

# A Rare Case of Iliopsoas Abscess in a Term Neonate – Case Report and Brief Review of Literature

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## Research Article

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## **Abstract**

Iliopsoas abscesses are rare in neonates. Clinical presentation of neonates with iliopsoas abscess often mimic other common neonatal illness. Typical clinical features as described in adults may not be observed in neonates. Such abscesses cause a diagnostic dilemma for the clinician, often resulting in a delay in clinical diagnosis and institution of specific treatment. We report a case of a 10-day old term male neonate from community who presented with high grade fever, abdominal distension, left lower limb swelling with limitation of movement and diagnosed to have left sided iliopsoas abscess on ultrasonography.

The neonate undergone and extraperitoneal surgical drainage of the abscess along with a course systemic antimicrobial agent. The case is of clinical importance because it describes the presence of a localized abscess in an uncommon location and Methicillin resistant staphylococcus being the causative organism, which represents a rare and potentially life-threatening infection in neonates.

## **Introduction**

Iliopsoas abscess is a rare occurrence in neonates [1, 2]. The etiology is usually considered to be idiopathic and few pathogenetic mechanisms have been postulated. [1, 2]. These abscesses are associated with higher incidence of morbidity and mortality unless diagnosed and treated early in the course. Such abscesses are common in older children and adults and fewer than 30 cases have been reported during neonatal period in literature. We report a rare case of iliopsoas abscess caused by methicillin resistant staphylococcus aureus in a term neonate.

## **Case Report**

A male neonate presented on day 10 of life with high grade fever, refusal to feed and abdominal distension for 2 days. The neonate was born by uncomplicated vaginal delivery at 40 completed weeks and was predominantly on breast feeding and occasional formula feeds through feeding bottle. On physical examination at admission, the neonate was febrile with temperature of 38.7°C, having tachycardia (Heart rate 170 per minute), abdominal distension with tenderness over left iliac region, scrotal edema and left lower limb swelling (Fig. 1). There was limitation of movement in left lower limb. The neonate was managed at a local hospital for 2 days and received intravenous antibiotics prior to hospitalization. After admission, intravenous fluids along with antibiotics started (Piperacillin tazobactam, Amikacin) started after obtaining sample for blood culture. Initial laboratory evaluation revealed a normal hemoglobin (Hb 14.6 g/dl), neutrophilic leukocytosis (Total leucocyte count  $28.7 \times 10^9/l$ , 82% neutrophils), normal platelet count ( $164 \times 10^9/l$ ) and raised C reactive protein (32.4 mg/l). Abdominal radiograph suggested nonspecific dilation of bowel. Ultrasonography of abdomen and pelvis was suggestive of a large retroperitoneal abscess of size  $4.5 \text{ cm} \times 3.8 \text{ cm}$  in left iliac fossa surrounding left common and external iliac veins involving left iliopsoas muscle (Fig. 2). Open extraperitoneal drainage was done through an oblique loin incision and pus was sent for culture and sensitivity (Fig. 3).

Growth of *Staphylococcus aureus* (Methicillin resistant) was reported from pus culture specimen after 48 hours of incubation, subsequently antibiotics changed to Vancomycin based on the sensitivity report. The neonate gradually improved and afebrile in next 48 hours. Intravenous antibiotics was administered for 14 days. Ultrasonography prior to discharge revealed resolution of retroperitoneal abscess.

## Discussion

Iliopsoas abscesses can be primary or secondary, Primary abscess being more common in neonates and infants [2, 3]. It can also occur secondary to extension of infection from an adjacent organ. The affected neonates are often sick at admission. In most cases the pathology remains unilateral, but bilateral involvement has also been reported [4]. Limb swelling, pain, limitation of movement along with discoloration of the affected limb are the common presenting features. Abdominal mass as a presenting features has also been reported [3, 5, 6]. The clinical pictures often mimic the presentation of septic arthritis, which often remains as an important differential diagnosis [5, 6]. Sometimes, iliopsoas abscess can occur secondary to spread from underlying septic arthritis of hip [7].

*Staphylococcus aureus* is the most common infectious agent reported accounting for more than 80% of the reported cases in neonates [1, 2, 3, 9]. *Klebsiella* and *streptococcus pneumoniae* are the other pathogens being isolated from cases of iliopsoas abscess in neonates [7, 10]. In the present case, the causative organism was methicillin resistant *staphylococcus aureus*. Iliopsoas abscess caused by methicillin resistant *staphylococcus* (MRSA) is extremely rare and potentially life threatening. Only few cases of iliopsoas abscess caused by MRSA in neonates have been reported in available literature [11, 12]. Leucocytosis along with neutrophilia is a consistent laboratory abnormality reported from previous reports [1, 2, 9]. Ultrasonography is a simple bedside investigation for localisation of abscess and remains the investigation of choice. CT scan or MRI helps in better delineation of anatomy and extent of the lesion and helps in planning drainage [13].

Though Ultrasound guided percutaneous drainage followed by a course of appropriate antibiotic is effective [14], lack of availability of appropriate size of catheter, expertise in percutaneous procedure in neonate, and other technical difficulty often precludes percutaneous drainage in neonates, as in the present case.

It is often difficult to identify the source of infection in majority of cases. Few cases of iliopsoas abscess have been described to be secondary to superficial infections [2, 8]. Infection related to Central venous catheters, secondary infection of iliopsoas hematoma has been reported [1, 7, 15]. Hematogenous spread from a distant focus or septicemia also remains a possibility. Underlying immunodeficiency increases the probability of such infections, as cases secondary to leucocyte adhesion deficiency are being reported [16]. In the present case, a definite source of infection could not be identified. The presence of retroperitoneal abscess on the same limb with peripheral intravenous canula could raise the possibility of peripheral intravenous canula being the probable portal of entry of organism but exact causal relationship is difficult to establish in the present case.

