

CASE REPORT

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Isolated left diaphragm metastasis of rectum adenocarcinoma

ID Mustafa Yildirim¹, ID Mustafa Koc²¹Elazig Fethi Sekin City Hospital, Clinic of Radiology, Elazig, Turkey²Firat University, Faculty of Medicine, Department of Radiology, Elazig, Turkey

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Abstract

Isolated diaphragm metastasis from colorectal cancer is very rare. In our literature review, it was seen that 3 cases have been reported. One of these cases was originated from rectal cancer. Others were originated from the ascending colon and sigmoid colon. In the literature cases, isolated diaphragm metastasis was adjacent to the liver and in the right diaphragm. We present a case with isolated left diaphragm metastasis originating from rectum adenocarcinoma, which has not been previously reported in the literature.

Keywords: Colorectal neoplasm, metastasis, diaphragm

Introduction

Colorectal cancers are the third most common cancer in men and the second in women [1]. Recurrence occurs in approximately 40% of patients within 2 years after surgery [2]. According to the guidelines, serum carcinoembryonic antigen (CEA) levels and thoracoabdominal computed tomography (CT) are required for follow-up [3]. The newest modality for this purpose is the combination of CT and ¹⁸F-fluorodeoxyglucose positron emission tomography / computed tomography (¹⁸F-FDG PET/CT) [4]. Colorectal cancer recurrence may be seen as locoregionally or distant metastasis. Metastatic recurrence disease is most common in the liver. This is followed by lung, peritoneum and bone, respectively [5]. In autopsy series, diaphragm metastasis has been observed in the late stages of colorectal cancer and generally as part of the common disease [6]. Diaphragm metastasis affects treatment and prognosis. Radiological imaging plays an important role for detection diaphragm metastasis. In this case report, we present a case of rectum cancer with isolated diaphragmatic metastasis

Case Report

A 50-year-old male patient applied to the polyclinic for control. The patient had been operated for rectal cancer 5 years ago. Histopathology result was moderately differentiated adenocarcinoma and stage T2N1. The preoperative serum CEA level was 81.3 ng/ml (<6 ng/ml). Postop follow-up CEA levels and other blood tests (liver function tests, complete blood count, etc) were within normal limits. However, the CEA level had increased to 23 ng/ml in this control. Contrast-enhanced abdominal CT was performed for recurrence research. Focal soft tissue thickening in the left diaphragm was observed on the contrast-enhanced abdominal CT (Figure 1). PET/CT examination showed increased FDG uptake in the left diaphragm (Figure 2). It was evaluated as isolated left diaphragm metastasis. The patient was operated, and diaphragmatic metastasis was confirmed pathologically.



Figure 1. Focal thickening in the left diaphragm on abdomen CT (Blue arrow)

*Corresponding Author: Mustafa Yildirim, Elazig Fethi Sekin City Hospital, Clinic of Radiology, Elazig, Turkey,
E-mail: Mustafa23468@outlook.com

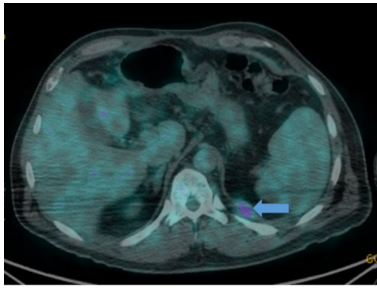


Figure 2. Increased FDG uptake in the left diaphragm on PET/CT (Blue arrow)

Discussion

Colorectal cancers account for about 16% of total cancer cases in the world, with 14% in cancer-related deaths [7]. Rectal cancer has a worse prognosis compared to other colon tumors with the rate of metastasis and local recurrence [8].

Generally, the risk of recurrence of colorectal cancers has been reported to be 3-50%. Early detection of relapse is crucial for prognosis and treatment. Serum CEA level tracking is the most common method for detecting recurrent colorectal cancer [9]. Additionally, abdomen ultrasound, abdomen CT and abdomen magnetic resonance imaging (MRI) are used after curative treatment. PET/CT provides both metabolic and functional information and it is used colorectal cancer staging and restaging. PET/CT contributes to the earlier recognition of local and systemic recurrences. Thus, the resection rate of recurrences increases. A meta-analysis determined that PET/CT showed 94% sensitivity in recurrent colorectal carcinoma detection in patients with high CEA [10].

Distant metastasis of colorectal cancer occurs with the lymphatic or hematogenous spread. Diaphragm metastasis is extremely rare. In our case, the metastasis pathway can be lymphatic or hematogenic.

In the literature review, it was seen that 9 colorectal cancer cases with diaphragm metastasis have been reported [11]. However, in our literature review, 3 cases with isolated diaphragm metastases were detected [11-13]. In the literature cases, isolated diaphragm metastases were located in the right diaphragm. However, in our case, metastasis was in the left diaphragm. In the literature, a case of rectal cancer with left diaphragm metastasis was detected. However, this case had additional liver metastases [14]. As in our case, rectal cancer cases with isolated left diaphragm metastasis could not be found in the literature.

Skeletal metastasis usually occurs as a result of systemic spread. Therefore, the prognosis of patients with skeletal metastases is poor. The diaphragm consists of voluntary muscles and partially avascular fibrous tissues. The prognosis of diaphragmatic metastasis is similar to skeletal metastasis. However, complete resection of the metastatic lesion and appropriate adjuvant systemic chemotherapy can provide a full cure in the absence of other metastatic lesions.

Conclusion

As a result, colorectal cancer with diaphragm metastasis is rare and radiological imaging plays an important role in diagnosis.

Conflict of interests

The authors declare that they have no conflict of interest and any financial disclosures.

Financial Disclosure

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Patient informed consent

Consent of patient was obtained.

Ethical approval

Ethics committee approval was not received for case report.

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