

Recurrent Haemoptysis in Non-Small Cell Lung Cancer Patient.

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ABSTRACT

Background: A 70-year-old female who presented with significant haemoptysis over a 7–14 days period. She had a history of a bilateral breast implant for 20 years .Prior for a “left lung collapse. “She subsequently had multiple episodes of cough, fevers, and possible a typical pneumonia TRO Pulmonary Effusion treated with antibiotic Augmentin .Review of her CTPA upon presentation to the hospital showed a severe reduction of left lung volume owing to the volume loss and dense fibrosis at left upper lobe. Presence of calcification within the parenchyma of left upper lobe likely related to previous infection. Collapsed consolidation affecting entire left lower lobe with presence of air bronchogram. There is no pleural effusion overall changes a left lung in favour of superimposed active infection in the background of scarring / chronic lung changes likely as a sequele previous infection. Bronchoscopy showed a multiple fragments of tissue lined by respiratory type epithelium, tumors infiltration is noted in 2 fragments. The tumors cells are large having round to avoid hyper chromatic nuclei and ample amount of eosinophilic cytoplasm. Endobronchial biopsies showed Non-small cell carcinoma with neuroendocrine features. This is a very interesting case of NSCLC which we suspect had a very slow progressive course secondary to the recurrent infection.

Introduction: Lung cancer is the leading cause of cancer death worldwide (Dela Cruz et al, 2011; Kimman et al, 2012; Siegel et al, 2013), and has had very little improvement in survival during the past 30 years compared with leukemia and non-Hodgkin's lymphoma (Siegel et al, 2013). Without regard to histology, most patients suffer from one or more symptoms at the time of diagnosis (Soni et al, 2002). The most common symptoms include weakness, cough, dyspnea, Haemoptysis, chest pain and fever. Haemoptysis, defined as bleeding from lower respiratory tract, is a common complication of lung cancer. It varies from bloody sputum to fatal pulmonary hemorrhage. According to a prospective evaluation in a tertiary referral hospital, cancer was the most common cause of Haemoptysis, and was usually associated with mild to

moderate amounts of hemorrhage (Hu et al., 2013) Severe Haemoptysis due to non-small cell lung cancer (NSCLC) is considered a grim condition, and there is still scarce data on its characteristics and outcome, despite new imaging and treatment modalities. This retrospective study sought to describe the clinical characteristics, pathophysiology and outcome of NSCLC-related Haemoptysis. We included 125 consecutive patients with severe Haemoptysis (>100 mL) at admission, 65 (52%) exhibiting squamous cell carcinoma. Tumour cavitation/necrosis was reported in 26 (21%) patients. 52 patients had received anticancer treatment, but none had received anti-angiogenic agents. Management of severe Haemoptysis related to NSCLC should be improved,

given our observed survival rates after hospital discharge. (Razazi et al., 2014)

Case report: A 70-year-old female was admitted for further workup of hemoptysis. The hemoptysis Started 7–10 days prior to admission and was bright red and significant in volume (often greater than half a cup).



The amount increased the day prior to admission. She reported subjective fevers associated with her symptoms. She underwent a bronchoscopy at IPR hospital, which was aborted due to diffuse nonspecific bleeding in the right bronchial tree. She had a history of recurrent pneumonia and left lung collapse. She experienced chronic cough and frequent respiratory infections treated with antibiotics, usually Augmentin. On physical examination, the patient was afebrile and normotensive. Heart rate was 68 beats/minute, respiratory rate 29 breaths/minute, and oxygen saturation 98% on room air. Head and neck examination showed normal dentition with no lymphadenopathy. Chest examination showed clear breath sounds bilaterally with decreased air entry in the left lower lobe. Abdominal and cardiac exams were unremarkable. Pertinent laboratory studies included an arterial blood gas analysis, which showed pH 7.45/pCO₂ 37 mm Hg/PO₂

143 mm Hg/bicarbonate 40.4 meq/L.

