

Received: 2026.05.02
Accepted: 2026.07.07
Available online: 2026.07.20
Published: 2026.XX.XX

e-ISSN 1941-5923
© Am J Case Rep, 2026; 27: e953993
DOI: 10.12659/AJCR.953993

Acute Small Bowel Obstruction as the First Manifestation of Occult Lung Adenocarcinoma: A Case Report of Jejunal Metastasis

Authors' Contribution:
Study Design A
Data Collection B
Statistical Analysis C
Data Interpretation D
Manuscript Preparation E
Literature Search F
Funds Collection G

ABEF 1 **Midani Touati**
F 1 **Ibtissem Korbi**
BDEF 1 **Hiba Ben Hassine**
F 1 **Faiez Boughanmi** 
B 2 **Manel Njima**
B 3 **Sofiene Gaied Chortane**
F 1 **Fauzi Noomen**

1 Department of Visceral Surgery, Fattouma Bourguiba Hospital, Monastir, Tunisia
2 Department of Anatomopathology, Fattouma Bourguiba Hospital, Monastir, Tunisia
3 Department of Radiology, Fattouma Bourguiba Hospital, Monastir, Tunisia

Corresponding Author: Hiba Ben Hassine, Department of Visceral Surgery, Fattouma Bourguiba Hospital, 5000 Monastir, Tunisia, Phone: +216 58 387 336, e-mail: docteurhbh@gmail.com
Financial support: None declared
Conflict of interest: None declared

Patient: Male, 51-year-old
Final Diagnosis: Acute small bowel obstruction caused by jejunal metastasis from occult pulmonary adenocarcinoma
Symptoms: Acute abdominal pain • vomiting • abdominal distension • symptoms of acute small bowel obstruction
Clinical Procedure: —
Specialty: Surgery

Objective: Rare coexistence of disease or pathology
Background: Small bowel metastasis from lung adenocarcinoma is a rare clinical entity that may present as an acute abdominal emergency before the primary tumor is diagnosed. Its nonspecific presentation and diagnostic difficulty often delay recognition until surgical exploration. This report describes the case of a 51-year-old man presenting with acute small bowel obstruction due to jejunal metastasis of occult lung adenocarcinoma.

Case Report: We report the case of a 51-year-old heavy smoker who presented with acute abdominal pain, vomiting, and small bowel obstruction without respiratory symptoms. Computed tomography revealed a jejunal mass causing intestinal obstruction. Emergency segmental jejunal resection with primary jejunojejunal anastomosis was performed. Histopathological examination demonstrated metastatic adenocarcinoma. Immunohistochemical analysis showed positivity for thyroid transcription factor-1 (TTF-1), cytokeratin 7 (CK7), and napsin A, with negative staining for cytokeratin 20 (CK20) and caudal-type homeobox transcription factor 2 (CDX2), confirming a pulmonary origin. Postoperative chest computed tomography revealed an occult necrotic lung mass with mediastinal lymphadenopathy. Despite systemic chemotherapy, the patient experienced rapid disease progression with vertebral and cerebral metastases.

Conclusions: Acute small bowel obstruction may rarely represent the initial manifestation of occult lung adenocarcinoma. This case highlights the pivotal role of histopathology and immunohistochemistry in identifying the primary tumor and emphasizes that metastatic lung adenocarcinoma should be considered in the differential diagnosis of unexplained bowel obstruction in high-risk patients to facilitate timely diagnosis and appropriate oncologic management.

Keywords: Intestinal Obstruction • Jejunal Metastasis • Lung Adenocarcinoma • Immunohistochemistry • Case Report

Full-text PDF: <https://www.amjcaserep.com/abstract/index/idArt/953993>

 1932

 —

 4

 17

Publisher's note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher



Introduction

Lung cancer remains the leading cause of cancer-related mortality worldwide, despite continued advances in screening and medical, surgical, and radiation oncologic therapies [1]. Adenocarcinoma is the most common histological subtype of primary lung cancer [1]. Approximately 50% of patients present with metastatic disease at the time of diagnosis [2]. Distant metastases most commonly involve the liver, brain, adrenal glands, bones, and kidneys, whereas gastrointestinal metastases are relatively uncommon [3]. Small intestinal metastases from primary lung cancer are rare, and secondary intestinal obstruction caused by metastatic lung adenocarcinoma is exceptionally unusual [4]. These occult presentations, in which the primary pulmonary malignancy remains clinically silent until metastatic complications occur, are uncommon but represent an important diagnostic challenge. Gastrointestinal involvement as the first manifestation of occult lung adenocarcinoma is particularly rare and may delay diagnosis because patients often present with acute abdominal emergencies rather than thoracic symptoms [2-5].

