

# Omental metastases from primary lung adenocarcinoma

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## INTRODUCTION

Lung cancer represents one of the most common malignant diseases worldwide and the major cause of cancer related deaths accounting for 25% of all cancer deaths and with a 5 years survival rate of 10-20%.<sup>1-4</sup> Approximately 40-50% of the patients with lung cancer at the time of diagnosis present with metastatic disease.<sup>1,2,4,5</sup> The most common sites of metastatic spread include the liver, brain, adrenal glands and bones<sup>1,2,4,5</sup> while abdominal metastasis is less common. Autopsy studies report a prevalence of abdominal metastasis ranging from 4.7 to 16%,<sup>2,4</sup> but these metastases have a low rate of clinical presentation and seldom become symptomatic.<sup>3,4</sup> Abdominal metastases are more common in the gastrointestinal tract and in the peritoneum and rarely present in the omentum.<sup>1-5</sup> We present a case of asymptomatic metastases to the greater omentum from primary lung cancer diagnosed incidentally during laparotomy, which was the first presentation of lung cancer.

## PRESENTED

An 86 year old male present to the emergency department of our hospital complaining about acute upper abdominal pain which initiated about 36 h ago. The patient was in poor general condition with a blood pressure of 85/40 mmHg, 127 pulses per minute and high fever (39.7 °C). His medical history was free and he wasn't receiving any medication except of non steroid anti-inflammatory drugs for muscle pain. He received up to 4 tablets of nimesulide

100 mg per day for about a week. Physical examination revealed diffuse abdominal rigidity and abdominal X-ray showed free air subdiaphragmatically. The preoperative chest X-ray demonstrated the presence of a diffuse shadow at the area of the left main pulmonary artery. An exploratory laparotomy was performed which demonstrated a perforated duodenal ulcer and also omental carcinomatosis. Due to the patient's condition a conservative surgical approach was taken using an omental patch (from a part of the omentum not presenting macroscopic at least infiltration by the tumours) for the closure of the perforation and also omentectomy was performed. Biopsies of the ulcer were negative for malignancy but the biopsies from the omentum revealed metastatic adenocarcinoma possibly from a primary lung adenocarcinoma (Figures 1 and 2). The patient died in the intensive care unit after 20 h and the autopsy revealed a primary adenocarcinoma of the left lower lobe of the lung, with multiple metastasis to omentum, liver and brain.

## DISCUSSION

The commonest pathologic omental lesion is the presence of metastatic spread from pelvic or abdominal malignancies, while primary tumors are rare. Omental metastases are caused in males usually by cancers of the gastrointestinal tract, including the stomach, colon and pancreas, while in females the metastases most commonly are caused by ovarian carcinoma.<sup>6</sup> Omental metastasis from lung cancer is very rare and we were able to find only two such cases in the literature.<sup>7,8</sup> one presenting as an omental

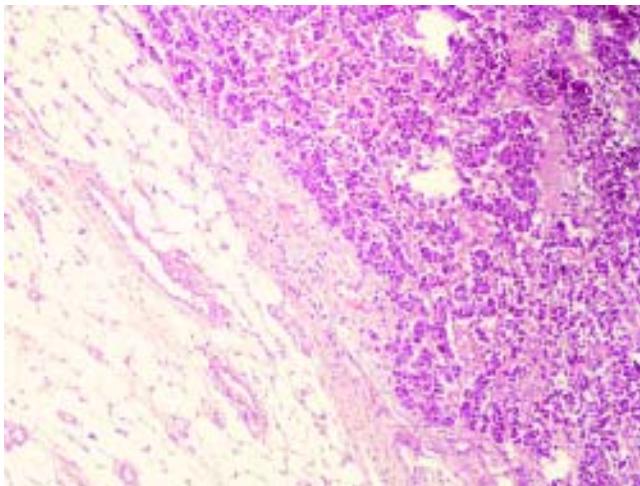


Figure 1. Omentum with metastasis from adenocarcinoma.

mass<sup>7</sup> and the other with omental lymph node metastasis.<sup>8</sup> The presentation of metastases in the present case as multiple omental metastases is unique and resembled the presentation of omental lymphomatosis.