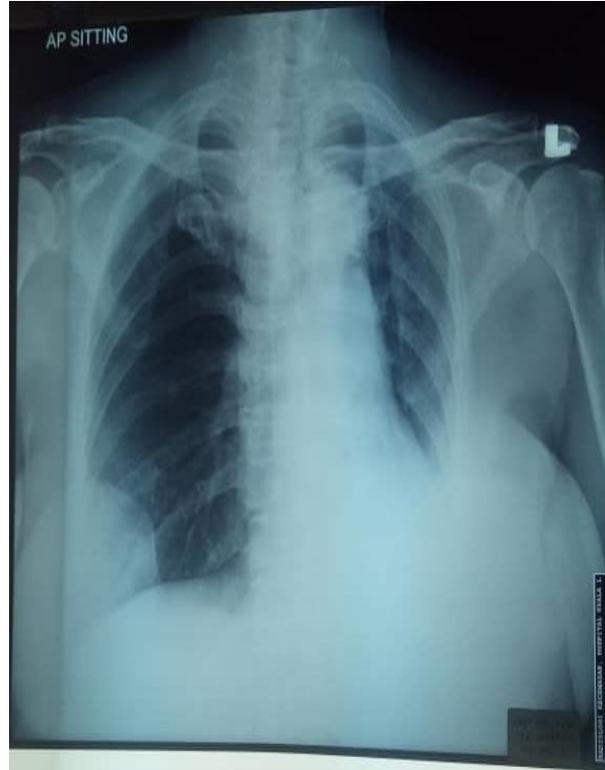


Figure 1. Chest X-ray

The chest radiograph showed (Figure 1) decreased left lung volume with hyper inflated right lung query cause extra luminal compression.

Discussion: The pathophysiology of hemoptysis, the lung has a dual circulation – bronchial and pulmonary. Bleeding in the lungs could be from the trachea-bronchial tree, the lung parenchyma or primarily from the pulmonary vasculature. When bleeding occurs in any of the three sites, it irritates the sensory receptors which are innervated by the afferent limb of the cough reflex (cranial nerves v, xii, x and the superior laryngeal nerves). Through the efferent limb (recurrent laryngeal and spinal nerves) the blood is expectorated with or without other secretions (Lenner, Schilero & Lesser, 2015) According to Lehto (2016), Hemoptysis has multiple noncancerous causes, including infection (e.g., pneumonia, abscess, aspergillosis, and tuberculosis), CHF, pulmonary embolism, chronic bronchitis, and pulmonary edema. In patients with lung cancer, hemoptysis can occur as a result of tumor erosion of a blood vessel. Chest x-ray may reveal pulmonary infiltrates, a cavity lesion, or atelectasis.

A normal chest x-ray does not rule out pulmonary pathology as a source of bleeding (Guesstimates, 2015). A CT

scan or perfusion scanning also may reveal a source of bleeding, such as a pulmonary embolus or air Broncho grams. Air Broncho grams suggest obstruction, bronchiectasis, and chronic bronchitis, all potential causes of hemoptysis. The most useful exam in patients who have hemoptysis is bronchoscopy. Bronchoscopy

Can reveal the source of bleeding and provide the physician with a means of intervention at the time of the procedure. The rigid bronchoscope is preferred, as the lumen is wide enough for suctioning of blood and debris, ventilation of the non-bleeding lung, and use of endoscopic procedures to control bleeding (Lehto, 2016). Thus in this case, recurrent lung infections was endorsed to patient reduce lung perfusion and another causes of non-small lung cancer. She was started on the medications antibiotic and infection slowly cover. For the lung neuroendocrine carcinoma the oncologist started chemotherapy 4 cycle combination chemo carboplatin/ gemcitabine. Patient noted mild lethargy with feel much better, No difficulty in breathing, no hemoptysis noted. The pain also reduced and she can do mild activity daily living with own self.

As a conclusion this case report presents the possible complications of advanced lung malignancy. The most common causes of hemoptysis are acute and chronic bronchitis, pneumonia, tuberculosis, and lung cancer. Hemoptysis is still a frequent symptom, being chronic infection sequelae and lung cancer their main causes. In this study, factors associated with a worse prognosis were hemodynamic instability and malignancy. Accompanying symptoms fever, chest pain, coughing, purulent sputum, mucocutaneous bleeding, jaundice. The diagnosis can promptly affirmed by bronchoscopy or CTPA. Treatment depends on the underlying cause. Treatments include iced saline, and topical vasoconstriction such as adrenalin or vasopressin. Selective bronchial intubation can be used to collapse the lung that is bleeding. Laser photo-coagulation can be used to stop bleeding during bronchoscopy. Surgical option is usually the last resort, and can involve, removal of a lung lobe or removal of the entire lung. Cough suppressants can increase the risk of choking. In such cases, clinicians dependably consider suitable management of voiding defect later on.

ACKNOWLEDGEMENTS

The authors gratefully acknowledged the Director of ILKKM Sg Buloh and Institute Medical Respiratory KL for a permission to conduct the study, the patient involved in the study for their cooperation.

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