

## A Rare Case Report of Iliopsoas Abscess

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### **Abstract:**

*The retroperitoneal collection of pus within the compartment, involving the Iliopsoas muscle is called Iliopsoas abscess (IPA). Iliopsoas abscess is a rare condition with a reported worldwide incidence of 12 new cases per year. The formation of Iliopsoas abscess has been linked to Tuberculosis in numerous studies, it can also develop because of main illnesses like Crohn's disease, Appendicitis, Intra-abdominal cancer, so it is important to treat the underlying problem first. In this case the diagnosis was made based on Magnetic Resonance Imaging of both hip joints and lumbosacral joints, Ultrasonography of pelvis and abdomen. He was treated by performing Percutaneous drainage and Antibiotic therapy which helped in complete recovery without relapse.*

**Key Words:** *Iliopsoas abscess, Extrapulmonary Tuberculosis, Magnetic Resonance Imaging, Percutaneous drainage, Antibiotics.*

## Introduction:

Iliopsoas abscess (IPA) is a rare condition with a reported worldwide incidence of 12 new cases per year. There are frequent delays in the diagnosis and successful therapy of IPA due to its relatively uncommon and frequently non-specific symptoms [1]. The retroperitoneal collection of pus within the compartment involving the Iliopsoas muscle is called an Iliopsoas Abscess (IPA). It was initially named as Psoitis by Mynter in 1881. IPA occurs because of two mechanisms which could be, either due to the high vascular supply to the muscles, it can be brought through the contiguous spread from diseased organs or by hematogenous dissemination from sites of occult infection. Mynter first documented the classic triad of pain, fever, and limp in 1881; however, it is unusual and infrequently observed nowadays [2]. Iliopsoas abscess formation has been linked to tuberculosis in numerous studies, however it is not that common nowadays, thanks to advances in antibiotic therapy and public hygiene. However, the prevalence of deep abscesses, especially Iliopsoas abscesses, has increased in recent times due to the increased diagnostic techniques like computed tomography (CT) and other diagnostic imaging techniques [3].

## Case Presentation:

A 52-year-old gentleman was presented in the Tertiary care hospital, Hyderabad, Telangana-India with chief complaints of back pain which is radiating towards right thigh and leg, swelling of right thigh, oliguria and loss of appetite for one week. He was previously a smoker and alcoholic; he stopped alcohol consumption 5 years ago. He had Type-2 Diabetes Mellitus for the past 2 years and he is also suffering with Extrapulmonary Tuberculosis for which he started antitubercular medications from the past 15 days (about 2 weeks).

On general examination he was found to be conscious, coherent, febrile, right thigh swelling was found and swelling of dorsum of hands is seen, blood pressure was 140/80 mmHg and pulse rate was 100 beats per minute. Initial diagnosis was made based on signs and symptoms along with general examination and was diagnosed as Iliopsoas abscess Koch's Etiology (Tuberculosis).

The complete blood picture shows Leukocytosis of WBC with an elevated White Blood Cells count of  $21.92 \times 10^3/\text{UL}$  and the Red Blood Cells count was  $2.63 \times 10^6/\text{UL}$ , Hemoglobin level was 6.8g/dl. The blood group type was O-Positive. General Random Blood Sugar (GRBS) was found to be 102mg/dl, Hemoglobin A<sub>1c</sub> (HbA<sub>1c</sub>) was 11.4%. The Serum Creatinine levels were elevated and found to be 3.09mg/dl.

MRI of both Hip joints and Lumbosacral Spine revealed ill-defined large, altered single intensely multiloculated pocket of infiltrative collection with multiple internal septation and debris along with diffuse surrounding edema is noted, involving the entire right Iliopsoas and medial compartment of proximal thigh muscle. The largest pocket of collection measures-1cm\* 7cm. It causes displacement of the right external iliac muscles, anteromedially closely abutting right proximal Ureter and Inferior Vena Cava, posteriorly the collection is infiltrating post abdominal wall muscle and extending up to subfascial planes at level of L<sub>3</sub> vertebrae, moderate intramuscular edema of lower abdomen and right proximal thigh noted.

