

CASE REPORT

A Case Report On Tailgut Cyst "Masquerading As A Presacral Rectal Mass"

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ABSTRACT

Tailgut cyst (TGC) is a rare, congenital presacral cyst that arises from primitive gut remnants. Due to its unique anatomical location and potential for malignant transformation in certain cases, an accurate diagnosis through histopathology, along with timely excision, becomes imperative. Clinical presentation varies, with the majority of cases being asymptomatic and the rest presenting with nonspecific symptoms. Magnetic Resonance Imaging (MRI) and biopsy are the main diagnostic modalities. Here we present a case of a 27-year-old male at SKIMS Soura with complaints of abdominal pain and constipation. CT and MRI were subsequently done, which revealed a cystic mass in the presacral region. Excision of the presacral cyst was done and sent for histopathology in the department of Pathology at SKIMS, Soura. The microscopy revealed a benign cyst wall with epithelial lining, and the underlying subepithelium showed disorganised smooth muscle in the absence of a nerve plexus. Thus, in conclusion, a diagnosis of Tailgut cyst was made.

Key Words: Tailgut cyst, natal cleft, presacral, retrorectal

JMS: 2025; 28(4): 38-41 DOI: <https://doi.org/10.33883/jms.v28i4.1453>

INTRODUCTION

Presacral space lesions often pose a diagnostic challenge for clinicians due to varied embryological origins, deep-seated position in the pelvis, and their overlapping imaging characteristics¹. One such entity, known as a Tailgut cyst, is seen in the presacral space, presumed to arise from the vestigial remnants of the hindgut. It arises due to the incomplete regression of the embryological postanal gut². These cysts are congenital; however, the majority of the presenting patients are of the adult age group. Most of the patients are asymptomatic; they can present with symptoms such as altered bowel habits, abdominal distention, painful defecation, and other non-specific symptoms due to the pressure effect⁴. MRI, as a diagnostic modality, coupled with the histopathological analysis, has paved the way for a quick and timely diagnosis. Tailgut cysts are mostly benign. However, they do carry a risk of malignant transformation, as cases have been reported, such as neuroendocrine tumors

and adenocarcinoma^{3,6,7}. Hence, timely surgical management in the form of excision is the mainstay of treatment⁸. The surgical approach is tailored according to the extent and size of the lesion.

CASE PRESENTATION

A 27-year-old male from the Ganderbal district of Jammu & Kashmir, presented with complaints of abdominal pain along with constipation for 5 days. No history of a documented fever, bleeding per rectum, or vomiting was noted. The vitals were normal. On the per abdomen examination, distension was visible. DRE revealed a decreased Anal tone with recto-anal swelling extending into the natal cleft. A Pus culture was ordered, which came out to be sterile. A preoperative CBC was done, which showed haemoglobin of 13.5 g /dL, TLC of 16.4 x 10⁹/L, platelet

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Website:
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DOI:
<https://doi.org/10.33883/jms.v28i4.1453>

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How to cite this article: Rasool Z, Murtaza H, Ahad F, Saheel S, Syed S, Mushtaq A, Rafique A, Patel V. Case Report On " Tailgut Cyst " Masquerading As A Presacral Rectal Mass" JMS 2025; 28(4) 38-41

Received: 2025-06-15 Accepted: 2025-11-07

count of $236 \times 103/\mu\text{L}$, and a normal coagulation profile. LFT showed bilirubin, ALT, AST, ALP, and proteins within the normal reference range. A CT Abdomen pelvis was done, which revealed a large septate cystic area measuring 21×11 cm in the pelvis, posterior to the rectosigmoid colon, causing anterior displacement and upstream dilatation of large and small bowel (Figure 2). Posteriorly, the lesion reaches up to the coccyx into the subcutaneous plane. MRI scan revealed a well-defined cystic area in the presacral area, extending up to the coccyx. (Figure1)



Fig. 1: Shows a T2-weighted MRI Spine revealing a hyperintense, well-defined, cystic lesion in the presacral region. No sign of any invasion into the adjacent structure was seen.

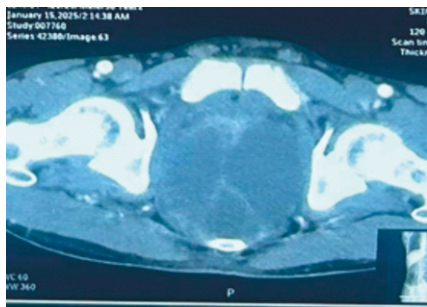


Fig. 2: CECT revealed a midline cystic pelvic floor mass with internal hypodensity and peripherally enhancing walls with a midline partial septa and few internal septations, mainly in the presacral space, displacing rectum anteriorly, measuring $21 \times 11 \times 11$ cm

The patient was planned for a Laparoscopic excision of Presacral cyst. Per operative findings revealed a 20×10 cm cyst filled with clear fluid located behind the recto-sigmoid extending from L3 Vertebra to coccyx with the anterior wall abutting the rectum. Multiple tissue bits were sent for

histopathological examination at the Department of Pathology, SKIMS Soura.

RESULTS

GROSS

Gross examination showed multiple tissue bits ranging in size from 9×3 cm to 2.5×1.5 cm. The wall thickness of the tissue bits ranged from 0.2 cm to 0.6 cm, respectively.

HISTOPATHOLOGY

Histopathological examination revealed a benign cyst lined by pseudostratified ciliated columnar epithelium and focal transitional epithelium. Dense fibrous stroma with disorganized bundles of smooth muscle was also seen in the cyst wall. These features were found to be compatible with those of a Tailgut cyst.

