

A Case of Malignant Peritoneal Mesothelioma with an Atypical Clinic Profile

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Abstract

A 66 male presented with left sided pleural pain, fatigue, loss of appetite and dyspnea in exertion. He was a smoker with a 90 pack-year smoking habit and did not have exposure to occupational agents. Past history revealed COPD and diabetes mellitus. Serum biochemistry and chest x-ray were normal. Thorax CT and abdominal CT did not reveal any pathologic findings while PET/CT showed increased FDG activity over the hepatosplenic surface areas. Histopathologic examination of the abdominal peritoneum was compatible with epitheloid mesothelioma. A standart chemotherapy with alimta and cisplatin was started. Following treatment symptoms regressed significantly and the patient was discharged.

Clinicians should keep in mind that peritoneal mesothelioma may present with an atypical profile that may lead to a delayed diagnosis. An unusual clinical presentation is a diagnostic challenge for the physician that may cause identification of peritoneal mesothelioma at an advanced stage.

Keywords: *Mesothelioma; Abdominal CT; PET/CT; Peritoneal Mesothelioma*

Introduction

Mesothelioma is a very rare malignancy of serosal membranes, including the pleura, peritoneum and pericardium. Peritoneal mesothelioma accounts for 20 to 25 percent of all mesothelioma cases. It is the most common diagnosis after pleural mesothelioma. Mesothelioma has been linked to toxic exposure to industrial pollutants, especially asbestos [1-6]. The most common site is the visceral pleura, followed by the peritoneum. Because pleural mesothelioma is more common than malignant peritoneal mesothelioma (MPM), most research has been on the pleural variant [7,8]. A patient with peritoneal mesothelioma may not experience symptoms in the early disease stages. If symptoms are evident, they may be mistaken for other etiologies. Diagnosis of malignant peritoneal mesothelioma is extremely difficult due to the nonspecific patient profile presenting with atypical manifestations. It is often confused with other abdominal disorders. Most patients do not experience symptoms until the late stages of disease. Computed tomography of the abdomen is the initial and most useful imaging modality for the diagnosis of peritoneal mesothelioma.

We present a case of peritoneal mesothelioma with an atypical clinical profile that revealed a normal abdominal computed tomography with only increased FDG uptake in PET/CT over the hepatosplenic surface that lead to a diagnostic dilemma for the clinician.

Case Report

A 66 male was admitted for the investigation of left sided pleural pain, fatigue, loss of appetite and dyspnea in exertion. The patient was a smoker with a 90 pack-year history. Personal history revealed COPD for five years and diabetes mellitus type II of ten years. Family his-

tory was excellent. There was no occupational exposure to toxic agents or to asbestosis. Physical examination was normal with a regular pulse rate of 84/minute and a blood pressure of 120/80 mm Hg. ECG showed a regular sinus rhythm. Blood count and serum biochemistry were within normal limits. Chest x-ray, abdominal radiography (Figure 1), thorax and abdominal CT (Figure 2) revealed normal findings. Pulmonary function test and DLCO/VA values were within the normal range in regard to age. PET/CT of the abdomen revealed increased FDG uptake over the hepatosplenic surface areas (Figure 3) compatible with malignant peritoneal disease. Histopathologic examination of the excisional omentum biopsy specimens revealed epitheloid mesothelioma with Kaltretinin, WT-1, D2-40 and EMA positivity. The patient was commenced on standart chemotherapy with alimta and cisplatin. Clinical symptoms including pleural chest pain improved significantly following treatment.

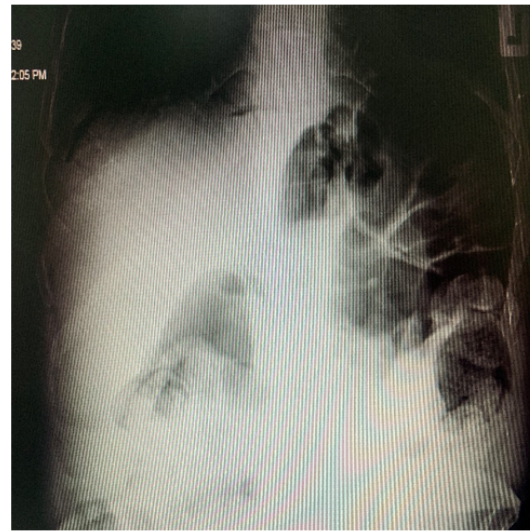


Figure 1: Abdominal x-ray showed normal findings.