Abdominal metastasis of lung cancer is not as rare as it was considered in the past and it usually presents in the form of gastrointestinal metastasis and less commonly in the form of peritoneal carcinomatosis.<sup>1-5,9</sup> The incidence of gastrointestinal metastases in autopsy studies varies from 4.7 to 14%<sup>4</sup> and the most common site was the small bowel followed in frequency by the stomach and the large intestine<sup>4,10,11</sup> while the incidence of peritoneal metastasis is 2.7 to 16%. However in clinical studies, the incidence for gastrointestinal metastases was as low as 0.19 to 1.77% and for peritoneal 1.2%, because in most case abdominal metastases are asymptomatic, while the most common symptoms are abdominal pain, perforation and peritonitis, hemorrhage and intestinal obstruction.<sup>3,4,9,10,11</sup> Regarding the histological type of lung cancer related with gastrointestinal metastasis it seems that there isn't any dominant tumour,<sup>10</sup> while peritoneal metastases is more common in large cell carcinoma and adenocarcinoma.

Metastatic spread to the abdomen is both by hematogenous and lymphatic routes.<sup>1,3,4</sup> Metastases may be solitary or multiple, as in the present case, and also accompanied by metastases to extra-abdominal sites.<sup>2,3</sup> Despite the fact that lung cancer diagnosed before the gastrointestinal metastases become symptomatic, the symptomatic metastasis may be the first clinical presentation of an unknown

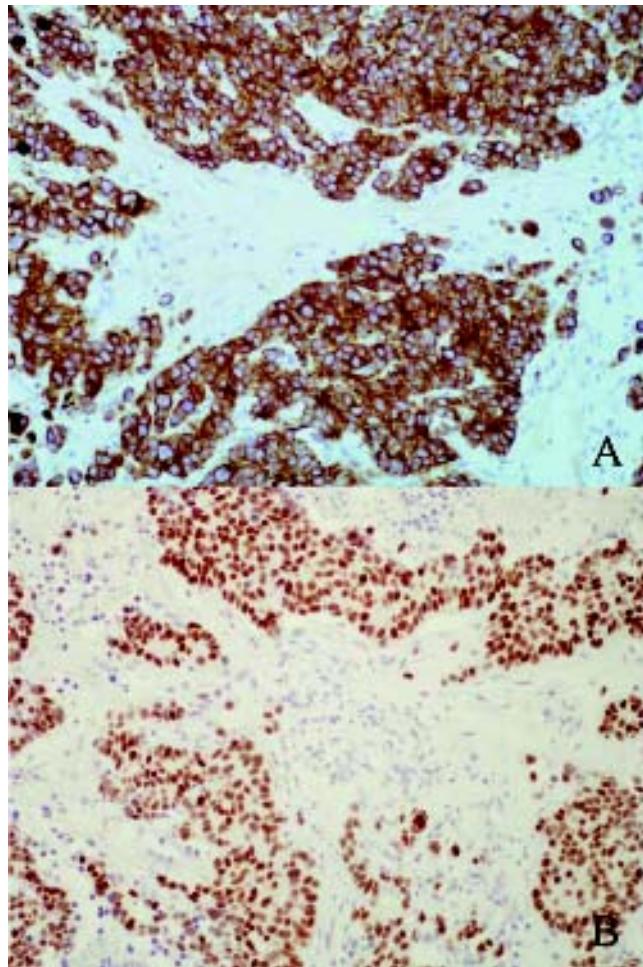


Figure 2. Immunostains for cytokeratin 7 (A) and TTF-1 (B) confirm the diagnosis of metastatic adenocarcinoma from the lung.

lung cancer and even asymptomatic metastasis may be the first manifestation if incidentally discovered during exploratory laparotomy for another reason, as in the current case.<sup>3,7</sup> Regarding treatment for symptomatic abdominal metastasis major surgical operations should generally be avoided and the goal should be palliative management.<sup>1</sup>

Abdominal metastases is indicative of disseminated disease and prognosis is extremely poor.<sup>3</sup> The median survival following peritoneal carcinomatosis ranges from 15 days to 2 months and following gastrointestinal metastasis varies from 66 days to 4 months.<sup>1-3,9</sup>

#### CONFLICT OF INTEREST

There is no actual or potential conflict of interest in relation to this article.

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