The absence of specific clinical manifestations and the limited accessibility of the small bowel to routine diagnostic investigations often delay diagnosis, with many cases identified only during emergency surgery or at autopsy [5]. Herein, we report a rare case of metastatic jejunal adenocarcinoma originating from primary lung cancer, presenting initially as acute small bowel obstruction in the absence of respiratory symptoms. Beyond the rarity of this presentation, this case illustrates an important diagnostic boundary condition in which jejunal obstruction preceded thoracic diagnosis, emphasizing that metastatic lung adenocarcinoma should be considered in the differential diagnosis of unexplained bowel obstruction in high-risk patients. The case also highlights the pivotal role of histopathology and immunohistochemistry in establishing the pulmonary origin when the primary tumor is initially occult.

Case Report

A 51-year-old man who was a heavy smoker (1 pack/day for 35 years), with no significant medical or familial history, presented with acute abdominal pain, bloating, and vomiting for 3 days. Furthermore, the patient had reported a history of milder abdominal pain along with a decline in overall health over the past 3 months. On admission, he was hemodynamically stable, with a normal blood pressure of 130/80 mm Hg and he had no tachycardia (pulse at 79 bpm). Abdominal examination revealed diffuse tenderness with rebound and distention with excessive bowel sounds but no palpable abdominal mass.

Blood tests showed a normal white blood cell count 7000 cells/mm³, a moderate decrease in hemoglobin (12.8 g/dL)



Figure 1. Contrast-enhanced abdominal CT scan without luminal opacification demonstrates upstream bowel dilatation secondary to a 5-cm jejunal mass, associated with an adjacent necrotic lymphadenopathy. CT, computed tomography.

and a normal platelet count of 159 000 cells/mm³. Biochemistry was within normal range, except for a high C-reactive protein (CRP) level (50 mg/L).

Tumor markers showed an elevated carbohydrate antigen 19-9 of 64.19 IU/mL and carcinoembryonic antigen of 67.71 µg/L. Abdominal X-ray demonstrated an intestinal obstruction with hydro-aerial levels. Abdominal computed tomography (CT) scan with contrast injection and without opacification showed distension of the bowel upstream of a 5-cm jejunal mass with an adjacent necrotic adenomegaly (**Figure 1**).

We opted for emergency laparotomy. Bowel distension was noted above a 5-cm jejunal mass located 1 meter from the duodeno-jejunal junction with adjacent mesenteric necrotic adenomegaly (**Figure 2**). There was no carcinosis or liver metastases. We performed a 50-cm resection of the small bowel, removing the mass and adenomegaly with a hand-sewn end-to-end jejunojejunal anastomosis (**Figure 3**). The specimen was sent for histological analysis. Postoperative blood tests were normal, the patient had an uneventful postoperative course, diet was allowed on day 3, and he was discharged on day 5 after surgery.

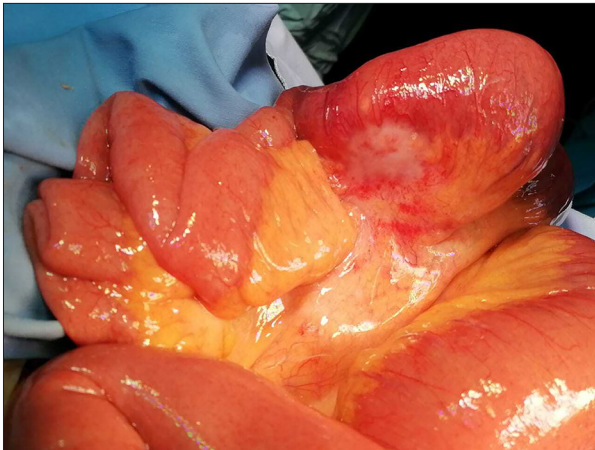


Figure 2. Proximal bowel dilatation due to a 5 cm jejunal mass with adjacent necrotic mesenteric lymphadenopathy.



Figure 3. Hand-sewn end-to-end jejunojejunal anastomosis.

