When Lung cancer chokes your bowel: An interesting case report

Ajmal Sherif[1*], Narayanankutty Warrier[2], Sreedharan PS[3], Sajeevan KV[4], Prashant Parameswaran[5]

[1]Consultant, [2]Medical Oncology, [3]HOD, [4,5]Consultamt, MVR Cancer Center and Research Institute, Kerala, India

***Corresponding Author: Ajmal Sherif**
Email: fashiiik@gmail.com

Abstract
In Non small Cell lung cancer, the incidence of distant metastasis is quite high. Small bowel metastases are rarely encountered in NSCLC. We report a case of NSCLC in which the patient developed metastasis to the ileum leading to bowel obstruction. Surgery is the definitive management in such scenarios in fit patients. The physicians need to be vigilant with respect to the unusual clinical presentations of NSCLC.

Keywords: Non small cell Lung cancer, Intestinal obstruction, Small bowel metastasis.

Introduction
Lung Cancer is one of the leading causes of cancer related deaths. Eighty percent of all cases are Non small cell lung cancer [NSCLC].[1] At the time of diagnosis, approximately 50% of the cases have distant metastasis.[2] The most common sites of metastasis are the brain (10%), bone (7%), liver (5%), and adrenal glands (3%).Metastasis to small bowel leading to intestinal obstruction is rarely encountered in NSCLC.[3] We report a case of Metastatic NSCLC with progression to the ileum leading to acute intestinal obstruction.

Case Presentation
A 64 year old gentleman who was a chronic smoker for the past 25 years was evaluated for complaints of cough and back pain. Upon examination, he was found to have a soft tissue lesion measuring 5.9cm x 4.6 cm involving the apicoposterior segment of the left upper lobe. The lesion extended across the oblique fissure into the left lower lobe. There was encasement and narrowing of left upper lobe bronchus. Lesion was infiltrating the left pulmonary artery and descending thoracic aorta. Adjacent lymphangitis was observed. Two nodules were seen in Right upper lobe and left upper lobe. Enlarged lateral aortic, left lower paratracheal and right hilar nodes were present.

Bronchoscopy plus biopsy showed evidence of NSCLC adenocarcinoma (Fig. A). EGFR/ALK/ROS mutation status was negative. As they were unwilling for chemotherapy, he was started on Oral Geftinib. One year later, he presented with worsening of symptoms. CT Thorax showed evidence of disease progression in the form of increase in size of lung mass and number of metastatic nodules. After counselling he was started on palliative chemotherapy with Pemetrexed and carboplatin. Re-evaluation after 4 cycles showed partial response to therapy. After completion of six cycles , he was started on Pemetrexed maintenance.

Few days later, he developed acute onset abdominal pain with three day history of constipation. X-ray Abdomen erect showed dilated small bowel loops with multiple air fluid levels (Fig B). CT abdomen + pelvis showed features suggestive of small bowel obstruction with mild ascites (Fig C). Therefore he was taken up for Laparotomy and underwent segmental ileal resection and side-to-side anastomosis.

Perioperatively a constrictive growth in the mid ileum around 25 to 30 cm from the ileocaecal junction with proximal small bowel grossly distended with distal bowel collapse was observed. Segmental resection of the ileum was done with side-to-side stapler anastomosis using double stapling technique. There was no peritoneal disease. Moderate ascites was observed. There was no evident liver metastasis. There were no other lesions present in the mesentery or in the small bowel. The histopathology of the specimen was suggestive of metastatic adenocarcinoma (Fig. D) . IHC panel favoured Lung Primary.

CK 7 - positive (Fig E)
CK 20 - patchy weak positivity seen (Fig F)
TTF 1 - positive (Fig G)

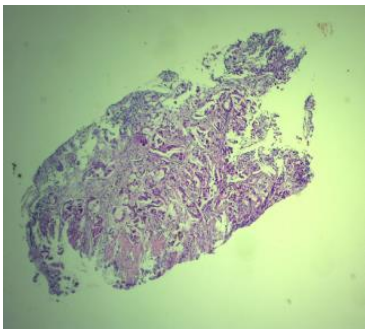

Fig. A: A Neoplasm composed of cells arranged in

glands and acini lined by low cuboidal epithelium with round to oval moderately pleomorphic hyperchromatic nuclei with moderate amount of eosinophilic to vacuolated cytoplasm.

Fig. B: Radiograph abdomen (Erect) showing multiple air fluid levels.

Fig. C: Small bowel obstruction with mild ascites

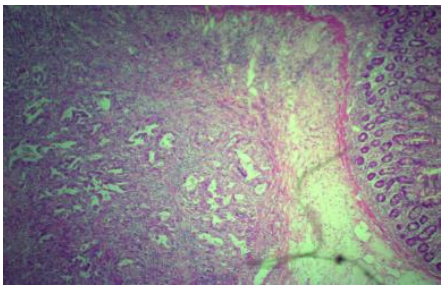

Fig. D: Neoplasm composed of cells arranged in glandular pattern situated predominantly in the sub mucosal region and extending into the pericolorectal tissue.

