

Iliopsoas Abscess Due to Brenner Tumor Malignancy: A Case Report

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To the Editor: Brenner tumors are uncommon ovarian epithelial surface tumors that are typically benign. Malignancy of these tumors occurs in only 1% or 2% of all cases. While other types of neoplastic lesions can result in the formation of abscesses, there have been no documented cases of abscess formation from Brenner tumor malignancies. Here we described the first case of an iliopsoas abscess resulting from a malignant Brenner tumor.

A pre-menopausal and immune-competent 37-year-old female was admitted to the Second Xiangya Hospital in June 2013 with a persistent left lower backache and pain in the hypogastric region and left thigh that had been present for the past 3 months. While she appeared neurologically normal and afebrile on admission, she complained of intermittent mild fevers throughout the symptomatic course. Examination of the patient showed tenderness around both the left lower back and abdominal area, and palpation revealed an 8 × 8 cm mass. Although the patient's abdomen and urinary system appeared normal by ultrasound examination, laboratory blood tests revealed elevated erythrocyte sedimentation rate (ESR, 64.0 mm/h) and C-reactive protein (CRP, 0.75 g/L) values. Computed tomography (CT) of the lumbosacral spine revealed a multilocular mass in the left iliopsoas [Figure 1a and 1d]. Based on these findings, a presumptive diagnosis of an infectious iliopsoas abscess was made. Treatment with anterior debridement and drainage followed by cefthiamidine (2.0 g) given every 8 hours relieved the symptoms and reduced inflammatory markers (ESR: 36.0 mm/h; CRP: 0.14 g/L). Furthermore, a CT review of the patient 2 weeks later similarly demonstrated a remarkable improvement of the abscess [Figure 1b and 1e].

One month later, the patient developed an intermittent fever and an elevated CRP level (0.79 g/L) along with a general deterioration of the original clinical symptoms. Nonetheless, no pathogens were found in blood cultures, or in cultures from intraoperative specimens or post-surgical wound drainage. Similarly, serological tests for tuberculosis and cryptococcosis were negative. Furthermore, intestinal penetration of the abscess was not observed with a barium meal study. After consulting an infectious disease specialist, the antimicrobial medication drugs were adjusted without success. A CT was again performed revealing a significant enlargement of the iliopsoas muscle at the same location [Figure 1c and 1f], suggesting relapse of the abscess. Therefore, a second surgical debridement with drainage

and irrigation was orchestrated. However, results from cultures of discharge and resected tissue were negative for any organisms. Further gynecological sonography, endoscopic examination and positron emission tomography (PET)/CT scans also failed to provide a clear diagnosis. Finally, histopathological examination of a biopsied specimen was performed [Figure 1g], and an unexpected diagnosis was made for a malignant Brenner tumor of the ovary.

The patient remained afebrile, though drainage fluid contained necrotic tissue and pus, and was discharged from the hospital 15 days later. The patient received adjuvant chemotherapy treatment, consisting of Paclitaxel 135mg/m² and Cisplatin 70 mg/m² given every 4 weeks, continuing through the follow-up period. The primary lesion was subsequently observed by surveillance ovary ultrasonography. An abdominal CT examination and blood test for cancer antigen 125 (CA125) was performed at a 2-month follow-up, indicating gradual symptomatic improvement.

The presentation of an iliopsoas abscess is frequently associated with tuberculosis as well as gastrointestinal, genitourinary, and musculoskeletal infections.^[1,2] Though tumors in the iliopsoas are likely to occur, as this compartment is predisposed for the metastasis of retroperitoneal, skeletal, and pelvic tumors,^[1] there is limited evidence in the literature for these tumors causing iliopsoas abscesses.^[1,3-5] Despite this, the direct extension of a Brenner tumor to the iliacus and psoas muscles is plausible as the ovaries are anatomically adjacent to the iliopsoas. In the case presented here, the tumor development was a minor focus that could not be observed on conventional examinations. The infiltration of the iliopsoas muscles by the tumor likely occurred via a rare hematogenous metastasis mimicking an abscess-like lesion.