Macroscopically, the specimen showed a hemicircumferential, budding, and stenosing tumor that was 4.5 cm in diameter and focally whitish with a fasciculated aspect. It involved all layers of the intestinal wall. Microscopic examination revealed invasive, ulcerated, and necrotic carcinomatous proliferation consistent with metastatic adenocarcinoma (**Figure 4A-4D**). Immunohistochemical analysis showed diffuse positivity for thyroid transcription factor-1 (TTF-1), strong cytoplasmic expression of cytokeratin 7 (CK7+++), and positivity for napsin A, while cytokeratin 20 (CK20) and caudal-type homeobox 2 (CDX2) were negative. This immunophenotypic profile supported a pulmonary origin. In the context of the histomorphological features, these findings were consistent with intestinal metastasis from primary lung adenocarcinoma.

The patient did not experience any respiratory symptoms, such as coughing, sputum, hemoptysis, or dyspnea, before surgery. The preoperative chest x-ray showed no masses in the lungs. Postoperative chest CT revealed a necrotic right peripheral lung mass and multiple necrotic left subcarinal mediastinal lymph nodes. No endobronchial lesion was found on bronchoscopy. Brain MRI scan and bone emission CT were both normal. A diagnosis of small bowel metastatic adenocarcinoma from primary lung cancer was confirmed. Chemotherapy based on albumin-bound paclitaxel nanoparticles was performed intravenously once per week for 9 weeks. However, after 3 courses of chemotherapy, the patient's condition deteriorated and the chemotherapy was interrupted. The patient developed headaches with back pain. Follow-up cerebral and thoraco-abdominal CT scan showed tumor progression with vertebral and temporal cerebral metastases. He was admitted to palliative care.

Discussion

Small bowel obstruction may represent the first clinical manifestation of occult lung adenocarcinoma. The present case highlights the essential role of histopathology and immunohistochemistry in identifying the primary tumor, especially as lung cancer continues to exhibit high mortality, causing more than 2 million deaths annually [6]. Adenocarcinoma remains the most common subtype of lung cancer, accounting for over 50% of all lung cancers [7]. While smoking is a well-established risk factor, others include second-hand smoke, radon exposure, air pollution, and occupational inhalants [8]. Lung cancer frequently metastasizes to the adrenal glands, bones, brain, and liver, but gastrointestinal metastases, especially to the small bowel, are rare and often occur in late-stage disease [9]. Although clinically detected gastrointestinal metastases from primary lung cancer are rare, with a reported incidence ranging from 0.2% to 1.7% [7,8], autopsy studies suggest a higher prevalence, reaching 4.7%-14.0%, indicating that gastrointestinal dissemination may be underrecognized during life [9,10].

The clinical presentation of gastrointestinal metastases from lung cancer is often nonspecific and insidious, making early diagnosis particularly challenging. Reported symptoms include abdominal pain, weight loss, nausea, bloating, constipation, gastrointestinal bleeding, and intestinal obstruction [11,12]. According to Hu et al [3], perforation (42.0%), bleeding (24.6%), and bowel obstruction (20.4%) represent the most frequent complications associated with gastrointestinal metastases from lung cancer. These findings from the literature provide important clinical context but should not be interpreted as conclusions derived from the present case alone. In our case, the patient presented with acute abdominal symptoms consistent with small bowel obstruction, including abdominal pain, vomiting, abdominal distension, and cessation of bowel transit,

