

Case Report

Bilateral Symmetrical Hilar Adenopathy in a 70-Year-Old Male Revealing Gastric Carcinoma: A Detailed Case Report

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Abstract

Bilateral symmetrical hilar adenopathy (BSHA) is commonly linked to conditions such as sarcoidosis, tuberculosis, and hematologic malignancies; however, in rare instances, it may present as an atypical metastatic pattern of gastric carcinoma. This case report describes a 70-year-old male with a history of smoking and occasional alcohol use who exhibited a four-month history of severe anorexia, weight loss, persistent dry cough, and intermittent low-grade fever. Initial chest X-rays revealed bilateral hilar masses, prompting investigations focused on common etiologies like sarcoidosis and tuberculosis. However, further evaluation with contrast-enhanced computed tomography (CECT) of the thorax revealed diffuse gastric wall thickening, perigastric fat stranding, and widespread lymphatic involvement. Subsequent endoscopic biopsy confirmed the diagnosis of gastric adenocarcinoma with metastatic hilar lymphadenopathy. This case underscores the importance of broadening differential diagnoses when evaluating BSHA and highlights the critical role of comprehensive clinical assessment, imaging, and histopathological analysis in identifying rare and atypical presentations, thereby preventing potential misdiagnosis.

Keywords

Bilateral Symmetrical Hilar Adenopathy, CECT Thorax, Gastric Adenocarcinoma, Metastatic

1. Introduction

Bilateral symmetrical hilar adenopathy (BSHA) typically linked to sarcoidosis, tuberculosis, or lymphoma, can rarely result from metastatic gastric carcinoma. This case highlights a 70-year-old male presenting with anorexia, weight loss, chronic cough, and intermittent fever. Initially misdiagnosed as tuberculosis, imaging revealed diffuse gastric wall thickening and extensive lymphadenopathy without a distinct mass [1]. Biopsy confirmed metastatic gastric adenocarcinoma [2, 3]. Risk factors included smoking and alcohol use, both contributing to gastric carcinogenesis [4, 5]. This case emphasizes the need for comprehensive diagnostics imaging, histology, and multidisciplinary evaluation when assessing BSHA,

especially in atypical presentations, to prevent misdiagnosis and ensure appropriate treatment [6-10].

2. Case Description

2.1. Patient History and Presentation

A 70-year-old male, a chronic smoker (25 pack-years) and alcohol consumer presented to the clinic with a four-month history of anorexia and progressive weight loss, amounting to an eight-kilogram reduction. Additionally, he

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reported a persistent dry cough with mild expectoration for three months and intermittent low-grade fever for one month. Despite significant systemic symptoms, he did not experience nausea, vomiting, dysphagia, abdominal pain, hematemesis, or melena. There were also no complaints of chest tightness, haemoptysis, or night sweats. He was administered ATT by a general practitioner based on clinical presentation and chest radiological data. However, despite extensive treatment, he experienced no relief from his symptoms.

2.2. At Presentation

On physical examination, the patient appeared cachectic and mildly pale, consistent with systemic disease.

- 1) There was no cyanosis or digital clubbing. Peripheral edema was absent.
- 2) Respiratory examination revealed normal vesicular breath sounds without adventitious sounds such as crepitations or wheezes.
- 3) His blood pressure was 110/80 mmHg, heart rate 104 bpm, respiratory rate 18/min, and oxygen saturation 99% on room air.
- 4) In the abdominal examination, there were no palpable masses or tenderness. The liver and spleen were not enlarged.

2.3. Initial Laboratory Investigations

A comprehensive workup was performed to identify the underlying cause of his symptoms:

- 1) Complete Blood Count (CBC) was normal except for mild anemia (hemoglobin: 10.2 g/dL).
- 2) Erythrocyte Sedimentation Rate (ESR) was found to be elevated (58 mm/hr).
- 3) The Mantoux test was negative. It showed 9 × 8 mm induration.
- 4) Sputum for Acid-Fast Bacilli (AFB) and GeneXpert were negative for Mycobacterium tuberculosis.
- 5) Serum Angiotensin-Converting Enzyme (SACE) levels were 52 U/L (within normal limits).
- 6) Liver and kidney function tests were within normal limits.

2.4. Imaging Studies

- 1) Chest X-ray: Revealed bilateral symmetrical hilar adenopathy, without evidence of lung parenchymal involvement, cavitory lesions, or pleural effusion.
- 2) Contrast-Enhanced Computed Tomography (CECT) Thorax:
Diffuse gastric wall thickening (maximum 21 mm) extending to the fundus and cardia. Lymphatic spread with bilateral hilar, mediastinal, and abdominal lymphadenopathy.
- 3) No distinct mass lesion, but significant perigastric fat infiltration and contact with the descending thoracic

aorta were observed.

- 4) Mild pericardial effusion was secondary to extensive nodal involvement.

