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Case report

Psoas as an Unusual and Overlooked Place for a Metastatic Tumor

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Abstract

We report a case of a 60-year-old hemodialysis patient who clinically mimicked psoas abscess, which was subsequently proven to be from metastatic disease secondary to uroepithelial tumor. The patient presented with 3 weeks history of fever, weight loss and back pain. Computer tomography (CT) scan of abdomen and pelvis revealed psoas muscle infiltration not amenable to drainage by interventional radiology. Careful history to provide additional clues to the diagnosis is of paramount importance in this condition.

Keywords: psoas, metastatic tumor, dialysis

Introduction

Psoas is generally associated with infectious process as abscess formation. Other pathologies such as malignancy are rare. In these conditions, diagnosis is often delayed by misinterpretation as infectious diseases, urological or abdominal disorders. Despite recent advances in medicine, differential diagnosis of psoas pathologies is still a diagnostic problem. Our patient is a 60-year-old man with a history of low grade uroepithelial papillary carcinoma who presented with a chief complaint of fever initially noted twenty days prior to his admission to the hospital.

Case

A 60-year-old hemodialysis patient came to the emergency room with complaints of fever, weight loss and back pain. Further history revealed that he had a history of nephrectomy five years ago due to a low-grade uroepithelial papillary carcinoma. Since he was unable to continue functioning independently, he was admitted to the Internal Medicine Clinic for further evaluation. He was alert and oriented person with a temperature of 38.3ºC, a pulse of 74 bpm and blood pressure of 150/82 mm Hg. The abdomen was soft and non-tender. Head, ears, eyes, nose and throat examination was unremarkable. Laboratory analyses revealed the following: WBC count 12400/µl with 28.2%, 8.9% lymphocytes. The hemoglobin and hematocrit were 10.6 g/dl and 32.6%, respectively, with a platelet count of 442000 /µl. The blood chemistry profile revealed an aspartate aminotransferase (AST) of 11 units/L and alanine aminotransferase (ALT) of 5 units/L, LDH of 333 units/L, alkaline phosphatase of 98 IU/L and total bilirubin of 0.5 mg/dl. Erythrocyte sedimentation rate was elevated at 84 mm/h, C-reactive protein (CRP) 23.8 mg/dl, adenosine deaminase (ADA) 42. Other tests of autoimmunity such as antinuclear antibody (ANA) and complement levels were in normal range. The initial blood cultures did not grow any pathogens. Purified protein derivative (PPD) was anergic. A transthoracic echocardiogram revealed no vegetations. The patient completed 14 days of broad spectrum antibiotic therapy and did not improve clinically. The patient's CT scan was consistent with a malignant process (Figure 1). A huge soft tissue mass which was about 108*73 mm was seen in the right paravertebral part of the abdomen. The mass could not be distinguished whether it was solid or in abscess formation. Multiple lymph

Fig. 1. Red arrow shows a huge soft tissue mass which was about 108*73 mm seen in the right paravertebral part of the abdomen

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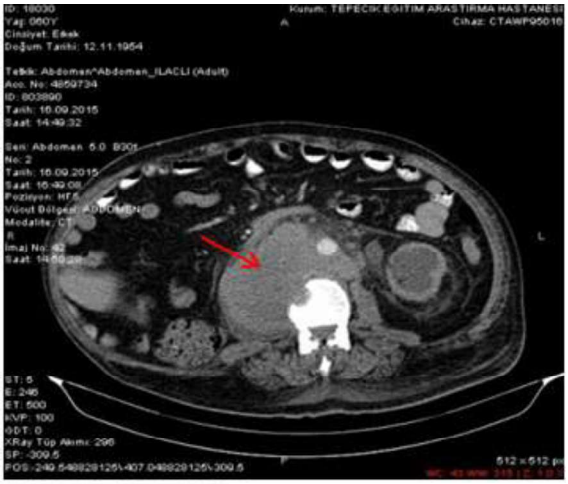

Fig 2. Red arrow shows multiple destructive lumbar vertebral lesions with associated soft tissue mass involving right psoas muscle

nodes were reported in paraaortic and paracaval area (Figure 2). The patient then underwent a positron emission tomography (PET/CT), which revealed multiple destructive lumbar vertebral lesions with associated soft tissue mass involving right psoas muscle. PET/CT showed psoas muscle infiltration or vertebral metastases. Diagnosis was made by a fine needle aspiration biopsy from the soft tissue mass in the right paravertebral area. The pathology was reported as metastatic uroepithelial adenocarcinoma. The patient was transferred to the Oncology Clinic for treatment of metastatic uroepithelial adenocarcinoma.