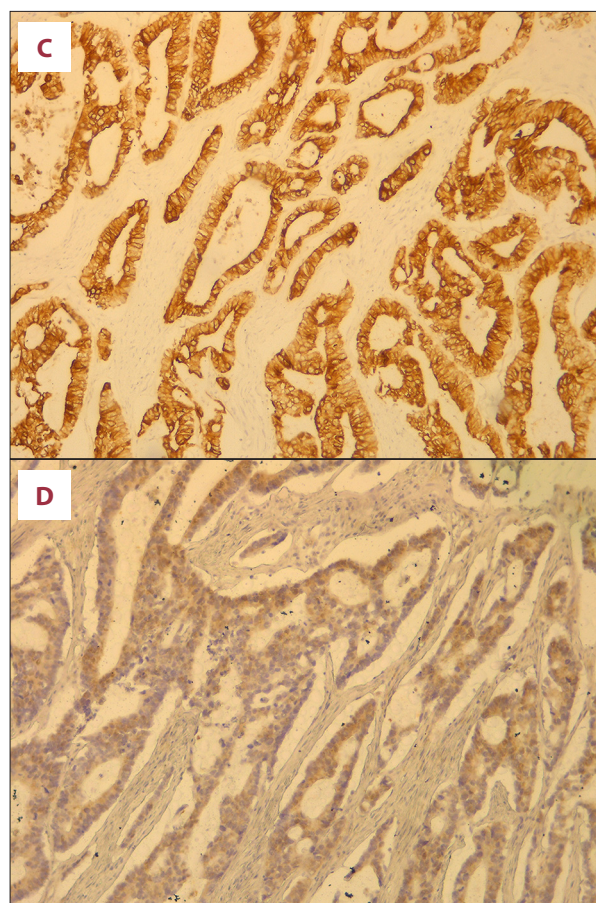
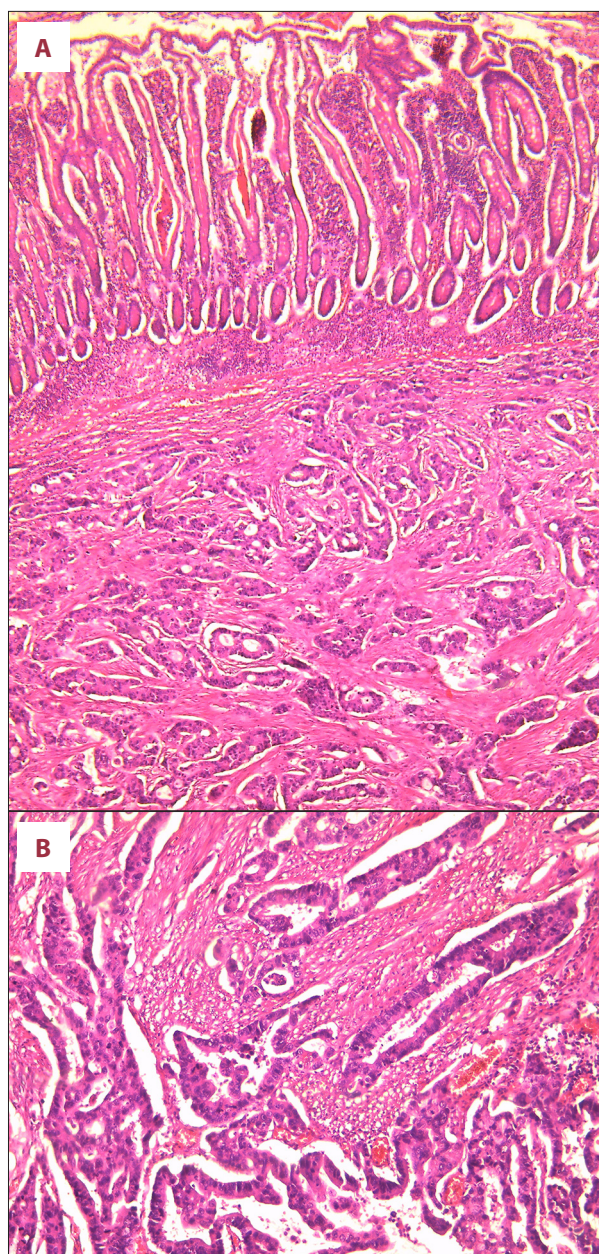


Figure 4. Histopathological and immunohistochemical features of jejunal metastasis from primary lung adenocarcinoma. **(A)** Hematoxylin and eosin (H&E)-stained section demonstrating infiltrative adenocarcinoma involving the ileal wall beneath an intact intestinal mucosa. The tumor is composed of irregular infiltrating glands embedded within a desmoplastic stroma. **(B)** Higher-power H&E photomicrograph showing malignant glandular and focal cribriform architecture lined by atypical epithelial cells with enlarged hyperchromatic nuclei, nuclear pleomorphism, and prominent nucleoli, consistent with metastatic adenocarcinoma. **(C)** Immunohistochemical staining demonstrating diffuse strong cytoplasmic and membranous positivity for cytokeratin 7 in the neoplastic cells, supporting a pulmonary origin. **(D)** Immunohistochemical staining showing diffuse cytoplasmic positivity for napsin A, a sensitive marker of pulmonary adenocarcinoma, confirming the pulmonary origin of the metastatic lesion.

without preceding respiratory manifestations suggestive of a primary thoracic malignancy. Emergency surgical exploration revealed jejunal obstruction caused by metastatic adenocarcinoma, while the pulmonary primary tumor was identified only during the postoperative diagnostic exam. This case directly illustrates an uncommon diagnostic sequence in which jejunal obstruction preceded thoracic diagnosis. It also highlights the diagnostic value of histopathology and immunohistochemistry in establishing the pulmonary origin of metastatic intestinal adenocarcinoma when the primary tumor is initially occult.