# Conclusion

Iliopsoas abscess caused by Methicillin resistant staphylococcus is not common in neonates and often represents a diagnostic difficulty. Open surgical drainage may allow early resolution in such cases particularly in settings where access to percutaneous drainage is limited.

## Declarations

**Funding:** No funding

**Ethics Approval:** Not applicable.

**Consent to Participate:**

Written informed consent to participate in this case report was obtained from the patient attendants.

**Consent for Publication**

Written informed consent for publication of this case report was obtained from the patient attendants.

**Conflict of Interest**

The authors declare no potential conflicts of interests

**Availability of data and material:** Not applicable

**Code availability:** Not applicable

**Authors Contribution:**

Dr Sai Praveen Peddu collected the data and involved in case management. Dr Debasish Nanda drafted the initial manuscript and involved in case management. Dr Antaryami Pradhan was the chief surgeon for the case and contributed in proof reading the manuscript.. Dr TV Ramkumar contributed in compiling and critical revision of the manuscript. All authors have approved the final manuscript.

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## Figures



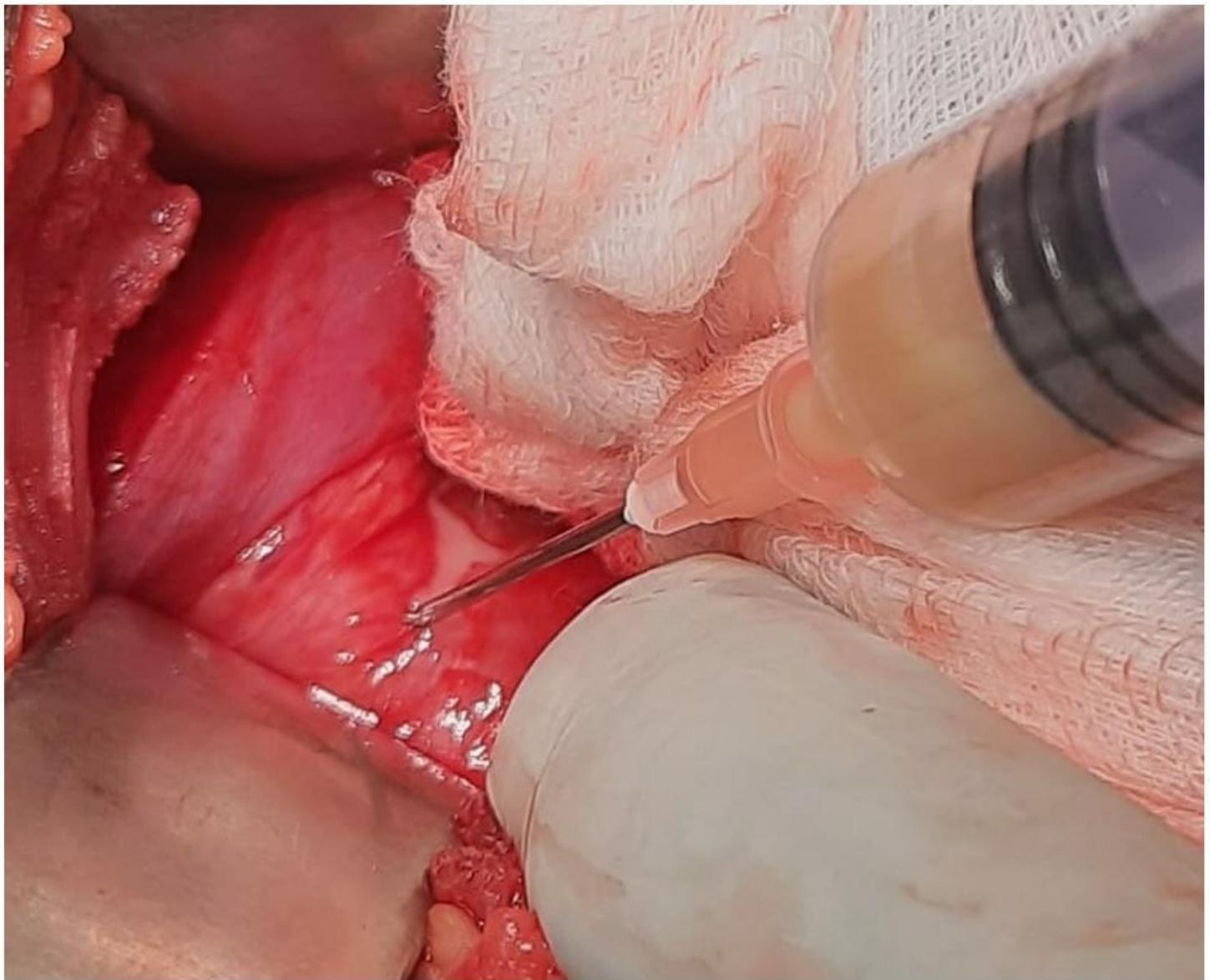
**Figure 1**

Picture showing swelling and discoloration of left lower limb



**Figure 2**

Ultrasonography showing a hypoechoic lesion in the left iliopsoas muscle (arrow head)



**Figure 3**

Intraoperative Picture showing surgical drainage of the abscess

## Supplementary Files

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