CASE REPORT

# Abdominal Pain as Initial Presentation of Lung Adenocarcinoma

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**ABSTRACT**

Isolated celiac lymph node metastasis (ICLNM), in general, is not common with a reported incidence of 5–10% for lung adenocarcinoma. Lung adenocarcinoma rarely metastasizes to the celiac lymph node leading to abdominal pain. It is not typical for ICLNM to be the initial presentation of lung adenocarcinoma as well. In this case, a 56-year-old man presented with a 4-week history of persistent periumbilical dull pain. Workup was remarkable for celiac lymph node mass which turned out to be adenocarcinoma with unknown primary cancer. Whole body position emission tomography scan and biopsy of the mass with immunohistochemistry could identify lung adenocarcinoma as the primary cancer. After a well-informed discussion of options for chemotherapy drugs with the patient, the decision was made to pursue bevacizumab combined with chemotherapeutics. He was charged home with abdominal pain relief and outpatient follow-up after short-course of chemotherapy.

**Key words:** Abdominal pain, Isolated celiac lymph node metastasis, lung adenocarcinoma

## BACKGROUND

Isolated celiac lymph node metastasis (ICLNM), in general, is not common with reported incidence rate of 5–10% for lung adenocarcinoma. ICLNM secondary to lung adenocarcinoma is uncommon and most lesions are discovered accidently and are asymptomatic. Given the above facts, the patient had discomfort and abdominal pain as initial presentation for lung adenocarcinoma.

## CASE REPORT

A 56-year-old man presented with a 4-week history of fullness sensation and persistent periumbilical dull pain. He denied of nausea, vomiting, abdominal trauma, melena, hemoptysis, chest pain, and cough. Review of systems was notable for ichthyosis and 50-pack-year history of tobacco use. Physical examination revealed mild fullness in the periumbilical area with mild tenderness.

### Investigations

Complete metabolic profile and blood count were normal. Liver and coagulation panels were unremarkable. Ultrasound of the abdomen was not positive and could not explain the clinical presentation. Gastroscopy and colonoscopy showed no significant clues. However, the patient underwent computed tomography (CT) of the abdomen showing the mass in the celiac lymph nodes which were suspicious for malignancy. Therefore, CT-guided biopsy of the lesion was performed and findings on biopsy were consistent with unknown adenocarcinoma [Figure 1a]. Immunohistochemistry staining was strongly positive for thyroid transcription factor-1 (TTF-1), Napsin A and cytokeratin 7 (CK7), and negative for CDX-2 considering the lung as the primary source [Figure 1b-d]. To further confirm the primary tumor, chest CT-scan revealed a 3.4 cm × 5.0 cm mass in the right upper lobe of the lung [Figure 2] in addition to the celiac lymph node mass aforementioned. Based on the above findings, tumor, node, and metastasis classification for staging of non-small cell lung cancer in the patient was T2bN3M0.

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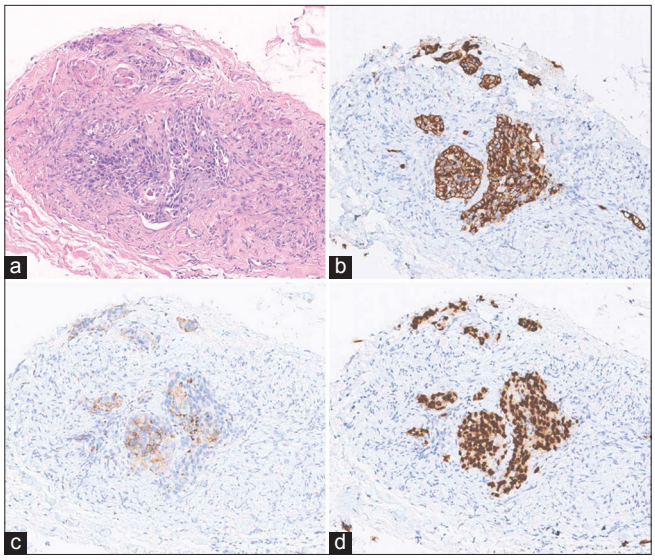


**Figure 1:** Abdominal pain as initial presentation of lung adenocarcinoma. (a) Hematoxylin-eosin staining; (b-d) immunohistochemistry staining of cytokeratin 7, Napsin A, and thyroid transcription factor-1


**Figure 2:** Abdominal pain as initial presentation of lung adenocarcinoma (a, b) CT image of lung neoplasm

### Treatment, outcome, and follow-up

CT-guided biopsy of the lung lesion was performed and was positive for adenocarcinoma, which was consistent with the celiac lymph node biopsy. Findings and treatment options were discussed with the patient who opted to start bevacizumab combined with chemotherapeutics. Interestingly, abdominal symptoms improved. He was charged home with abdominal pain relief and outpatient follow-up after short-course of chemotherapy.

## DISCUSSION

Celiac lymph node metastases from internal organ malignancies are commonly observed with a reported incidence rate of 25–50% for all solid cancers, whereas only 5–10% of lung adenocarcinoma spread to the celiac lymph node.[1-3] Celiac lymph node metastasis usually originate from the lower lung more than the upper, probably due to proximity of the lower lung. Adenocarcinoma is the most frequent cell type, which accords with its propensity for earlier lymph node dissemination. The majority of ICLNM is asymptomatic and is found incidentally. ICLNM can present with abdominal pain, weight loss, and fatigue, which may manifest as hypoproteinemia and anemia. The time interval between detection of the primary lung adenocarcinoma and the ICLNM varies and ranges from 1 month to several years.[4,5] Position emission tomography (PET) scanning has a specificity of 85% and sensitivity of 96% in detection of metastasis and tracking the primary tumor site. However, conventional CT-scan is considered to be standard of care and should be initially performed before PET scanning. In addition, immunohistochemistry would be useful. Positive TTF-1, Napsin A, and CK7 usually indicate primary lung adenocarcinoma. ICLNM should be differentiated from many other malignant or benign lesions such as lymphomas and lymph node tuberculosis. Standard platinum-based chemotherapy may improve survival.[6-8] However, the presence of distant metastasis remains leading to high mortality in patients with lung adenocarcinoma.[9,10]

### Learning points

It is required to identify the underlying etiology of the disease when persistent abdominal pain could not relief.

The celiac lymph node mass is usually abnormal in adult patients and has to be investigated and treated promptly in time.

ICLNM is a not common presentation for lung adenocarcinoma. A careful analysis of valuable clues could yield a better diagnosis of the underlying disease.

## ACKNOWLEDGEMENTS

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## FOOTNOTE

**Conflicts of Interest:** The authors have no conflicts of interest to declare.

## ETHICAL STATEMENT

The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved. Written informed consent was obtained from the patient for publication of this "Brief Report."

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