

## Anaesthetic Considerations in a Patient of Lung Carcinoma posted for Emergency Laparotomy: A Case Report.

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**Abstract :** Patients with lung carcinoma may present for surgery that may not be related to their carcinoma. Clinical manifestations of lung carcinoma vary with the histologic type and extent of the disease. Metastasis to bone, liver, central nervous system, lymph nodes, subcutaneous tissues or pleura may be present at initial evaluation. In addition these patients may have history of cigarette smoking and consequently varying degrees of chronic obstructive pulmonary disease. Hence these patients should be evaluated thoroughly by history, examination and investigations. These patients most often receive chemotherapy. Safe administration of anaesthesia includes knowledge of the chemotherapeutic agents and their toxic effects. Whenever possible, a full preoperative respiratory preparation should be done.

### INTRODUCTION

Carcinoma is one of the most prevalent disease processes affecting people of all ages. Lung carcinoma continues to be the leading cause of death in men and women. These patients may undergo surgery that may or may not be related to carcinoma. Chemotherapy and radiotherapy administration in these patients can have a profound influence on anaesthetic management.<sup>1</sup> These patients deserve special anaesthetic considerations. It requires a very close cooperation among surgeon and anaesthesiologist to assure the conduct of surgical procedures on the patients with carcinoma with maximum safety. We hereby present a case report of a 70 year male with lung carcinoma posted for emergency laparotomy for acute intestinal obstruction.

### CASE REPORT

A 70 year male, a known case of lung carcinoma since 1 year, presented in emergency operation theatre with pain abdomen and non passage of flatus and stools since 2 days. He had cough and dyspnea. History revealed hemoptysis 1 year back for which he was diagnosed as a case of pulmonary tuberculosis for which he received antitubercular therapy for 6 months, but no relief in symptoms was observed. Later, on further investigations, diagnosis of left lung carcinoma was made and chemotherapy was started, but the patient did not take chemotherapy. He revealed history of 5 cycles of radiotherapy with last radiotherapy 3 months back. There was no significant surgical history. On general physical examination, there were no signs of heart failure like raised jugular venous pressure, ankle oedema and hepatomegaly. Blood pressure was 140/90 mm Hg and pulse was 100/min with occasional missed beats. Examination of respiratory system revealed wheeze and crepts. Heart sounds were normal. He was edentulous with adequate mouth opening and had normal neck and temporomandibular joint movements. Spine was normal. Complete blood count revealed polycythemia with leucocytosis. Other laboratory investigations including liver function tests were normal. Chest X Ray showed blunted left CP angle and pleural effusion of same side. CECT chest showed carcinoma of bronchus of left lower lobe and emphysematous changes with air trapping and bullae formation seen in bilateral apical regions. Nebulisation was done. Regional anaesthesia (spinal along with epidural) was planned for the procedure. The

anaesthetic procedure was explained to the patient and high risk written informed consent was obtained. In the operating room standard monitors were attached. His base line pulse rate and blood pressure were 96/min and 110/70 mm Hg respectively. SpO<sub>2</sub> was 94%. Intravenous line was secured with 18 G cannula using Ringer lactate. Epidural catheter was placed under all aseptic precautions at T<sub>11</sub>-T<sub>12</sub> interspace. Lumbar puncture was done with 23 G quincke babcock needle at L<sub>3</sub>-L<sub>4</sub> interspace. Clear CSF (cerebrospinal fluid) was obtained and 2.5 ml of 0.5% hyperbaric bupivacaine with 25 µg fentanyl was injected. Adequate sensory block was achieved upto T<sub>6</sub>. Surgery lasted for 2 hours. 1.5 L of Ringer lactate and 1 L of Hydroxyl ethyl starch were infused. Intraoperatively pulse rate and blood pressure remained stable in the range of 90-110/min and 96-110/60-70 mm Hg respectively. Postoperative pulse rate and blood pressure were 98/min and 104/68 respectively. Patient was monitored in PACU (post anaesthesia care unit) for 6 hours postoperatively and patient remained hemodynamically stable. Postoperative respiratory care was provided by nebulisation, bronchodilators, chest physiotherapy and incentive spirometry. Postoperative analgesia was provided with tramadol 50 mg diluted to 10 ml 8 hourly through epidural catheter.

### DISCUSSION

Patients with lung carcinoma may present for surgery that may or may not be related to their carcinoma. Our patient presented for laparotomy because of acute intestinal obstruction.

Lung carcinoma is divided into two major categories: small cell carcinoma which accounts for 20% to 25% of all primary lung carcinoma and non small cell carcinoma which accounts for remaining 75% of cases. Clinical manifestations of lung carcinoma vary with the histologic type and extent of the disease. Cough, hemoptysis, wheezing, stridor, dyspnea or pneumonitis from airway obstruction may be presenting clinical signs.

Patients with small cell lung carcinoma usually have disseminated disease. Metastasis to bone (35%), liver (25%), central nervous system, lymph nodes, subcutaneous tissue or pleura (10%) is present at initial evaluation. Mediastinal metastasis may cause hoarseness due to recurrent laryngeal nerve compression, superior vena cava syndrome, cardiac dysrhythmias or congestive heart failure from pericardial effusion and tamponade. Pleural effusion may cause dyspnea. Endocrinologic abnormalities and neurologic paraneoplastic syndromes are extremely common with small cell lung carcinoma. 40% of patients with small cell lung carcinoma manifest syndrome of inappropriate antidiuretic hormone (SIADH) production which can result in hyponatremia, intravascular hypovolemia and hypotension particularly during induction of general anaesthesia.

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