International Journal of Advances in Medicine
Vignesh C et al. Int J Adv Med. 2023 Apr;10(4):318-320
http://www.ijmedicine.com
pISSN 2349-3925 | eISSN 2349-3933
DOI: https://dx.doi.org/10.18203/2349-3933.ijam20230708

Case Report

An interesting case of ascites

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Received: 11 February 2023
Accepted: 15 March 2023

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ABSTRACT

The Krukenberg tumor is a rare tumor of the ovary which is malignant. It is usually a bilateral involvement of ovaries from the metastatic deposit from adenocarcinoma of the stomach. It is characterized by the stiffening and thickening of the gastric wall. The most common malignancy to manifest as the Krukenberg tumor is the stomach. Here, we discuss a case of diffuse adenocarcinoma of the stomach presenting as linitis plastica with ascites.

Keywords: Tumor, Ascites, Metastasis

INTRODUCTION

Linitis plastica, or Brinton's disease, is a type of stomach adenocarcinoma characterized by diffuse infiltration leading to the so-called leather bottle stomach. Adenocarcinoma is the most common variant of stomach malignancies. About 10% of adenocarcinomas of the stomach progress to diffuse variety, causing the manifestation of linitis plastica.[1] The incidence of the Krukenberg tumor ranges from 1% to 21%.[2,3] This can be a manifestation caused by many malignancies of the abdominal cavity and even breast malignancies. One essential prerequisite is that the malignant cells should have access to the peritoneum. The drop metastasis can occur only in cases where the peritonial cavity is accessible. The most common malignancy to manifest as the Krukenberg tumor is the stomach. Drop metastasis can also occur in colorectal, breast, and appendicular malignancies.[4] Diffuse adenocarcinoma of the stomach is an aggressive form of hereditary cancer with CDH1 gene mutation. This leads to the nonproduction of E-cadherin protein, a tumor suppressor protein.[5] E-cadherin deficiency leads to an increased propensity for metastasis. Here, we discuss a case of diffuse adenocarcinoma of the stomach presenting as linitis plastica with ascites.

CASE REPORT

A 31-year-old female with no prior comorbidities complained of rapidly progressive abdominal distension for ten days with a history of loss of weight and appetite for four months. The patient was conscious, oriented, and afebrile. On examination: BP=130/80 mmHg, PR=94 bpm, saturation= 98% on room air. Abdominal examination showed uniform abdominal distension with shifting dullness and fluid thrill suggestive of massive ascites, with no organomegaly and tenderness.

Clinical course

Her investigations revealed normal complete blood count and RFT. LFT-albumin-2.6 g/dl, total protein-4.9 g/dl. Serum electrolytes were normal, TFT was normal, ESR-9, CRP-32.4 mg/dl. USG ABDOMEN showed Gross ascites, portal vein doppler-normal. Tumor markers were beta HCG: <2.39 mIU/ml, Ca 19-9: 4.4 U/ml (<37), Ca 125-158 U/ml. UGI endoscopy showed chronic gastritis. Ascitic fluid analysis reports were colour-pale yellow, turbid appearance, Total count- 448 cells/mm^3, lymphocytes-70%, neutrophils-30%, few mesothelial cells seen, glucose-60 mg/dl, cytology-sheets of lymphocytes with scattered reactive mesothelial cells, cellblock-clusters

of mesothelial cells and scattered lymphocytes, total protein-3.5, albumin-1.8, SAAG ratio-0.8 gm/dl, ADA-11.84, AFB-negative, CBNAAT-negative, culture-no growth.

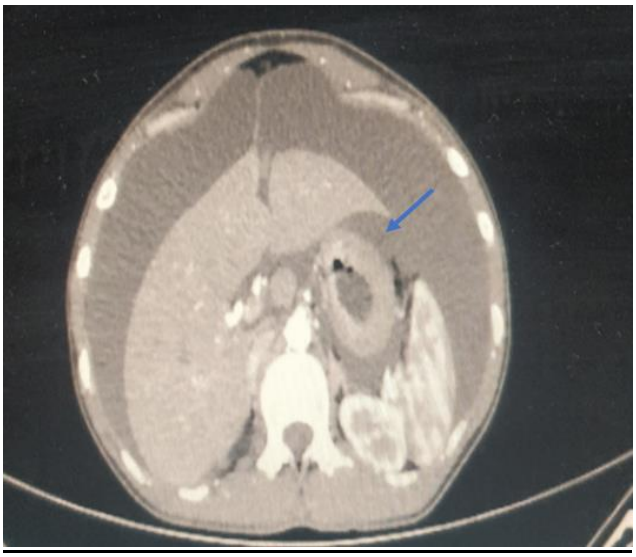

Figure 1: CT scan revealed thickening of the stomach wall suggestive of linitis plastica.

PET scan

Diffuse irregular mucosal thickening in the fundus, cardia, and body of the stomach with mild patchy increased metabolic activity. Mild metabolically active heterogeneously enhancing complex predominantly solid lesion in the bilateral adnexa. Primary gastric malignancies with metastases.

Management

Management for such a case can often be extremely challenging for both patient and the treating physician. However, this condition as observed in our patient, may have a quick and aggressive progression of symptoms within a span of weeks to a few months. Considering the young age of the patient and the diagnosis of advanced stage of disease that worsened over a relatively short period of time, patient was advised chemotherapy and supportive care after specialist consultation. However, the family members decided against it for personal reasons. Patient was followed up after discharge and succumbed to the condition two weeks later at home.

DISCUSSION

Linitis plastica is an aggressive, rapidly progressive gastric malignancy (Stage IV). Linitis plastica is histologically adenocarcinoma of the stomach. Krukenberg tumors usually originate in the stomach and metastasize to ovaries.[6] Mechanisms of the spread of Krukenberg tumor proposed are retrograde lymphatic dissemination involved in gastric cancer metastases, hematogenous spread most frequent in colorectal cancer, and transperitoneal direct spread.[7] A similar case of diffuse gastric cancer with peritoneal metastases and the Krukenberg tumor was described by Khosla et al.[8] Krukenberg tumors are stage IV disease and have a poor prognosis with a median survival of 14 months.[9] This patient presented similarly. Still, ascitic fluid cytology was negative for malignant cells multiple times, which is rare. Patients presenting with lymphocyte predominant reactive ascites should be screened for all types of malignancies that can cause drop metastases to the peritoneum with a PET scan, even though ascitic fluid cells for cytology are negative for malignant cells.[10]

CONCLUSION

The physicians and surgeons involved in patient care should note the atypical scenario mentioned here. Such rare presentations could be easily missed due to the complexity of this disease presentation. Prior knowledge regarding these atypical presentations would help the treating physicians and surgeons provide optimal treatment in these conditions, which is the key to managing malignancies.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Vignesh C, Kumar KM, Kumar LA. An interesting case of ascites. Int J Adv Med 2023;10:318-20.