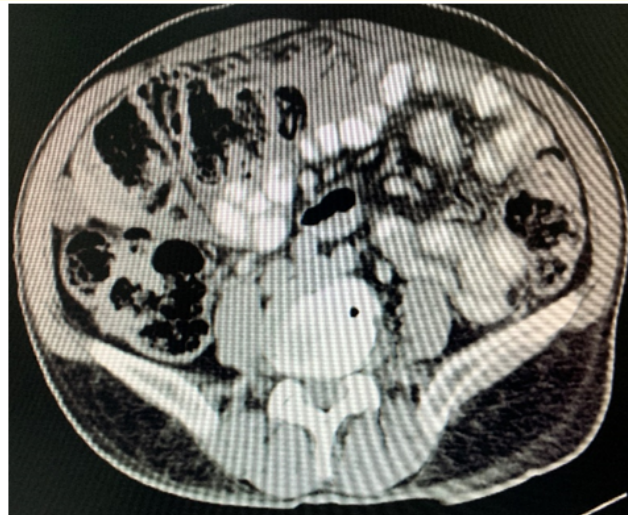


Figure 2: Abdominal CT revealed normal anatomic findings.

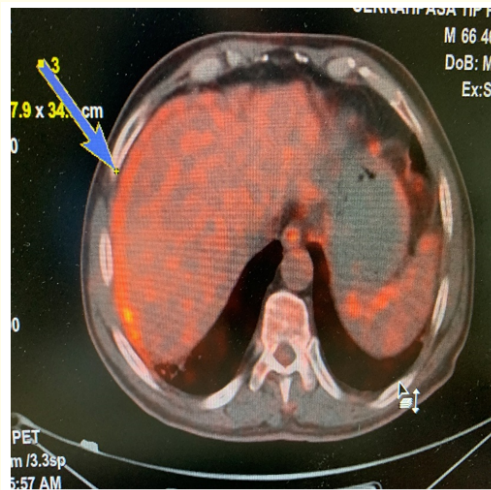


Figure 3: PET/CT demonstrated increased FDG uptake over the hepatosplenic surface areas.

Discussion

MPM is a rare tumor that can lead to a challenge because clinical manifestations are often nonspecific. The diagnosis is based on medical history along with laboratory, radiological and histopathological features. The main imaging modalities for peritoneal mesothelioma are CT scan, magnetic resonance imaging and PET/CT, although there are no pathognomonic imaging findings for MPM [8]. Presentation of our patient showed an unusual clinical profile that could be compatible with all other diseases except the peritoneal mesothelioma. In addition, the normal abdominal CT appearance exhibited another diagnostic challenge for the clinician. The only clinical clue for peritoneal mesothelioma was the increased FDG uptake in the PET/CT images. We present this case to remind clinicians for the possibility of an unexpected and bizarre peritoneal mesothelioma presentation that would lead to a delay in diagnosis and cause identification of peritoneal mesothelioma at an advanced stage.

Patient denied exposure to all occupational toxic agents and asbestosis. Clinical manifestations were not even remotely close to the peritoneal mesothelioma. And third as the most important factor, abdominal CT image, which is one of the most important diagnostic features of peritoneal mesothelioma, revealed normal findings. PET/CT was performed as an attempt not to skip any malignancy without considering the peritoneal mesothelioma in the differential diagnosis regarding the loss of appetite in the patient. The fourth crucial point was the presence of the pleural pain that was probably due to the microscopic pleural metastasis of the peritoneal mesothelioma that was not detected by any of the imaging modalities.

Peritoneal mesothelioma is a life-threatening malignancy that has a short median overall survival of approximately 8.4 months without treatment [9,10]. Therefore, urgent diagnosis is the sine qua non of treatment in such patients. Clinicians should remember that peritoneal mesothelioma may present with a bizarre clinical profile that may lead to a delay in diagnosis. Abdominal CT is an unreliable imaging modality for the identification of peritoneal mesothelioma while normal CT findings do not rule out the disease. Diagnosis of peritoneal mesothelioma requires a great deal of suspicion since the clinical and radiologic manifestations may reveal an extremely unusual or a normal pattern.

Conclusion

Malignant peritoneal mesothelioma is a rare disease that may present with unusual clinical manifestations that require a high degree of suspicion for final diagnosis. Mesothelioma continues to have a poor prognosis because there are limited therapeutic options. We present this case in regard to its atypical clinical profile along with normal abdominal CT findings that lead to a diagnostic dilemma. Increased

FDG uptake was the only manifestation compatible with the peritoneal mesothelioma. Clinicians should keep in mind that peritoneal mesothelioma patients may present with such atypical manifestations in order to avoid delay in diagnosis and treatment.

Author Contributions

Halil Yanardag has performed patient data collection and evaluation.

Cuneyt Tetikkurt has designed the study and wrote the case report.

Muammer Bilir has performed the statistical analysis.

Seza Tetikkurt reviewed the pathologic aspects of peritoneal mesothelioma.

Conflicts of Interest

Authors does not have any conflicts of interest to declare associated with this study.

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