A Rare Presentation of Ileal Perforation Secondary to Adenocarcinoma of Lung

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Operative findings were 200 ml of purulent fluid and 0.5 × 0.5 cm perforation on the mesenteric side of proximal ileum approximately 100 cm from ileo-caecal junction. Thickening of ileal wall along with mesentery on either side of perforation was noted (Figure 1). Multiple enlarged lymph nodes were found in the mesentery. Liver and peritoneum were normal. Based on the intraoperative findings a differential diagnosis of carcinoma of small bowel, carcinoid tumor or ruptured gastro-intestinal stromal tumor (GIST) was made. Resection of ileum with 5 cm margin on either side of the perforation, with end to end anastomosis was done. The peritoneal cavity was irrigated with normal saline. The abdomen was closed after placing a pelvic drain.

The histopathological report showed moderately differentiated adenocarcinoma with multiple lymphatic emboli with involvement of serosa and also perforation (Figure 2). Post operative period was uneventful.

Patient was referred to medical oncologist for further management. He came back after 10 days with chest pain. ECG showed normal study. X-ray chest showed a suspicious opacity. CT scan of chest was done which showed lung malignancy – stage III B (Figure 3). A CT guided FNAC was done which showed evidence of adenocarcinoma of the lung. To further characterize the nature of the tumor, we carried out immunostaining of TTF-1 on the resected...
specimen and it was positive (Figure 4). TTF-1 positivity is highly restricted to primary lung carcinoma and thyroid tumor. Since CT revealed lung tumor, we finally diagnosed this tumor as small bowel metastasis from primary lung adenocarcinoma.

**DISCUSSION**

Primary lung cancer often metastasizes to the brain, liver, adrenal glands and bone. But metastasis to the digestive tract is rare. Small bowel metastasis from primary lung cancer exhibits symptoms such as abdominal pain and obstruction which are most common and others such as vomiting, melena, weight loss, gastrointestinal perforation, but most cases are asymptomatic.

In normal tissue, TTF-1 is expressed in epithelial cells of thyroid and type II pneumocytes and Clara cells in lung. Carcinomas arising in lung and thyroid show TTF-1 expression frequently. Thus, TTF-1 is a very good marker to determine the lung origin in small bowel metastasis.

In one review of literature by Paul McNeil et al. from Virginia University in 1987, autopsy of 431 deaths due to lung cancer was done. 46 cases had deposits in small bowel and they often had lead to perforation.

In another review from world journal of gastroenterology 2005 by Davor Thomas et al. secondaries of small intestine are common than primaries. Small intestine carcinomas, especially when multiple, metastasis from lung should be first excluded, because it seems that they are more common than expected.

**CONCLUSION**

Small bowel metastasis from primary lung adenocarcinoma is rare and therefore difficult to diagnose. In such cases,
TTF-1 can be a very useful immunohistochemical marker to determine the lung origin.

REFERENCES


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