

# Omental Lymphatic Cyst Torsion Mimicking Urinary Retention: Case Report

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## ABSTRACT

Omental lymphatic cysts are rare, benign intra-abdominal lesions in children that often pose diagnostic challenges due to nonspecific clinical features. We present a four-year-old male who manifested with lower abdominal pain, dysuria, and acute urinary retention, initially suspected to be due to a urinary tract infection. Radiological evaluation revealed a large suprapubic cystic lesion displacing the bladder. Exploratory laparotomy identified a torsed omental lymphatic cyst. Complete surgical excision led to full recovery. This case highlights the diagnostic dilemmas and surgical challenges associated with omental cysts in children, especially when presenting with atypical genitourinary symptoms.

**Keywords:** Bladder, Dysuria, Exploratory laparotomy, Genitourinary symptoms, Intra-abdominal cyst

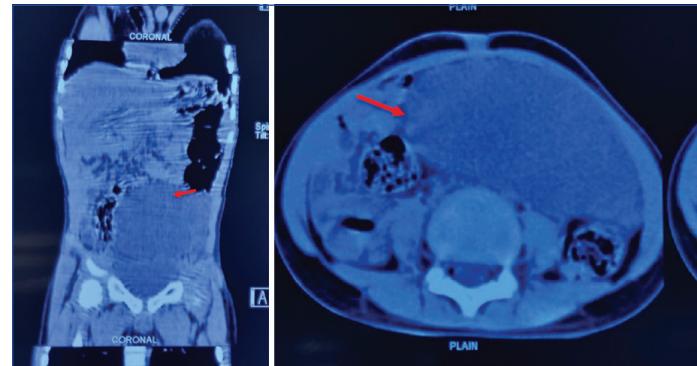
## CASE REPORT

A four-year-old male presented to the emergency department with complaints of dysuria, progressive suprapubic pain, and inability to pass urine for the last eight hours. Parents reported that the abdominal pain began earlier in the day and had gradually worsened, becoming localised to the lower abdomen. There was no history of fever, trauma, haematuria, or previous similar episodes. The child was born at term via normal vaginal delivery with an unremarkable antenatal and perinatal history. He had normal developmental milestones.

On examination, the child appeared irritable and in discomfort. Vital signs were within normal limits. Abdominal examination revealed guarding and tenderness in the suprapubic region with a vague, firm, midline mass palpable from the symphysis pubis to the umbilicus [Table/Fig-1]. The bladder was distended, and catheterisation yielded approximately 250 mL of clear urine. Initial diagnosis was urinary tract infection with retention or posterior urethral valve due to suprapubic pain, dribbling and palpable bladder. Laboratory results showed normal renal function and mild pyuria without bacteriuria. Ultrasonography of the abdomen revealed a large, anechoic cystic lesion in the suprapubic area, displacing the bladder posteriorly and inferiorly. Further evaluation with Contrast-Enhanced Computed Tomography (CECT) demonstrated a 10x7.6x5 cm cystic lesion with thin walls and multiple internal septations, arising from the anterior abdomen and compressing the urinary bladder [Table/Fig-2].

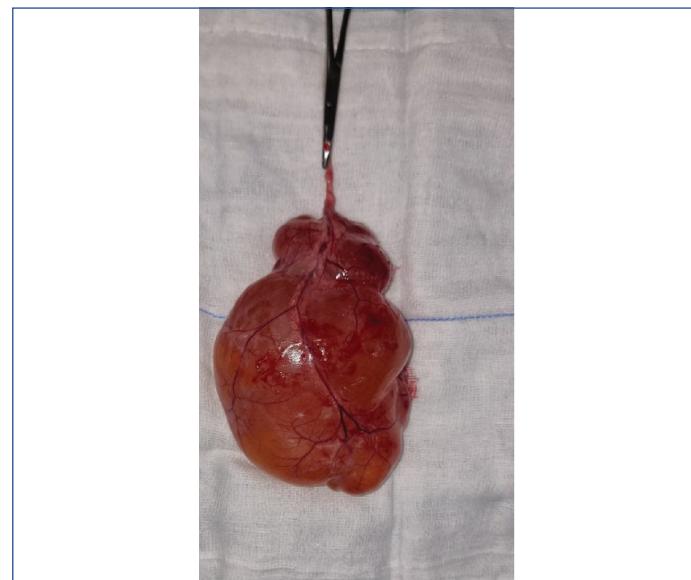


[Table/Fig-1]: Visible mass over lower abdomen.