The clinical diagnosis of gastrointestinal metastases from lung cancer remains challenging because of their

nonspecific presentation and the relative inaccessibility of the small bowel [13]. Imaging studies, endoscopic evaluation, and histopathological examination are usually required to establish the diagnosis [13]. CT plays a major role in detecting metastatic gastrointestinal lesions, particularly in patients presenting with bowel obstruction, focal bowel wall

thickening, intraluminal masses, or associated lymphadenopathy [4,8]. Gastrointestinal endoscopy is a precise approach to define gastric, duodenal, and colonic metastases from lung cancer. Other diagnostic modalities, including capsule endoscopy, enteroscopy, and fluorodeoxyglucose-positron emission tomography (FDG-PET)/CT, may provide additional information in selected patients, although their diagnostic role in gastrointestinal metastases from primary lung cancer remains incompletely defined [14]. In our case, abdominal radiography demonstrated hydroaeric levels suggestive of small bowel obstruction. Contrast-enhanced abdominal CT revealed marked bowel dilatation upstream of a 5-cm jejunal mass associated with adjacent necrotic lymphadenopathy, raising suspicion of a malignant obstructive lesion. This case directly illustrates the diagnostic difficulty of identifying gastrointestinal metastases when abdominal manifestations precede thoracic symptoms.

Histopathological and immunohistochemical analyses remain essential for differentiating primary intestinal adenocarcinomas from metastatic lesions. Immunohistochemical markers such as TTF-1, CK7, CK20, CDX2, and napsin A are particularly useful in determining the primary tumor origin [2,5,11]. Pulmonary adenocarcinomas typically demonstrate positive expression of TTF-1, CK7, and napsin A, with negative expression of CK20 and CDX2, whereas intestinal adenocarcinomas usually exhibit the opposite immunophenotypic profile [15,16]. These findings from the literature provide an important diagnostic framework but should not be interpreted as conclusions derived solely from the present case [2,5,11]. In our patient, histopathological examination of the jejunal lesion combined with immunohistochemical staining showed positivity for TTF-1, CK7, and napsin A, and negativity for CK20 and CDX2, confirming the pulmonary origin of the metastatic intestinal adenocarcinoma.

The management of gastrointestinal metastases from lung cancer primarily relies on systemic therapy, while surgery is generally reserved for complications such as bowel obstruction, perforation, bleeding, or intussusception [12,15]. Several studies suggest that surgical intervention may provide symptomatic relief, facilitate nutritional recovery, and improve quality of life in select patients, although its impact on long-term survival remains uncertain because these presentations are usually associated with disseminated disease and poor prognosis [11,17].

In our patient, emergency surgery was indicated because of acute jejunal obstruction. A segmental small bowel resection with jejunojejunal anastomosis was performed, allowing both symptom control and definitive histopathological diagnosis. Subsequent immunohistochemical analysis established the pulmonary origin of the metastatic lesion. Postoperatively, the patient received systemic chemotherapy with albumin-bound paclitaxel; however, rapid disease progression occurred with the development of vertebral and cerebral metastases. This

unfavorable clinical course is consistent with the poor prognosis commonly reported in patients with gastrointestinal metastases from lung adenocarcinoma.

Prognosis in patients with gastrointestinal metastases from primary lung cancer is generally poor because intestinal involvement usually reflects advanced systemic dissemination [3,7]. Reported survival after the diagnosis of gastrointestinal metastasis remains limited, with several series describing a median survival ranging from approximately 2 to 4 months and an average interval of nearly 100 days between diagnosis of intestinal metastasis and cancer-related death. In our case, the rapid post-operative progression with subsequent vertebral and cerebral metastases despite systemic chemotherapy is consistent with the aggressive biological behavior and poor prognosis commonly described in metastatic lung adenocarcinoma with gastrointestinal involvement. The case therefore illustrates that, even when emergency surgical resection successfully controls acute intestinal obstruction and establishes the diagnosis, overall survival remains limited once disseminated metastatic disease is present.

