

# Retroperitoneal cyst presenting with right iliac fossa pain mimicking acute appendicitis

Ram DUVURU <sup>1</sup>, Vilvopathy Senguttuvan KARTHIKEYAN <sup>2</sup>, Sarath Chandra SISTLA <sup>1</sup>, Sheik Manwar ALI <sup>1</sup>, Nagarajan RAJKUMAR <sup>1</sup>, Sugi Subramaniam RV <sup>1</sup>

<sup>1</sup> Department of Surgery, and <sup>2</sup> Department of Urology, Jawaharlal Institute of Post-graduate Medical Education and Research, Puducherry, India

## ABSTRACT

Acute right lower quadrant (RLQ) abdominal pain is a common surgical emergency. Appendicular abscess is often suspected in the presence of free fluid with moving internal echoes in the RLQ on imaging and aspiration of pus from the RLQ. We report the case of patient laparotomy for suspected appendicular abscess revealed a normal appendix, and a retroperitoneal cyst extending from the root of the mesentery to the sacral promontory was found. Retroperitoneal cysts are largely asymptomatic and have no specific symptoms and signs. This case is being reported to highlight that retroperitoneal cyst should be considered as one of the differential diagnoses for RLQ abdominal pain and a laparotomy would aid in the final diagnosis

**Keywords:** Abdominal pain, appendicitis, retroperitoneal cyst, computed tomography

## INTRODUCTION

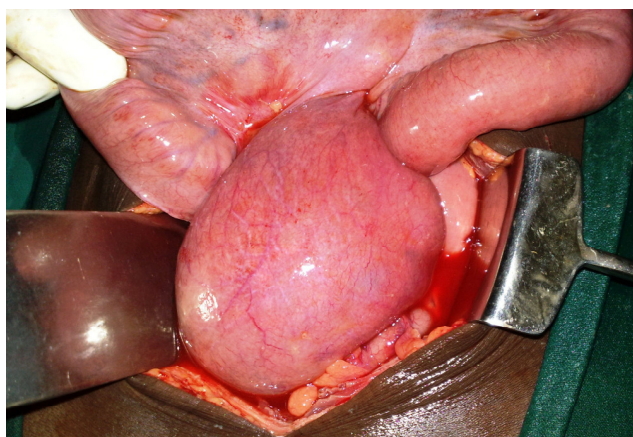
Acute appendicitis is a common surgical emergency and a frequent cause for right lower iliac fossa (RIF) abdominal pain. Retroperitoneal cysts (RPC) are usually asymptomatic and a high index of clinical suspicion is required to rule out appendicitis, as only in 25% cases a specific preoperative diagnosis is possible. A negative appendectomy along with the presence of a retroperitoneal mass should raise the suspicion of RPC and the best management would be to plan for a de-

finite treatment after contrast enhanced computed tomogram of the abdomen. Here we report a case of RPC mimicking appendicular abscess and review the literature on diagnosis and management of RPC.

## CASE REPORT

A 23-year-old South Asian Indian male presented with complaints of acute onset severe right lower abdomen pain and high grade fever for one day. On clinical examination he had tachycardia and a distended abdomen with diffuse tenderness, guarding and rigidity. On ultrasound scan, a midline fluid collection measuring 10 × 9 × 8.6 cm with moving in-

**Correspondence author:** VS KARTHIKEYAN,  
35, Second Cross, Thirumal Nagar,  
Puducherry 605013, India.  
Tel: 04132240475 / 7373942888.  
E mail: sengkarthik@yahoo.co.in;



**Fig. 1: Intraoperative image showing retroperitoneal cyst attached to root of the mesentery.**

ternal echoes was noted that extend from the umbilicus to the pubic symphysis. Aspiration of the cyst yielded frank purulent material. All the blood investigations were within normal limits. With a clinical suspicion of acute appendicitis complicated by appendicular abscess, a laparotomy was done. Intraoperatively the appendix was normal and no free abdominal fluid was observed. Instead, a cystic lesion measuring 12 × 8 cm attached from the root of the mesentery to the sacral promontory was seen (Figure 1). Without progressing further, it was decided to evaluate the cyst further imaging. A contrast enhanced computed tomography (CT) scan of the abdomen. The scan revealed a smooth walled cystic lesion that measured 8.5 × 7 × 11.5 cm sized located in the midline below the umbilicus, abutting the urinary bladder. The diagnosis was consistent with RPC (Figure 2). The cyst was excised completely and he had an uneventful recovery. The patient remained well without any evidence of recurrence after three years of follow up.

## DISCUSSION

The entity 'mesenteric cyst' was first described by Benevieni in 1507. <sup>1</sup> RPC are rare

cysts found in the retroperitoneal space with an estimated incidence of 1 in 5,750 to 25,000 patients. <sup>2</sup> They usually assume large sizes before becoming symptomatic. <sup>2</sup> RPCs are commonly detected incidentally. <sup>2, 4-7</sup> Our patient had a mesocolic cyst, presenting with clinical features consistent with appendicular perforation with abscess. In cases of suspected appendicitis with complications, treatment may proceed with any prior imaging.

Based on the origin and histological differentiation, RPCs are classified into urogenital, mesocolic, lymphatic dermoid, traumatic and parasitic cysts. <sup>3, 4</sup> The term RPC encompasses cysts lying in the retroperitoneum which are not in communication with any adult anatomical structure, other than by areolar tissue. <sup>4</sup>

Mesocolic cysts are found only in the area between the ascending and descending colon and below the transverse mesocolon, anterior to the spermatic or ovarian vessels, and are composed of a fibrous wall lined by a delicate flattened epithelium. <sup>4</sup> No specific signs or symptoms have been attributed to

mesocolic RPCs and in one third of patients, the cyst is diagnosed incidentally.<sup>4</sup> A correct preoperative diagnosis has been possible only in 25% of the cases and it needs a high index of clinical suspicion.<sup>1</sup> The common mode of presentation of RPCs is abdominal mass or pain abdomen, and the other modes of presentation include radiating pain to the lower limbs, lower limb edema, loss of weight and back pain. RPCs can undergo a malignant change in a minority of patients. RPCs are best diagnosed with CT scan as it provides discrete imaging of the retroperitoneal compartment and the retroperitoneal organs. A significant drawback of CT scan is its inability to distinguish between the various types of RPCs.<sup>5</sup>

The various treatment options for RPCs include excision, enucleation, marsupialization and drainage. Though excision is the best treatment as it is associated with the least chances of recurrence, it is technically very difficult owing to its close proximity to major blood vessels and other organs.<sup>1</sup> Bowel resection is necessary if in close proximity. Marsupialisation and drainage can be employed if surgical enucleation is difficult, require multiple operations<sup>1</sup> or when the cyst is infected; however these are associated with an increased incidence of recurrence.<sup>4</sup> Recurrence is common in incomplete excision of the cyst because they lack well defined borders.<sup>4-7</sup> Laparoscopic approach of mesenteric cysts aids in the diagnosis and management and is more superior to open method in terms of less post operative morbidity and early return to daily activities.<sup>8,9</sup>

In conclusion, a RPC can mimic acute appendicitis with abscess clinically and sonologically and hence a retroperitoneal cyst must be kept in mind if the appendix is normal intraoperatively. An abdominal contrast enhanced CT scan is the best diagnostic modality for definitive diagnosis and elective surgical excision is the treatment of choice to avoid recurrences.

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