Ultrasonography of abdomen and pelvis shows that the right Psoas appears bulky, and the right Iliacus appears bulky, heterogenous. Spleen is enlarged, right kidney shows gross hydronephrosis with thinning of cortex with cortical thickness- 4mm. C-Reactive Protein levels were elevated and found to be 42.99 mg/L. Complete Urine Examination shows presence of protein, sugars and plenty of pus cells, RBCs were found to be 8-10cells/HPF. The Erythrocyte sedimentation rate of 1<sup>st</sup> one hour was found to be 95mm/hr and 2<sup>nd</sup> hour was found to be 110mm/hr.

Based on all the above parameters the diagnosis has been made as Iliopsoas Abscess- Koch's Etiology (Extrapulmonary Tuberculosis) with cystitis of right gross Hydro-ureteronephrosis.

Cysto Cath placement was done and 200ml of purulent was drained. As he was anemic 2 units of blood was transfused, followed by which he was prescribed with T. Ultracet (37.5mg Tramadol hydrochloride / 325mg Paracetamol) for pain relief, as he is suffering with Extrapulmonary Tuberculosis, Direct Observed Therapy (DOT) has been prescribed along with antibiotics like T. Doxycycline 100mg BD, Inj. Meropenem 500mg IV TID, Inj. Metrogyl (Metronidazole) 500mg IV TID, Inj. Monocef (Ceftriaxone) 1g IV BD, as he was prescribed with Isoniazid in order to prevent Pyridoxine (Vitamin-B<sub>6</sub>) deficiency, T. Benadon (Pyridoxine) 40mg OD, T. B-complex OD have been prescribed to restore Vitamin-B<sub>6</sub> levels in the body, Inj. Human Actropid Insulin is prescribed as he has Type-2 Diabetes Mellitus, T. Iron Folic Acid 335mg BD, T. Vitamin-C 500mg BD has been prescribed to treat Anemia, T. Multivitamin + Zinc OD is given to boost immunity.

## Discussion:

The accumulation of pus within the Iliopsoas muscle compartment is called Iliopsoas abscess. The main etiologic factor in this case was found to be Extrapulmonary Tuberculosis. The pathophysiology involving abscess formation includes two mechanisms, which could either be high vascular supply to the muscles, it can be brought through the contiguous spread from diseased organs or by hematogenous dissemination from sites of occult infection. It has been demonstrated that drainage and adequate antibiotic therapy are successful, Iliopsoas abscess can also develop because of main illnesses like Crohn's disease, appendicitis, intra-abdominal infection, and cancer, so it is important to treat the underlying problem first. Additionally, it is more likely that mixed organisms may proliferate in a secondary abscess culture. The abscess would generally be about 6 cm in size. If the mass is greater than 3.5 cm, percutaneous draining is necessary <sup>[4]</sup>. Here, we found that 15% of tuberculosis cases are extrapulmonary, and the person has extrapulmonary tuberculosis, which is a major contributing factor to the development of iliopsoas abscess <sup>[5]</sup>. The CT scan is an effective imaging technique for diagnosing Iliopsoas abscess, even in the absence of classic clinical signs <sup>[6]</sup>., for earlier diagnosis to prevent further damage. However, in this case it was not performed, and the diagnosis was made based on USG of the abdomen and pelvis as well as MRIs of the hip joints and lumbosacral spine. Percutaneous drainage was done, and pus was removed through percutaneous drainage <sup>[7]</sup>. To prevent the onset of peripheral neuropathy caused by a vitamin B<sub>6</sub> (pyridoxine) deficiency, vitamin B<sub>6</sub> supplementation was administered while he was receiving isoniazid-containing "DOTS" therapy <sup>[8]</sup>.

## Conclusion:

Extrapulmonary tuberculosis was found to be the etiologic factor of Iliopsoas abscess in this case. It was diagnosed based on Magnetic Resonance Imaging and Ultrasonography of abdomen and pelvis. The abscess was drained by percutaneous drainage, and he was treated with antibiotic therapy to promote recovery and prevent the relapse. Early diagnosis could prevent further spread of infection.

## Abbreviations:

MRI- Magnetic Resonance Imaging, IPA- Iliopsoas Abscess, DOT- Direct Observed Therapy, CT scan- Computed Tomography, USG- Ultrasonography, RBC- Red Blood Cells, WBC- White Blood Cells, BD- Bis in die, OD- Once in a day, TID- Ter in die.

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