Discussion

The psoas is a retroperitoneal muscle that lies in close proximity to anatomic structures as sigmoid colon, jejunum, appendix, ureters, aorta, renal pelvis, pancreas, iliac lymph nodes, and spine [1]. Thus, infections in these organs can contiguously spread to the psoas muscle. The psoas muscle has a rich vascular supply that is believed to predispose it to hematogenous spread from sites of occult disease. A primary psoas abscess (PA) occurs from hematogenous dissemination of a distant infection [1,2,3]. A secondary abscess arises by contiguous spread of a local infective process and inflammatory or neoplastic diseases of the bowel, kidney and spine, such as Crohn's disease and appendicitis [3].

Psoas abscess is a rare situation with a nonstable and non-unique clinical signs which makes it easier to misdiagnose or to make late diagnosis. The presentation of a psoas abscess is commonly seen in conjunction with infection, especially tuberculosis. Metastasis to the psoas muscle and tumoral involvement of the psoas muscles is rare [4]. Avery reported a patient with a psoas lesion 4 years after a sigmoid colectomy for adenocarcinoma. Radiological appearances were thought to be typical of an abscess, but an attempted aspiration was unsuccessful. A biopsy was taken and histology showed metastatic adenocarcinoma [5]. Yap *et al*. reported a case of metastasis from transitional cell carcinoma of the bladder to the body of the psoas muscle masquerading as psoas abscess [6]. Repeated CT scan showed ill-defined low-density area with inflammatory changes involving the right psoas muscle. In this report, a fine needle aspiration biopsy of the right psoas was performed by CT guidance to obtain the histopathologic diagnosis [7]. Singh *et al*. reported a 68-year-old male patient presented with fever, groin pain, leukocytosis and azotemia mimicking pyelonephritis that was subsequently proven to be from a diffuse, large, B-cell lymphoma by fine-needle aspiration cytology and biopsy from the lesions. They reported that computed tomography revealed a bulky right psoas muscle, enlarged right kidney with thickening and enhancement of walls of pelvicalyceal system and perinephric fat stranding [8].

The patient presented here is a 60-year-old man who was in his usual state of health until 3 weeks prior to admission when he developed fever, poor appetite, weight loss and back pain. The patient's symptoms of fever, weight loss, back pain and difficulty in walking persisted despite two-week course of antibiotics. The spectrum of the differential diagnosis is broad and should include infectious and noninfectious causes. While the initial clinical suspicion was intra-abdominal abscess, failure of the symptoms to resolve after convenient antibiotic therapy suggested that another disease or pathogen might be responsible for the situation. The elevated ESR suggested an occult inflammatory condition or underlying neoplastic process. The most important entities to consider are psoas abscess and tumoral invasion. Mycobacterium tuberculosis should also be considered, negative ARB argue against a mycobacterial etiology. The patient had a history of nephrectomy five years ago due to low-grade uroepithelial papillary carcinoma. This is an important clue to the diagnosis. The patient history and presentation seem most consistent with tumoral invasion. Psoas muscle metastasis in this elderly hemodialysis patient is likely to be caused by uroepithelial tumor. In most cases the diagnosis may be secured by interventional radiology currently.

Knockaert *et al.* evaluated 47 patients, older than 65 years, meeting the criteria of FUO [9]. Infections, tumors and multisystem diseases were reported in 25%, 12% and 31% of the patients, respectively. The percentage of malignant diseases was found to be higher in their elderly patients than in the younger ones. Knockaert *et al.* suggested that multisystem diseases such as temporal arteritis occurred as the most frequent cause of FUO in the elderly, and infections, particularly tuberculosis, remain an important group.

Conclusion

In this case, a patient with a diagnosis difficulty should start with a careful history to provide additional clues to the diagnosis. It merits to be emphasized malignant etiology should be ruled out in a similar situation.

Conflict of interest statement. None declared.

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