during the workup of pulmonary disease. It has worse prognosis with median survival of 3 to 9 months.

Evaluation of cancer ratio and cancer ratio plus in diagnosis of malignant pleural effusion

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Background: Unlike tuberculous pleural effusion there is no specific marker for diagnosing malignant pleural effusion (MPE). Cancer ratio (CR) and Cancer ratio plus (CR Plus) are two promising markers for diagnosing MPE. In this study utility of these markers are evaluated.

Methods: This study included randomly selected 132 patients with pleural effusion admitted in the Respiratory Medicine department. USG guided thoracocentesis was done and pleural fluid sent for investigation. Pleural effusions which were exudative (Light’s criteria) were...
evaluated and their CR and CR Plus were calculated. Confirmation of MPE was done by presence of malignant cell in the smear or block, or malignant tissue in pleural biopsy.

**Results:** Mean value of CR and CR plus were 25.65 and 39.28 respectively (p <0.0001). The sensitivity, specificity, PPV and NPV of CR were 89.5, 89.2, 91.8 and 86.21 and for CR plus were 92.1, 91.1, 93.3, 91.1 respectively in diagnosing MPE.

**Conclusion:** Thus CR and CR Plus are the markers that can be derived from routinely performed tests of pleural fluid. Moreover these are rapid, easily available and cost effective. These tests can be used to guide physicians in selecting patients in whom malignancy should be searched more aggressively.

**Lung malignancy profile among young and old adults at tertiary care centre, central India**

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**Background:** It is hypothesized that determinants of lung malignancy viz. gender, smoking, biomass smoke, varies with age. Hence we studied clinicopathological pattern in young and old adult patients.

**Methods:** Records of 110 patients screened, 100 studied. Patients ≤50 years considered as young while >50 years as old adults.

**Results:** Mean age young adult 43 years while old 63 years. Old male adults (63%), while young females (55%). Old adults (50.7%) smokers compared to young (20.7%). All Smokers were male. Biomass smoke exposure both group 34.5 & 35.2% respectively. Adenocarcinoma in young adults 58.6% compare to old adults 40.84%. The squamous cell carcinoma in older adults 28.17% compared to young 10.34%. Adenocarcinoma in females 69% compare to male 24%,in old adults. Young female exposed to biomass smoke, adenocarcinoma is 80% compared to 66.7% in old. In Non-Smoker males adenocarcinoma is 43.75%. Squamous cell carcinoma in old adults 55.5% compare to 14.28 in young. In smokers squamous cell carcinoma (31%). In old adults squamous cell carcinoma (33.3%) compare to 16.6% in young. In young smokers adenocarcinoma(50%) compared to old (22%). Squamous cell carcinoma seen exclusively in females exposed to biomass smoke. Adeno squamous carcinoma exclusively observed in old adult smokers. Not Otherwise Specified carcinoma mostly prevalent in old adult smokers.

**Conclusion:** It is concluded that gender, smoking habits and biomass smoke exposure are important determinants of histopathological pattern of lung malignancy in different age group.

**Endobronchial inflammatory polyp: A rare entity mimicking neoplasia**

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Endobronchial lesions causing airway obstructions are seen most frequently secondary to carcinoma of the bronchus. Benign lesions are rarely encountered. In symptomatic patients, surgical resection is the only treatment modality. Here we present a case of an elderly male with chronic cough who found to have endobronchial inflammatory polyp on evaluation. We resected the polyp using electrocautery snare through flexible video bronchoscope.

**Mediastinal anaplastic large cell lymphoma: A rare site of even more rare lymphoma**

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**Case Study:** 17 year female presented with grade IV SOB and cough, which progressed over last three months. CT suggestive of large left mediastinal mass lesion compressing left main bronchus. Bronchoscopy revealed lower tracheal mass occluding (75%) of tracheal lumen through which the bronchoscope couldn't be negotiated further. This mass was debulked with electro cautery with Rigid bronchoscope. IHC showed CD45, CD30 and ALK -1 Positivity; diagnosed as anaplastic large cell carcinoma. six cycles of chemotherapy (CHOP-E regimen) with intrathecal methotrexate was given according to protocol. She had significant clinical and radiological improvement and tumor was in remission.