Given the absence of pulmonary pathology and the presence of extensive lymphadenopathy and gastric thickening, the diagnosis was shifted toward an extrathoracic malignancy.

2.5. Endoscopy and Biopsy

Based on CECT findings upper gastrointestinal (GI) endoscopy was performed. It revealed a diffusely thickened gastric wall with an ulcerated lesion in the antrum. Biopsy samples were collected for histopathology. Multiple biopsies were taken, and histopathological examination reported gastric adenocarcinoma.

Microscopy findings:

- 1) Poorly differentiated adenocarcinoma cells infiltrate the gastric mucosa and submucosa. Lymphovascular invasion was noted, supporting extensive lymphatic dissemination.
- 2) Immunohistochemical staining further confirmed gastric carcinoma of the intestinal subtype.
- 3) *Metastatic Spread:* Hilar lymphadenopathy was attributed to lymphatic dissemination of gastric adenocarcinoma, rather than an independent intra thoracic malignancy, Tubercu or Sarcoidosis. [11, 12].

3. Discussion

Bilateral symmetrical hilar lymphadenopathy (BSHLN) is commonly associated with sarcoidosis, tuberculosis (TB), and lymphoma. In TB-endemic areas, it is often presumed to be tuberculosis. However, sarcoidosis, marked by noncaseating granulomas and elevated ACE levels, is another frequent cause. While BSHLN due to metastatic malignancies is rare, gastric carcinoma should be considered, especially when typical signs are absent and TB therapy fails [13].

This case underscores the diagnostic challenge of gastric cancer presenting as BSHLN. The patient's non-response to anti-tubercular therapy, combined with anorexia, weight loss, and unremarkable pulmonary findings, prompted further evaluation. CECT revealed diffuse gastric wall thickening and widespread lymphadenopathy [14]. Endoscopic biopsy confirmed poorly differentiated gastric adenocarcinoma with lymphovascular invasion, explaining the hilar involvement via lymphatic spread.

Additionally, lifestyle factors like smoking and alcohol use significantly increase gastric cancer risk. Tobacco-related nitrosamines and alcohol-induced mucosal damage contribute to carcinogenesis [15], especially when both factors coexist. Therefore, addiction history should be routinely assessed.

This case highlights the importance of a thorough diagnostic approach involving clinical assessment, imaging, biopsy, and multidisciplinary collaboration. Clinicians should maintain a high index of suspicion for malignancy in elderly pa-

tients with unexplained systemic symptoms to ensure early diagnosis and management.

4. Conclusion

This case highlights a rare presentation of gastric adenocarcinoma mimicking bilateral symmetrical hilar lymphadenopathy (BSHLN), commonly attributed to TB or sarcoidosis. In TB-endemic regions, this can lead to misdiagnosis and treatment delays. The patient's non-response to ATT and absence of pulmonary involvement prompted further imaging, which revealed diffuse gastric thickening and widespread lymphatic spread. Despite no visible gastric mass, endoscopic biopsy confirmed malignancy. The case underscores the need for thorough differential diagnosis, especially in elderly patients with unexplained systemic symptoms. Lifestyle factors like smoking and alcohol further raise cancer risk, reinforcing the importance of comprehensive history-taking and a multidisciplinary approach for accurate and timely diagnosis.

5. Clinical Significance

This study highlights the need to consider gastric carcinoma in atypical cases of bilateral hilar lymphadenopathy, especially in TB-endemic areas. It emphasizes the limitations of empirical TB treatment and the value of advanced imaging and biopsy in reaching a correct diagnosis. A multidisciplinary approach is crucial to avoid misdiagnosis and ensure timely management.

Abbreviations

| | |
|--------|--|
| BSHA / | Bilateral Symmetrical Hilar Adenopathy / |
| BSHLN | Lymphadenopathy |
| TB | Tuberculosis |
| ATT | Anti-Tubercular Therapy |
| CECT | Contrast-Enhanced Computed Tomography |
| GI | Gastrointestinal |
| CBC | Complete Blood Count |
| ESR | Erythrocyte Sedimentation Rate |
| AFB | Acid-Fast Bacilli |
| SACE | Serum Angiotensin-Converting Enzyme |
| O2 Sat | Oxygen Saturation |
| HR | Heart Rate |
| RR | Respiratory Rate |
| HPE | Histopathological Examination |
| BMI | Basic Medical Insurance |
| UEBMI | Urban Employee Basic Medical Insurance |
| URBMI | Urban Resident Basic Medical Insurance |
| NRCMI | New Rural Cooperative Medical Insurance |
| CMI | Catastrophic Medical Insurance |
| SDG | Sustainable Development Goals |
| WHO | World Health Organization |
| LMICs | Low- and Middle-Income Countries |

Author Contributions

Sudhir Kumar is the sole author. The author read and approved the final manuscript.

Conflicts of Interest

The author declares no conflicts of interest.

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