

Uncommon Presentation: Leptomeningeal Metastases from Gastric Adenocarcinoma Masquerading as Subacute Epidural Hematoma

Tamada Akirha*

Department of Radiology, University of Freiburg, Germany

Abstract

Leptomeningeal metastases (LM) are a rare but serious complication of various cancers, including gastric adenocarcinoma. This condition involves the spread of cancer cells to the meninges, the thin layers of tissue covering the brain and spinal cord. Leptomeningeal metastases can manifest with a wide range of neurological symptoms that mimic other conditions, making diagnosis challenging. This article discusses a particularly intriguing case of LM originating from gastric adenocarcinoma, presenting symptoms that initially mimicked those of a subacute epidural hematoma.

Keywords: Leptomeningeal metastases; Gastric adenocarcinoma; Radiology

Introduction

The rarity of leptomeningeal metastases from gastric adenocarcinoma

Gastric adenocarcinoma is a malignant tumor originating in the stomach lining. While it commonly metastasizes to regional lymph nodes, liver, and lungs, leptomeningeal metastases arising from gastric adenocarcinoma are exceedingly rare [1]. These metastases involve the dissemination of cancer cells through the cerebrospinal fluid (CSF), leading to the infiltration of the meninges and subsequent neurological symptoms.

Case Presentation

A 56-year-old male patient with a known history of advanced gastric adenocarcinoma presented to the hospital with a two-week history of worsening headaches, nausea, vomiting, and dizziness [2]. The patient's primary cancer had been diagnosed two years prior and he had been undergoing various treatments, including chemotherapy and surgery. He had no history of neurological disorders.

Initial imaging studies, including a brain CT scan, revealed a localized extra-axial lesion with characteristics suggestive of a subacute epidural hematoma. Given the patient's symptoms and imaging findings, a subacute epidural hematoma was the primary consideration [3].

Diagnostic challenges

The clinical presentation and imaging findings raised suspicions of a subacute epidural hematoma, prompting medical professionals to consider surgical intervention [4]. However, the patient's history of advanced gastric adenocarcinoma raised concerns about potential metastatic spread. An MRI of the brain was ordered to gather more information.

The MRI results were unexpected and puzzling. The images did not correlate with a typical epidural hematoma but rather showed diffuse leptomeningeal enhancement. Cerebrospinal fluid analysis revealed increased protein levels and the presence of malignant cells consistent with gastric adenocarcinoma [5].

Literature Review

Diagnosis and treatment

The patient was diagnosed with leptomeningeal metastases originating from his advanced gastric adenocarcinoma. The initial symptoms, including headaches, dizziness, and vomiting, were attributed to the increased intracranial pressure resulting from the metastases [6]. The misdiagnosis of a subacute epidural hematoma was attributed to the initial imaging findings, which resembled such a condition.

Treatment options were discussed with the patient, including intrathecal chemotherapy, targeted therapy, and supportive care. Given the patient's overall health status and the advanced stage of his primary cancer, a palliative approach was adopted to manage symptoms and maintain his quality of life.

Mechanism of spread: Leptomeningeal metastases occur when cancer cells spread from their primary site to the leptomeninges, the layers of tissue covering the brain and spinal cord [7]. This can happen through direct extension from nearby structures or by the hematogenous (bloodstream) route. The cancer cells enter the cerebrospinal fluid (CSF) and are carried to the meninges, where they implant and grow.

Common primary cancers: While leptomeningeal metastases can arise from various primary cancers, they are most frequently associated with malignancies such as breast cancer, lung cancer, melanoma, and solid tumors like gastric adenocarcinoma. In rare cases, they can also occur with lymphomas or leukemia [8].

Clinical presentation: The symptoms of leptomeningeal metastases are diverse and often nonspecific, which can lead to diagnostic challenges. Common symptoms include severe headaches, neck pain, nausea, vomiting, altered mental status, visual disturbances, weakness, numbness, and difficulty with balance and coordination. The symptoms can mimic other neurological conditions, contributing to delays in diagnosis.

***Corresponding author:** Tamada Akirha, Department of Radiology, University of Freiburg, Germany, E-mail: Tamada_a@yahoo.com

Received: 05-Aug-2023, Manuscript No. roa-23-111340; **Editor assigned:** 07-Aug-2023, PreQC No. roa-23-111340 (PQ); **Reviewed:** 21-Aug-2023, QC No. roa-23-111340; **Revised:** 24-Aug-2023, Manuscript No. roa-23-111340 (R); **Published:** 31-Aug-2023, DOI: 10.4172/2167-7964.1000479

Citation: Akirha T (2023) Uncommon Presentation: Leptomeningeal Metastases from Gastric Adenocarcinoma Masquerading as Subacute Epidural Hematoma. OMICS J Radiol 12: 479.