For an early, accurate diagnosis to be made, a high index of clinical suspicion is required. Even so, instances that overlook underlying disease states can occur, resulting in misdiagnoses. When a specimen culture fails to indicate a microbiological diagnosis and repeated trials of conventional antimicrobial therapy fail, a non-infectious cause should be considered as a differential diagnosis, particularly in the case of an iliopsoas abscess. In such situations, we propose the collection of exhaustive histologic evidence in a timely fashion in order to establish the correct diagnosis. This is particularly important for tumors that are very small and can only be identified by cytological examination of the abscess. This was exemplified in our case, where an initial diagnosis for an infectious abscess was made, resulting in unsuccessful treatment. While acquisition of a

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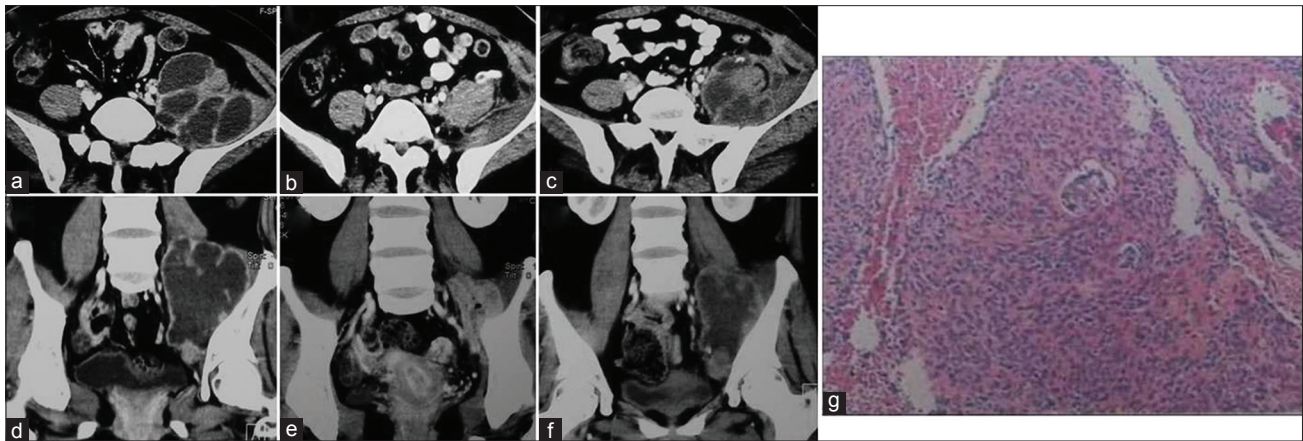


Figure 1: Computed tomography (CT) imaging and histopathology findings. On admission, coronal (a) and axial (b) CT scans of the patient revealed a multilocular abscess in the left iliopsoas muscle. Two weeks after an initial surgery, corresponding coronal (c) and axial (d) CT images showed a significant reduction of the iliopsoas abscess. One month later, coronal (e) and axial (f) CT scans indicated relapse of the iliopsoas abscess (g) Histopathology of the pus and resected tissue specimen collected from the second operation showed evidence of a malignant epithelial tumor leading to the final diagnosis of a Brenner tumor of the ovary (Hematoxylin-eosin staining, original magnification $\times 200$).

sample specimen by needle biopsy or surgery could potentially result in the regional spreading of cancer cells, it is necessary for accurate causal determination, and therefore a worthwhile risk.

In conclusion, this case suggested that Brenner tumors should be considered as an unusual cause of iliopsoas abscesses. In this case, an abscess caused by a malignant Brenner neoplasm was inaccurately and prematurely diagnosed as an infectious iliopsoas abscess. Therefore, thorough evaluation and examination of symptomologies is imperative in order to preclude the delay of accurate diagnoses.

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