[Table/Fig-2]: Coronal and axial sections of CT showing a large cyst above the urinary bladder.

An exploratory laparotomy was performed. Intraoperatively, a large thin-walled cyst with multiple septations was noted arising from the greater omentum with a complete twist of its pedicle, leading to congestion and dark discolouration of the cyst wall, suggestive of torsion [Table/Fig-3]. The cyst was carefully dissected without rupturing from adjacent bowel and bladder surfaces, and the pedicle was ligated and excised. No bowel or bladder communication was observed. Postoperative recovery was uneventful.



[Table/Fig-3]: Omental lymphatic cyst with torsion.

Histopathological examination revealed a 10.5×8 cm cyst lined with flattened endothelial cells with proteinaceous fluid surrounding tissue, showing chronic inflammatory infiltrate, findings consistent with omental lymphangioma. The child was discharged on postoperative day five and remained asymptomatic at 2-year follow-up.

## DISCUSSION

Mesenteric and omental cysts are rare intra-abdominal lesions. Overall incidence has been reported as approximately 1 per 140,000 general hospital admissions and about 1 per 20,000 paediatric hospital admissions; however, these figures refer to mesenteric and omental cysts combined. Omental lymphatic cysts represent a less common subset of these lesions, comprising roughly 14-21% of mesenteric/omental cysts in published series [1].

Omental lymphatic cysts are rare lesions in children and are less common than mesenteric cysts. They may originate from congenital lymphatic malformations, post-traumatic degeneration, or lymph angiomatic processes. Diagnosis can be challenging because symptoms overlap with more common paediatric abdominal or urological conditions [2]. Making a preoperative diagnosis is difficult because imaging findings vary widely, and the clinical spectrum ranges from asymptomatic to other differentials of acute abdomen, including acute appendicitis or a twisted ovarian cyst [2,3].

As the cyst enlarges, complications such as haemorrhage, infection, rupture, or torsion may occur, and in such situations, urgent surgical removal is required. Additional secondary problems can include volvulus, leakage of infected fluid, bowel herniation through an abdominal defect, and intestinal obstruction. Due to their variable and non-specific clinical features, these cysts are often detected incidentally, either on imaging performed for unrelated reasons or during laparotomy undertaken for a complication [4]. Large cysts or those located in the pelvis or suprapubic region, bladder compression may lead to dysuria, urgency, or even acute urinary retention, as in our case [5].

Cheng F et al., described a torted cyst that presented with haemorrhagic shock and anaemia, mimicking sepsis [6]. These examples highlight the diagnostic ambiguity in such cases.

Ultrasound is typically the first imaging modality. However, CT or MR plays a crucial role in the preoperative assessment, helping to

delineate the cyst's size, location, and relationship with adjacent organs [7]. In our case, the cyst's suprapubic location and compressive effect on the bladder mimicked a urological cause of retention, delaying diagnosis.

Complete removal of the cyst remains the preferred therapeutic approach. Although open surgery was traditionally the first-line method, advances in laparoscopy now enable cyst excision without performing a full laparotomy. When anatomically suitable, the laparoscopic approach provides clear benefits, including quicker postoperative recovery and an earlier return to daily activities [5].

In our case, due to cyst torsion and large size, laparotomy was necessary. Macedo GC et al., independently reported successful open excision of large cysts with favourable outcomes. Ensuring complete excision and preserving bowel integrity is critical, especially in cases where cysts are adherent to surrounding organs [8].

## CONCLUSION(S)

Omental lymphatic cysts with torsion are rare but important differentials in paediatric patients presenting with acute urinary retention or lower abdominal pain. Early diagnosis and complete surgical excision ensure excellent outcomes.

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