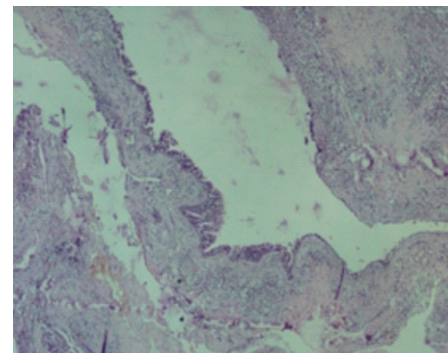


Fig 3: Photomicrograph showing benign cyst wall lined by pseudo-stratified ciliated columnar epithelium with underlying subepithelium showing fibromuscular connective tissue (4x, H&E Stain)

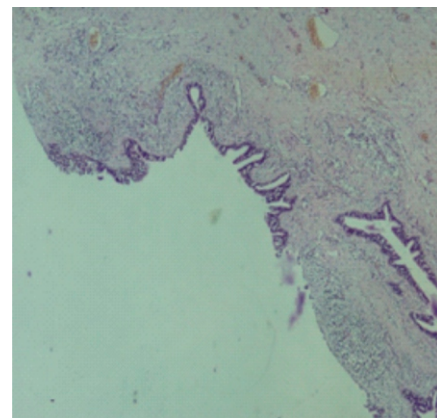


Fig 4: Photomicrograph revealing cyst lined by pseudo-stratified ciliated columnar epithelium along with foci of transitional epithelium (4x, H&E Stain).

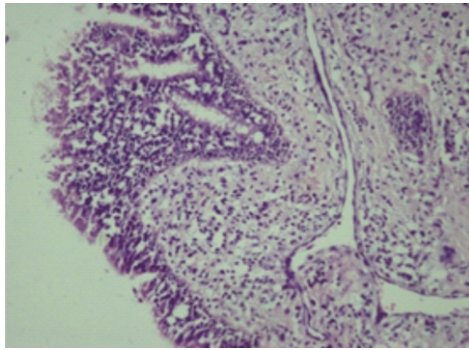


Fig. 5: Photomicrograph revealing Pseudostratified ciliated lining with underlying wall showing fibrous tissue and chronic inflammation. However, no invasion into the stroma or any cellular atypia was seen, depicting its benign nature (4x, H&E Stain).

DISCUSSION

The Presacral space, or retrorectal space, situated between the rectum and sacrum, is an anatomically complex area that can harbour various congenital anomalies, including the tailgut cyst⁹. This space is bounded by the sacrococcygeal bone posteriorly, anteriorly by the posterior wall of the rectum, superiorly by the peritoneal reflection, and inferiorly by the levator ani and coccygeus muscle, respectively. The iliac vessels and nerves, along with the ureters, form the lateral boundaries of this space. Though congenital, the clinical presentation is often seen in adulthood. Incidence of such cases is more in middle-aged women as compared to men, with very few cases being reported in childhood¹⁵. These lesions seem to arise because of incomplete involution, resulting in persistent tailgut remnants². Sakr A et al. reported in their study that the majority of the cases are asymptomatic, with the rest of the patients complaining of abdominal pain, bleeding per rectum, constipation, difficulty in defecation, and urinary retention¹³. Apart from tailgut cysts, a variety of other lesions can be found in the same location, forming close differentials which include the sacrococcygeal teratomas, dermoid cyst, chordomas, etc. However, as a Pathologist it becomes imperative to differentiate a tailgut cyst from a duplication cyst, with the former being multilocular and lacking the neural plexus, whereas the duplication cyst consists of a smooth muscle layer with the presence of neural plexus^{10,11}. Furthermore, the histology of a tailgut cyst reveals either pseudostratified ciliated columnar, cuboidal, squamous, or transitional lining epithelium with an

underlying wall showing fibrous tissue and disorganised bundles of smooth muscle fibers, which are haphazardly arranged and devoid of nerve plexus. As reported by Liang F et. al, most of the tailgut cysts are benign in nature; however, malignant transformation can also be seen in long-standing tailgut cysts, notably adenocarcinoma, neuroendocrine tumours, and squamous cell carcinoma respectively⁶. Considering this, surgical excision forms the mainstay of treatment, which reduces the chances of other complications such as infections or a recurrence as well.⁷. Some of the surgical approaches to a tailgut cyst include laparoscopic, transsacral, intersphincteric or trans anal⁶. Imaging modalities like MRI and CT scans help in timely diagnosis. MRI is a better diagnostic imaging modality compared to a CT scan, as it is more helpful in analysing invasion into surrounding structures. A CT scan helps in identifying areas of invasion and the extent of the lesion and to differentiate between malignant and infective etiology. However, the ultimate diagnosis is made by the histopathological examination of the resected specimen¹². Hence, a multidisciplinary combined approach involving a team of surgeons, pathologists, and radiologists is the need of the hour to tackle such lesions¹⁶.

CONCLUSION

Tailgut cysts, often called retrorectal cystic hamartomas, are seldom encountered, rare lesions in the presacral region, and may be associated with other pathologies in the same region. Their often-subtle nonspecific clinical presentation, along with complex anatomical position, necessitates the use of better and advanced modalities such as MRI and histopathology. Surgery remains the cornerstone of management, and the surgical approach depends on the extent, size, and location of the lesion. Although uncommon, malignant transformation within a preexisting tailgut cyst has been documented, which further emphasizes the need to identify the lesion early for a timely intervention.

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