Conclusions

Small bowel metastasis from lung adenocarcinoma is a rare but clinically significant entity that may present as an acute surgical emergency, sometimes in the absence of any respiratory symptoms. This case highlights an important diagnostic pitfall: gastrointestinal obstruction may be the first manifestation of an occult primary lung cancer. This report adds value beyond rarity by illustrating a clear diagnostic sequence in which jejunal obstruction preceded the recognition of the thoracic primary tumor, reinforcing the need to include metastatic lung cancer in the differential diagnosis of unexplained small bowel obstruction, particularly in high-risk patients such as heavy smokers with constitutional deterioration. It reinforces that in such atypical surgical presentations, definitive diagnosis relies on histopathological examination with immunohistochemical profiling to determine the primary origin.

Institution Where Work Was Done

Fattouma Bourguiba Hospital, Monastir, Tunisia.

Consent for Publication

The patient gave written consent for his personal or clinical details along with any identifying images to be published.

AI Statement

The authors used ChatGPT (OpenAI) exclusively for English language editing, grammar correction, and improvement of

manuscript readability. The authors take full responsibility for the scientific content, interpretation of the data, and final version of the manuscript.

Declaration of Figures' Authenticity

All figures submitted have been created by the authors who confirm that the images are original with no duplication and have not been previously published in whole or in part.

References:

1. Hutchinson BD, Shroff GS, Truong MT, Ko JP. Spectrum of lung adenocarcinoma. *Semin Ultrasound CT MR*. 2019;40(3):255-64
2. Ogasawara N, Ono S, Sugiyama T, et al. Small-intestinal metastasis from lung carcinoma. *Case Rep Gastroenterol*. 2022;16(1):195-200
3. Hu Y, Feit N, Huang Y, et al. Gastrointestinal metastasis of primary lung cancer: An analysis of 366 cases. *Oncol Lett*. 2018;15(6):9766-76
4. Chen J. Undiagnosed primary lung carcinoma with initial manifestation of intestinal obstruction: A case report and literature review. *J Cancer Res Ther*. 2015;11(Suppl. 1):C134-C37
5. Bonsignore A, Licursi M, Fiumara F, et al. Acute abdomen due to jejunal perforation secondary to metastatic lung carcinoma. *G Chir*. 2009;30(8-9):349-54
6. Sohrabi C, Mathew G, Maria N, et al. The SCARE 2023 guideline: Updating consensus Surgical CAsE RReport (SCARE) guidelines. *Int J Surg*. 2023;109(5):1136-40
7. Succony L, Rassl D, Barker A, et al. Adenocarcinoma spectrum lesions of the lung: Detection, pathology and treatment strategies. *Cancer Treat Rev*. 2021;99:102237
8. Mao Y, Yang D, He J, Krasna MJ. Epidemiology of lung cancer. *Surg Oncol Clin N Am*. 2016;25:439-45
9. Cheng TYD, Cramb SM, Baade PD, et al. The international epidemiology of lung cancer: Latest trends, disparities, and tumor characteristics. *J Thorac Oncol*. 2016;11(10):1653-71
10. Sakorafas GH, Pavlakakis G, Grigoriadis KD. Small bowel perforation secondary to metastatic lung cancer: A case report and review of the literature. *Mt Sinai J Med*. 2003;70(2):130-32
11. Lee JH, Kim TH, Park SH, et al. Solitary colonic metastasis from primary lung adenocarcinoma first presenting as intestinal obstruction: A case report. *Medicine (Baltimore)*. 2019;98(1):e14232
12. Kim MC, Lee JK, Choi YJ. Metastatic large cell carcinoma of the lung: A rare cause of acute small bowel obstruction. *Thorac Cancer*. 2020;11(11):3379-82
13. Sakamoto T, Tanaka H, Yamada T, et al. Surgical indication and management of obstructive colonic metastasis from primary lung adenocarcinoma: A case report and literature review. *Surg Case Rep*. 2024;10(1):219
14. Choi YJ, Kim TH, Lee JH. Gastrointestinal metastases in lung adenocarcinoma: A diagnostic and therapeutic challenge. *Oncol Lett*. 2023;26(1):116
15. Zhao Y, Chen J, Huang X. Acute intestinal obstruction due to metastatic lung cancer: Case report and literature review. *J Thorac Dis*. 2017;9(10):E924-E27
16. Ahn JS, Ahn YC, Kim JH, et al. Predictors of poor prognosis after chemotherapy in lung cancer with gastrointestinal metastasis. *Cancer Res Treat*. 2020;52(2):553-61
17. Keum DY, Kim JW, Lee JH, et al. Intestinal metastasis from lung cancer with acute abdomen: A clinical and pathological review. *Ann Surg Treat Res*. 2021;100(4):226-31