



REPORT OF FIVE CASES AND LITERATURE REVIEW OF PSOAS ABSCESS

General Surgery

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ABSTRACT

Objective: To Report five psoas abscess cases we treated and review the management of psoas abscess cases. **Method:** Five patients who were diagnosed and treated with psoas abscess in our clinic between 2023-2024 were evaluated retrospectively. **Results:** Five patients were discharged with stable clinical condition after an average of 12 days following surgical treatments. **Conclusion:** Psoas abscesses are rare but there is increase in incidence in recent years due to the improvements in radiological imaging. We think that for the diagnosis of psoas abscess, it is necessary to suspect the diagnosis and keep this rare condition in mind.

KEYWORDS

Psoas abscess, percutaneous drainage, open surgery, complication, mortality

INTRODUCTION

Psoas abscess is a rare disease with different clinical presentation and may be seen in any area from the lumbar region to the inguinal region due to the anatomy and course of the psoas muscle (1). Psoas abscess was identified by Herman Mynter in 1881 for the first time (2). The psoas muscle extending from the legs to the spine is the only muscle that connects the legs and the backbone. The muscles coming out of the T12 vertebrae move towards the lumbar vertebrae and eventually connect to the hip bone (3). It locates nearby organs like kidneys, spine, sigmoid colon, jejunum, appendix, ureters and abdominal aorta. Therefore, infection in these organs may spread through the psoas muscle (4).

Psoas abscess can be primary and secondary. Primary psoas abscesses are usually of hematogenic origin and comprises 30% of all psoas abscesses; secondary psoas abscesses often develop from a neighboring pathological process originating from the spine, urinary system or gastro-intestinal system and comprises 70% of all cases. The diagnosis is often delayed due to the rare occurrence of the disease, the lack of specific clinical findings, and the insidious progression of the infection process (5). Early diagnosis and appropriate treatment can prevent morbidity and mortality. Broad-spectrum antibiotics and drainage percutaneously or by open surgery is the primary treatment of choice for psoas abscess. Especially in secondary psoas abscess mortality rates may increase up to 18.9% despite these treatment methods (6).

In the present study, we aimed to evaluate the patients with psoas abscess treated in our clinic retrospectively

Case Report

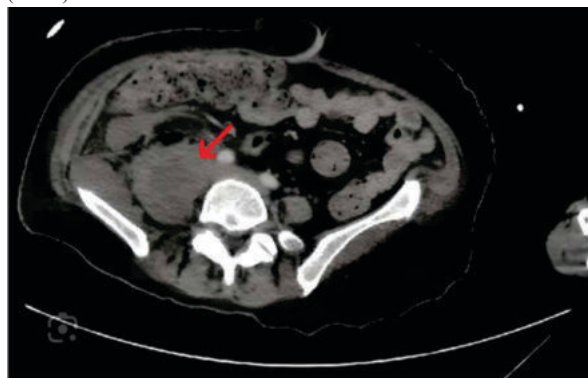
Between January 2023 to March 2024, five patients were diagnosed and treated with psoas abscess in our hospital. The study group was limited to the five patients.

Five patients with psoas abscess were evaluated in a retrospective 1-year screening

No urinary tract pathology was detected in any of the patients. As a physical examination finding, hip joint movements were evaluated as painful and limited in all patients. Direct radiography and ultrasonography (USG) were performed in all patients. Computed tomography (CT) and magnetic resonance imaging (MRI) were also performed in case of suspicion or further examination. In this study we evaluate Demographic characteristics of the patients, clinical presentation, additional disease and predisposing factors, diagnostic methods, time of diagnosis, treatment method, microbiological examination, treatment responses and complications, duration of hospitalization and treatment outcomes,

Case 1

This patient was 48 year old. Patient was diagnosed as primary psoas abscess with no additional disease and no other underlying pathology. She was admitted to the surgery ward, Patient complained of low back, groin and hip pain and high fever. Patient's leukocyte count was 13.54 k/mm^3 and C-reactive protein (CRP) level was 160 mg/L at admission. The CECT of abdomen and pelvis revealed collections in the ilio psoas region almost 400 ml and air containing tract extending anteriorly across tissue planes to form a sinus tract on the surface of right inguinal region. (Fig-1.1) We performed open surgery and abscess drainage. She was followed with antibiotic therapy for an appropriate period after surgery and was discharged without any complications after 34 days of hospitalization. In the postoperative follow-up, the patient's CRP level was 1.04 mg/L and white blood cell (WBC) level was 7.28 k/mm^3 .