**Discussion:** Anaplastic large cell lymphoma (ALCL) is a rare type of non-Hodgkin’s lymphoma (NHL) and one of the subtypes of T-cell lymphoma. ALCL comprises about one percent of all NHLs and approximately 10 percent of all T-cell lymphomas.0.4% of all cases of all lymphomas affects lung. NHLs occur in the lung in only 0.3% of cases. ALCL is a rare type of lymphoma and primary mediastinal and tracheal ALCL has rarely been reported.

**Conclusion:** ALCL is a rare type of lymphoma, obstruct the lower part of trachea and cause complete collapse. Early intervention and accurate diagnosis is the key as chemotherapy has high success rate in remission.

**Study of clinicoradiological profile of primary bronchogenic carcinoma in female patients admitted in a tertiary care hospital in Kolkata**

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**Background:** Lung Cancer is the most common malignant disease and the leading cause of cancer deaths in the world. Bronchogenic Carcinoma is a malignant neoplasm
of the lung arising from bronchus or bronchiole. Most bronchogenic carcinomas form a mass in or near the hilum, though adenocarcinoma forms a mass in the periphery. **Objectives**: To study the clinical presentation of female patients suffering from primary bronchogenic carcinoma, to assess the radiographic variations in female patients in a case of primary bronchogenic carcinoma and the histological type of primary bronchogenic carcinoma in female patients.

**Methods**: It is a descriptive, observational, cross-sectional study of sample size 50 with 12 months study period. RESULTS -we found that 54% had adeno carcinoma, 32% had squamous cell carcinoma and 14% had a small cell carcinoma. Majority of squamous CA patients (87.5%) had biomass exposure and small cell CA patients had minimum biomass exposure of 42.9%. Most common symptom in primary bronchogenic carcinoma was SOB (86%) followed by weight loss (84%) and anorexia (80%). Most common clinical sign was pallor (76%) followed by clubbing (68%). 92% patients were presented with mass lesion.

**Conclusion**: Adenocarcinoma as most common and small cell carcinoma as least common pathological type. Maximum incidence of primary bronchogenic carcinoma found between the age group of 65 to 74 years. Common symptoms were dyspnoea and weight loss. Common signs were pallor and clubbing. Liver was the commonest site for distance metastasis. Majority of small cell CA patients were smoker.

**A rare case of malignant pleural mesothelioma**

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**Background**: Malignant mesothelioma is a rare malignancy arising from mesothelial cells of pleural or peritoneal surfaces. Malignant pleural mesothelioma occurs in persons having exposure history to asbestos fibres. 85% of men and 50% of women with mesothelioma have history of occupational exposure.

**Case Study**: A 65 years old male patient; former smoker with history of asbestos exposure presented with chest pain since 15 days; exertional breathlessness, dry cough, giddiness since 2 months. On Examination, the patient was tachypnoeic with Grade III clubbing. On Auscultation there was absent air entry on the left side and crepitations. Blood investigations revealed hypoglycemia and thrombocytosis. Chest x-ray showed left pleural effusion with calcified pleural plaques following which USG Thorax and USG guided tapping was done which showed exudative fluid with Serum LDH: 920 IU/L and Total Protein 4.6 g/dl. CECT thorax showed loculated effusion along left lateral thoracic wall and left costophrenic recess with pleural based enhancing soft tissue components. CT guided lung biopsy revealed epitheloid type of cells. The patient was referred to LCDC where palliative chemo-radiotherapy was advised.

**Discussion**: The diagnosis of malignant mesothelioma requires cytological and immune-histochemical validation. Thoracoscopy is the procedure of choice in establishing the diagnosis. Extrapleural pneumonectomy combined with radiation therapy or chemotherapy shows better results. Newer treatment methods like gene therapy and use of cytokines like intrapleural administration of adenoviral interferon alpha 2b are also being investigated.

**A case report of unusual presentation of Hodgkin’s lymphoma**

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**Background**: Usually Hodgkin’s lymphoma occurs in head and neck region and mediastinum but very rarely, the first manifestation may be a disorder of central nervous system, lungs, kidney or any other sites. Only a few cases of Classical Hodgkin’s lymphoma (CHL) presenting with pulmonary symptoms have been reported in the literature. Herein, we report a case of Classical Hodgkin’s lymphoma (CHL) with atypical clinical presentation mimicking pulmonary tuberculosis.

