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Case Report

Tail gut cyst: laparoscopic removal - a case report

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ABSTRACT

A tailgut cyst, also known as a retro rectal cystic hamartoma, is a rare, congenital cyst arising from remnants of the embryonic hindgut. We hereby presented a case report of a 53 years old lady who had undergone hysterectomy in 2010 and laparoscopic tailgut cyst removal in 2023 and came with backache and constipation since 1.5 years. She was thoroughly evaluated for the same and underwent magnetic resonance imaging (MRI) showing a well-defined multiloculated cystic lesion with no involvement of adjacent pelvic organs and sacral nerve roots. She underwent laparoscopic tailgut cystectomy. Postoperatively patient was relieved of her signs and symptoms.

Keywords: Tailgut cyst, Incidental findings, Surgical management, Pain, Surgery

INTRODUCTION

Tailgut cysts (also known as retrorectal cystic hamartomas) are rare congenital lesions believed to arise from remnants of the embryonic tailgut, which normally regresses during fetal development. Incidence about on in 40,000-63000.[1] They are most commonly located in the retrorectal (presacral) space, but may also occur in subcutaneous tissue, and rarely in prerectal or perirenal regions.

On imaging, tailgut cysts typically present as well-defined cystic masses, with variable signal intensities on MRI depending on their internal contents (mucin, proteinaceous material, or hemorrhage). Many patients remain asymptomatic, and the lesion is often discovered incidentally. When symptomatic, patients may present with lower back pain, rectal or pelvic pain, constipation, urinary symptoms, dyspareunia, or symptoms related to mass effect.

Infection is a common complication and may lead to abscess formation, sometimes mimicking other conditions such as a pelvic abscess. Although malignant transformation is rare, it has been reported, particularly in long-standing or untreated cases.[2]

MRI is the preferred imaging modality, as it provides excellent soft-tissue contrast and accurately defines the cyst's location, size, extent, and relationship to adjacent structures. Definitive diagnosis is confirmed by histopathological examination following excision.

Complete surgical excision is the treatment of choice to prevent recurrence, infection, and malignant transformation. Laparoscopic approaches are increasingly used in centers with appropriate expertise. Nonsurgical management may be considered in selected cases, such as small, asymptomatic cysts or patients with high surgical risk.

Potential complications include infection, fistula formation, bleeding, recurrence, and malignant degeneration.[3]

Here we presented a rare case of recurrent tailgut cyst who presented with chronic backache with constipation after laparoscopic tailgut cystectomy 2 years back.

CASE REPORT

A 53 years old lady with previous two full term normal vaginal deliveries with known case of hypertension on medication for 3 years with chief complaints of backache and constipation for 1.5 years. She had undergone hysterectomy 15 years back and laparoscopic tailgut cyst removal back in 2023 which came out to be dermoid cyst on histopathology. On arrival here, a detailed physical examination was done for her. Patient vitally stable, on per abdomen examination it was soft and non-tender. On per speculum examination cervix and vagina appears healthy and per rectal examination came out to be normal. Screening ultrasound was done in the OPD. To confirm the findings and planning the surgical approach MRI pelvis was done T2WT images with and without fat saturation were obtained in all 3 planes. 3-dimensional T1WT images with and without fat saturation were taken. The MRI report had the following findings.

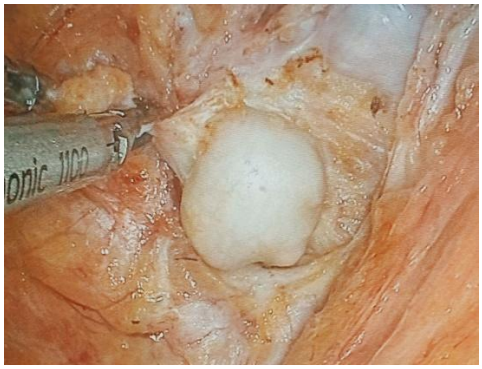

Figure 1: Intra-operative findings.

Figure 2: Post-operative specimen.

Multiloculated cystic lesion in the presacral region at the level of the coccyx, likely representing a developmental cystic lesion was found.

The peripheral enhancement and mild surrounding edema may suggest a low-grade infection or early inflammation; no definite solid enhancing component notes.