Case 2

This patient was 59 yr old male and presented with low back, groin and hip pain, high fever and difficulty in walking. Patient was a known case of tuberculosis and at the time of admission he was on oral Anti Tubercular Therapy. Patient's leukocyte count was 19.43 k/mm^3 and CRP level was 279 mg/L at admission. Patient CECT abdomen and pelvis shows $15 \times 15 \text{ cm}$ large collection in left psoas muscle. Patient underwent incision and drainage with drain placement in the cavity. After surgery patient improves clinically and patient discharged with stable clinical condition. Patient total hospital stay was 12 days.

Case 3

This patient was male worker (21 years) and presented with low back, groin and hip pain and difficulty in walking.

Patient's leukocyte count was 23.13 k/mm^3 and CRP level was 227 mg/L at admission. It was considered as primary psoas abscess because there was no known additional disease. He was admitted to general

surgery service postoperatively and discharged from the general surgery department on the 8th postoperative day. In the postoperative follow-up, the patient's CRP level was 8.63 mg/L and WBC level was 7,49 k/mm³.

Case 4

This patient was a male (51 years) and presented with low back, groin and hip pain, high fever, nausea, vomiting and general condition disorder. Patient's leukocyte count was 13.28 k/mm³ and CRP level was 348 mg/L at admission. He had also flexion contracture of the hip and erythema of the skin. Incision and drainage was performed. *Streptococcus agalactiae* had grown in the culture taken during surgery. He was operated from different incisions (ilio-inguinal and lumbar) in two different sessions because of the failure to control the focus of infection and he was discharged with health after a total of 29 days of follow-up. In the postoperative follow-up, the patient's CRP level was 6.08 mg/L and WBC level was 6,41 k/mm³.

Case 5

This patient was a male worker (64 years). He presented with low back, groin and hip pain and difficulty in walking. Patient's leukocyte count was 11.14 k/mm³ and CRP level was 221 mg/L at admission. Incision and drainage with drain insertion done.

Methicillin-resistant *Staphylococcus aureus* (MRSA) had grown in the culture taken during the operation of the patient. The patient recovered from the hospital and was discharged after 22 days of hospital stay. In the postoperative follow-up, the patient's CRP level was 3.40 mg/L and WBC level was 6.44 k/mm³.

DISCUSSION

Although psoas abscesses were diagnosed rarely, the incidence of these cases is reported higher in recent years due to the improvements in radiological imaging methods and the fact that these tests are used more frequently by clinicians (7). We think that the Although in the literature it has been reported that 70% of psoas abscess patients are under the age of 20, recent studies have identified the mean age above 40 years (7). Also psoas abscess is seen more often in men (8). In the present study all patients were men and mean age of patients was 33,6. Side pain and fever are the most common symptoms in psoas abscess (9). All of patients in the present study had side pain and three of patients had high fever. In accordance with the literature, leukocytosis, high sedimentation rate and anemia were appendicitis (16%), ulcerative colitis, diverticulitis, colon cancer (11% together) and vertebral osteomyelitis (10%) in secondary psoas abscess. In this study, 40% of patients had primary and 60% had secondary psoas abscess (7,8). One of the patients with secondary psoas abscess in the study had Crohn's disease, while the other two had spinal disease history.

The pathogen microorganism is *Staphylococcus aureus* in 80% of primary psoas abscesses have been reported. Enteric bacteria are usually responsible for secondary psoas abscesses. In one of our patients, *Streptococcus agalactiae* was found as active microorganism, whereas in the other patient, no agent was produced in culture due to intensive antibiotic use.

Broad-spectrum antibiotics and drainage percutaneously or open surgery is the primary treatment of choice for psoas abscess (1,7,10). Although percutaneous drainage is the primary treatment option today, it was first described in 1984. There are very few reports showing that only cases of psoas abscess respond to antibiotic treatment (4). In general, open drainage with a more limited application is recommended when percutaneous drainage fails (8). Although percutaneous drainage is the most effective treatment, open drainage can achieve high success rates in worsened patients requiring fast and exact response. Percutaneous drainage was applied to 80% of patients, followed by open drainage in all patients in this study. Therefore, open drainage should be the first treatment of choice for these patients.

CONCLUSION

Psoas abscess is a disease with fatal consequences. Mortality rate is 2,4% in primary psoas abscess and this rate may increase up to 18.9% in secondary psoas abscess (6). We think that early diagnosis, effective drainage and appropriate antibiotherapy are the key to manage this disease which is not easy to diagnose and treat. However, it should be kept in mind that serious complications, morbidity and mortality may occur in delayed cases.

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