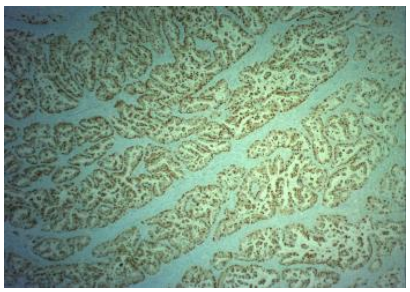

Fig. E: TTF-1 (Positive)

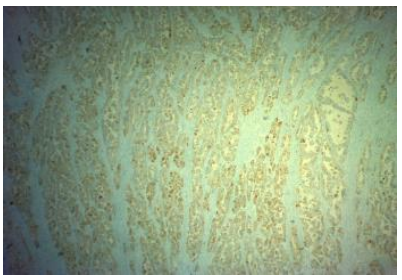

Fig. F: CD 20 (weak Patchy Positive)

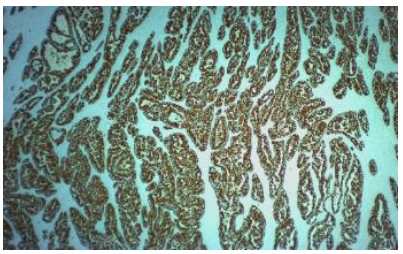

Fig. G: CK 7 (Positive)

Discussion

Lung Cancer is one of the most frequent causes of cancer deaths in the western world and the leading cause of male cancer deaths in India. Approximately 50% of patients have distant metastasis at diagnosis . Andreas Hillenbrand et al reported, in a review of 58 cases, that common clinical symptoms of small intestine metastatic cancer are perforation (59%), obstruction (29%), and haemorrhage (10%).[4] Intestinal primary tumors can also exhibit these symptoms, so it is important to identify whether the tumors are primary or metastatic. Lung cancer spreading to the small bowel occurs in less than 0.5% of cases.[5] Majority of tumours spreading to the small intestine are gastrointestinal or gynaecological in origin.[6] Metastasis can be the presenting symptom of lung cancer, or often be the forerunner of complications .The most common sites of metastases are opposite lung, pleura , lymph nodes, liver, adrenal gland, bone and brain.Few case reports have been published in which intestinal obstruction is the primary presentation of Lung cancer. Such lesions are usually manifested by intestinal obstruction, perforation and rarely bleeding or peritonitis.[6] Ileum is the most common site of metastasis in the small intestine. According to a study conducted by Leidich and Rudolph, tumour cells from lung primary spread via lymphatics or by hematogenous route to small bowel.[7] Hematogenous small bowel metastases of lung cancer seed more often in the ileocaecal region.[8] They are usually isolated, whereas small bowel metastases from intestinal primary are smaller and have miliary pattern of spread.[9] Although patients with gastrointestinal metastasis from lung cancer are in the

latter stages of the disease, early detection and surgical intervention may provide some relief.[10] The prognosis is usually poor for this group of patients.

Conclusion

The treating physician should be vigilant and informed regarding such unusual manifestations of metastasis in Lung cancer. In few cases these symptoms are overlooked as they are considered to be side effects of chemotherapy. Hence a low threshold for requesting for investigations in symptomatic patients should be considered.

Disclosures

No funding interest or disclosures.

References

1. Noronha V, Dikshit R, Raut N, Joshi A, Pramesh C S, George K et al, Epidemiology of lung cancer in India: Focus on the differences between non-smokers and smokers: A single-centre experience. *Indian J Cancer* 2012;49:74-81.
2. Molina JR, Yang P, Cassivi SD, Schild SE, Adjei AA. Non-small cell lung cancer: epidemiology, risk factors, treatment, and survivorship. *Mayo Clin Proc* 2008;83(5):584–94. doi:10.4065/83.5.584.
3. Hillers TK, Sauve MD, Guyatt GH: Analysis of published studies on the detection of extrathoracic metastases in patients presumed to have operable non-small cell lung cancer. *Thorax* 1994:49(1):14-19. 10.1136/thx.49.1.14.
4. Hillenbrand A, Sträter J, Henne-Bruns D. Frequency, symptoms and outcome of intestinal metastases of bronchopulmonary cancer. Case report and review of the literature. *Int Semin Surg Oncol* 2005;2:13.
5. Berger A, Cellier C, Daniel C, Kron C, Riquet M, Barbier JP, et al. Small bowel metastases from primary carcinoma of the lung: Clinical findings and outcome. *Am J Gastroenterol* 1999;94:1884-7.
6. DeCastro CA, Dockertt MB, Mayo CW. Metastatic tumours of the small intestine. *Surg Gyneacol Obstet* 1957;105:159-65
7. Leidich R B, Rudolf L E. Small bowel perforation secondary to metastatic lung carcinoma. *Ann Surg* 1981:67-9.
8. Sanli Y, Adalet I, Turkmen C, Kapran Y, Tamam M, Cantez S. Small bowel metastases from primary carcinoma of the lung: presenting with gastrointestinal hemorrhage. *Ann Nucl Med* 2005;19:161–3.
9. Roeland E, Von Gunten CF. Current concepts in Malignant Bowel Obstruction Management. *Curr Oncol Rep* 2009;11:298–303.
10. Lee PC, Lo C, Lin MT, Liang JT, Lin BR: Role of surgical intervention in managing gastrointestinal metastases from lung cancer. *World J Gastroenterol* 2011:17(38): 4314-20.

How to cite: Sherif A, Warrier N, Sreedharan PS, Sajeevan KV, Parameswaran P. When Lung cancer chokes your bowel: An interesting case report. *IP Int J Med Paediatr Oncol* 2020;6(1):32-4.