There was preserved rectal fat planes with no evidence of invasion into adjacent organs.

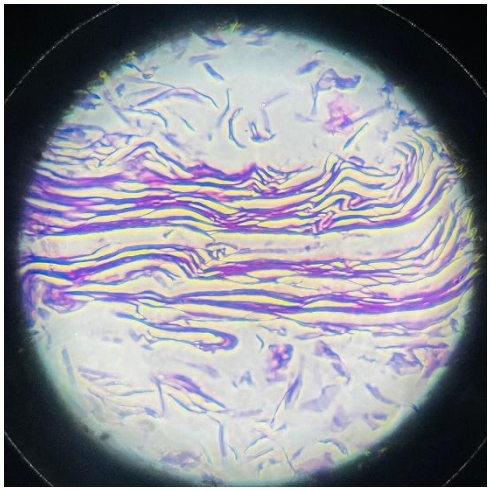

Figure 3: Bony trabeculae and surrounding fibrous tissue with a cyst lined by stratified squamous epithelium with reserved granular layer; lumen shows laminated keratin flakes s/o epidermal cyst infundibular type.

No involvement of sacral nerve roots was found.

The patient was posted for laparoscopic excision of tailgut cyst. 4 port entry was made. Multiple dense omental adhesions were seen, adhesiolysis done. Bilateral ureters dissected and lateralized. Median and lateral pararectal dissection done. Presacral region dissected. Coccyx dissected and exposed.

A cyst of 3×2 cm seen which was completely removed along with osteophytes. Specimen was sent for histopthology.

Postoperative period was uneventful. Patient was discharged on post operative day 2 and was asked to follow up in OPD after a week. Histopathology report shows presence of epidermal cyst- infundibular type.

DISCUSSION

Tailgut cysts are rare developmental lesions that arise from remnants of the embryonic postanal gut. They are most often found incidentally or present with pressure-related symptoms, especially in middle-aged women. Because of their location, they are frequently misdiagnosed as other conditions. Magnetic resonance imaging (MRI) plays an important role in correctly identifying tailgut cysts and distinguishing them from other retrorectal and developmental cystic lesions.[1]

Epidermoid and dermoid cysts are usually single-chambered (unilocular) and lined by stratified squamous epithelium. Dermoid cysts contain skin appendages, while epidermoid cysts do not. Duplication cysts are also unilocular and are lined by epithelium similar to that of the gastrointestinal or respiratory tract. This lining often shows villi, crypts, and glands, resembling normal gut

mucosa. A key distinguishing feature of duplication cysts is a well-developed muscular wall with two muscle layers and an associated nerve plexus.[2]

Piura et al stressed upon complete excision to reduce the possibility of any residual lesion or recurrence of tailgut cyst is recommended for the following reasons: recurrent tailgut cysts may be complicated by chronic infection with possible abscess and fistula formation; fourteen histologically documented cases of malignancy in a tailgut cyst were, until to date, reported, including seven adenocarcinomas, six carcinoids and one neuroendocrine carcinoma.[3]

As found in study by Yang et al tailgut cyst usually has low signal intensity on T1-weighted images and high signal intensity on T2-weighted images. However, it may have high signal intensity on T1-weighted images due to presence of mucinous materials, high protein content, or hemorrhage in the cyst. In addition, a malignant change or fibrous tissue within the cyst may show as irregular wall thickening or a polypoid mass with intermediate signal intensity on both T1- and T2-weighted image.4 MRI is highly accurate in prediction of tailgut cysts and is used as an additional tool to USG and CT scan. MRI helps in knowing the extent of the disease and is useful before planning the surgery. More studies need to be done in this aspect for further affirmation.

All the laparoscopic surgical steps should be standard when dealing with such cases with dissecting and lateralizing bilateral ureters, median and lateral pararectal dissection.

CONCLUSION

Tail gut cyst being a rare condition can be quite challenging to remove laparoscopically. Proper history taking, physical examination and imaging need to be done before the operation. Expertise in pelvic anatomy and complete knowledge of the retroperitoneal spaces helps in management laparoscopically. Surgery remains the mainstay management of such cases.

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