**Case Study**: A 23 years old male patient was referred to us with one year history of non-productive cough, on and off fever and loss of weight (90 to 65 kg). Left sided neck swelling with pus discharge which was progressively increasing in size since last 9 months. Chest X-ray which was present with patient showed a cavitating lesion in the middle zone of right lung. FNAC of left cervical lymph node revealed granulomatous reaction with chronic inflammation and he was diagnosed to have clinicoradiologically pulmonary tuberculosis and was treated with antituberculosis treatment (HRZE) for 6 months but was not responding to the treatment. On physical examination, the patient had firm, nonmobile, fixed, matted and tender multiple cervical lymph nodes ranging 1 to 3 cm in size. Respiratory system examination revealed dullness with decreased air entry and crepitations in the lower part of the right thorax. The chest X-ray showed nonhomogeneous opacity of the middle zone of the right lung with cavitation. Contrast enhanced Computed tomography scan (CECT scan) of the chest showed a large cavitating mass lesion measuring 9*13*11 cm involving the apical segment of right upper lobe and right middle lobe with necrotic debris. Enlarged mediastinal lymph nodes were also seen (pretracheal, paraaortic, precranial and subcarinal). CECT of neck was suggestive of soft tissue mass lesion on left side extending from left mandible to left clavicle. There were associated enlarged lymph node in left supraclavicular region and bilateral axillary region. Flexible bronchoscopy was performed and it did not demonstrate any bronchial airway abnormalities. Cytological examination of bronchoalveolar lavage fluid did not reveal the presence of any malignant cells. Microbiological test for fungi, acid-fast bacilli, other pyogenic bacteria was negative in BAL and pus aspirate from discharging sinus. MTB was not detected by liquid culture and gene expert. Histopathological
examination of the cervical lymph node biopsy showed fibrofatty and collagenous tissue with inflammation and no evidence of malignancy. USG guided True cut biopsy from right lung and left sided neck mass was suggestive of inflammatory myofibroblastic tumour/ inflammatory pseudotumor. Finally, Immunohistochemistry of the sample was performed which was found to be reactive for CD15, CD30, EBV and the immunoprofile supported the diagnosis of Classical Hodgkin’s lymphoma. Patient was referred to cancer hospital for further management with the final diagnosis of classical Hodgkin’s lymphoma. There he was started on combination chemotherapy ABVD regimen: Adriamycin (doxorubicin) 25 mg/m2 IV, bleomycin 10 U/m2 IV, vinblastine 6 mg/m2 IV, and dacarbazine 375 mg/m2 IV administered days 1 and 15 of a 28-day cycle. The patient continues to be in clinical and radiological follow-up.

Discussion: Hodgkin’s Lymphoma (HL) is a type of malignancy that originates from B lymphocytes and spreads through and to lymph node groups or organs outside lymphatic system. Pulmonary involvement occurs in 15–40% of HL. The lung is more frequently involved in secondary or recurrent disease than in primary disease.[1] Cavitating lung lesions in HL are very rare and are seen more frequently in patients below 30 years of age as in our case.[2] Pulmonary involvement in nodal HL has to be differentiated from Primary pulmonary Hodgkin’s lymphoma (PPHL) which is a rare entity.[3] The diagnosis of cavitary lung lesions in a patient with HL is challenging and is often misdiagnosed as tuberculosis, especially in developing countries like India where the latter is highly prevalent because the clinical presentation and laboratory and radiological investigation findings in both the conditions overlap. Moreover, tuberculosis may coexist in a patient with HL, making the diagnosis of HL relatively difficult.[4] The differential diagnosis of cavitary lesions is complex and includes infectious causes, such as pulmonary Gram-negative bacteria, actinomycosis, histoplasmosis, aspergillosis, pneumonia, abscesses, pulmonary TB, hydrated cysts, or septicemic emboli. These lesions may also be due to a malignancy, such as squamous cell carcinoma, sarcomas, osteosarcomas or a metastasis to the lung. In nodular sclerosis HL, the histopathology examination of the lymph nodes may show extensive granulomatous reaction mimicking tuberculosis.[5-7] This entity, though rare, needs to be considered as an important differential diagnosis of cavitary lung lesions, especially in those cases not responding to systemic antimicrobial/ antituberculosis therapy.

Conclusion: Based on a literature review, we recommend that Hodgkin’s lymphoma be included in the differential diagnosis of any cavitary pulmonary single or multiloculated lesion. This case report highlights the importance of using clinical, laboratory, and radiological workups to properly diagnose and manage this patient population. A prompt diagnosis with a lung biopsy is essential in any suspicious case. Awareness of such a disease is of paramount importance due to the high chances of cure with systemic therapy, especially in young adults.