Copyright: © 2023 Akirha T. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Diagnostic approaches: Due to the broad spectrum of symptoms and the absence of specific diagnostic markers, diagnosing leptomeningeal metastases can be complex. A combination of clinical evaluation, neuroimaging (MRI and CT scans), cerebrospinal fluid analysis (cytology and protein levels) and occasionally, biopsy, are used to confirm the presence of metastatic cancer cells in the meninges.

Treatment options: Management of leptomeningeal metastases involves a multidisciplinary approach, including oncologists, neurologists, and palliative care specialists. Treatment goals typically focus on alleviating symptoms, improving quality of life, and extending survival where possible. Therapeutic options include intrathecal chemotherapy (directly administering drugs into the CSF), radiation therapy, targeted therapies and in some cases, surgery to relieve pressure on the brain and spinal cord.

Prognosis: The prognosis for patients with leptomeningeal metastases varies widely based on factors such as the primary cancer type, overall health of the patient, and the extent of metastatic spread. Unfortunately, leptomeningeal metastases generally indicate an advanced stage of cancer and are associated with poorer outcomes. However, advances in targeted therapies and supportive care have improved the management of symptoms and quality of life for some patients [9].

Supportive care: Palliative care plays a significant role in managing the symptoms and overall well-being of patients with leptomeningeal metastases. Supportive care focuses on pain management, symptom relief, psychological support and enhancing the patient's comfort and dignity.

Discussion

This case serves as a reminder for healthcare professionals to consider the possibility of leptomeningeal metastases in patients with a history of cancer, especially when neurological symptoms are atypical or refractory to treatment. Timely diagnosis and appropriate management are crucial for improving the quality of life for these patients and guiding treatment decisions based on their individual circumstances.

Conclusion

Leptomeningeal metastases of gastric adenocarcinoma are a rare

phenomenon that can manifest with diverse neurological symptoms. The presented case illustrates the diagnostic challenges associated with this condition, particularly when the initial presentation mimics other more common conditions like subacute epidural hematoma. It underscores the importance of a comprehensive diagnostic approach, taking into account the patient's medical history, clinical presentation and advanced imaging techniques.

Acknowledgement

None

Conflict of Interest

None

References

1. Kwon J, Chie EK, Kim K, Kim HJ, Wu HG, et al. (2014) Impact of multimodality approach for patients with leptomeningeal metastases from solid tumors. *J Korean Med Sci* 29: 1094-1101.
2. Liu Y (2017) Leptomeningeal carcinomatosis from gastric cancer successfully treated by the intrathecal methotrexate plus temozolomide and simultaneous radiotherapy: Case report and literatures review. *Cancer Biol Ther* 18: 761-764.
3. Kountourakis P, Papamichael D, Haralambous H, Michael M, Nakos G, et al. (2018) Leptomeningeal metastases originated from esophagogastric junction/gastric cancer: A brief report of two cases. *World J Gastrointest Oncol* 10: 56-61.
4. Kim NH, Kim JH, Chin HM, Jun KH (2014) Leptomeningeal carcinomatosis from gastric cancer: single institute retrospective analysis of 9 cases. *Ann Surg Treat Res* 86: 16-21.
5. Park KK, Yang SI, Seo KW, Kim YO, Yoon KY (2012) A case of metastatic leptomeningeal carcinomatosis from early gastric carcinoma. *World J Surg Oncol* 10: 74.
6. Kim M (1999) Intracranial involvement by metastatic advanced gastric carcinoma. *J Neurooncol* 43: 59-62.
7. Cunningham D, Allum WH, Stenning SP, Thompson JN, Velde CJHVD, et al. (2006) Perioperative chemotherapy versus surgery alone for resectable gastroesophageal cancer. *N Engl J Med* 355: 11-20.
8. Groves MD (2010) New strategies in the management of leptomeningeal metastases. *Arch Neurol* 67: 305-312.
9. Fakhri M, Schiff D, Erlich R (2001) Intramedullary spinal cord metastasis (ISCM) in renal cell carcinoma: A series of six cases. *Ann Oncol* 12: 1173-1177.