Tailgut Cyst Causing Chronic Colonic Obstruction

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Abstract

Tailgut cysts are rare tumors of the presacral space, the majority of which are asymptomatic when diagnosed. Two males, 38-year-old and 47-year-old, presented with a few years history of progressive constipation and LLQ abdominal pain. In both cases, imaging revealed a large pre sacral cyst, chronically obstructing the rectum, with massive proximal dilatation. Exploration via abdominal approach revealed a large tailgut cyst, with an extremely dilated sigmoid colon. Complete resection of the cyst required segmental colon resection and staged surgery in one case. These cases demonstrate that tailgut cysts, if left untreated, may produce a significant mass effect, and require complex surgery, thus supporting the approach of excision when diagnosed, even if asymptomatic.

KEYWORDS: Tailgut cyst, presacral tumor, colon/obstruction, case report
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Introduction

Pre-sacral cystic tumors are rare lesions, and may be classified as congenital or neoplastic. Tailgut cyst is the most common type of congenital cyst in adults, and had also been termed as "cystic hamartoma", "cystic teratoma", "enterogenous cyst", and "simple cyst". These tumors are generally benign, but malignant transformation had been rarely reported. The rarity of these tumors, and the use of different terms and classifications, led to paucity of data regarding their clinical signs, symptoms and natural course. In one quarter to half of the patients, tailgut cysts may be completely asymptomatic, discovered incidentally and physical examination or imaging done for other reasons. When symptoms are present, they may be of long duration, and may most commonly consist of rectal pain, low back pain, rectal fullness, change in bowel habits, and urinary symptoms. Traditional teaching dictates complete resection of these tumors at the time of diagnosis to prevent recurrences, infections, and malignant transformation. The two cases presented here had large tailgut cysts, with mass effect that nearly completely obstructed rectum, and massive proximal colonic dilatation. To the best of our knowledge, tailgut cyst with such extreme degree of chronic large bowel obstruction was not reported in the past.

Case reports

Case 1. A 38-year-old white male complained of a few years history of progressive constipation and abdominal fullness. Although he did not suffer from abdominal pain, he felt that this gradually interfered with his daily life, and seek medical attention. On physical examination his abdomen appeared distended, and digital rectal
examination revealed a smooth soft mass posterior to the rectal wall, compressing the
rectum. The perineal area appeared unremarkable. CT scan and MRI of the abdomen
showed a large pre sacral cystic mass, with smooth walls and hematogenous content,
without communication to the spine or the rectum. The rectum was completely
compressed by this mass, and the sigmoid colon was massively dilated. The rest of
the colon appeared to be normal in caliber.
On exploration via laparotomy, a massively dilated sigmoid colon, measuring
approximately 15 centimeters in width, was found. This massively dilated sigmoid
colon had to be resected and removed, to allow access to the pelvis. A large cystic
mass, with thick walls, and dense adhesions to the pelvic organs was found. Using
sharp dissection, the cyst was completely dissected free and resected. There was no
communication of the cyst to the spinal cord or to the rectum. The chronically
compressed rectum appeared thickened and non-pliable, and was stapled as a
Hartmann's pouch. The left colon stamp was brought out as an end colostomy. The
pathology report revealed a tailgut cyst, without malignant changes.

Case 2. A 47-years old male suffered from 7 months history of progressive
constipation and left lower quadrant abdominal pain. On physical examination his
abdomen was moderately distended. Rectal examination revealed retrorectal mass
starting at the level of the anal canal, and decreased resting pressure. The perianal area
was unremarkable. CT scan, MRI and TRUS showed a large, well organized presacral
tumor with fluid content (figure 1), with signs of pressure on the rectum, and
significant enlargement of sigmoid colon (Figure 2).
On explorative laparotomy dilated sigmoid colon and upper rectum was found. A
large cystic mass blocking the pelvic inlet and severely compressing the rectum
interfered with mobilization (figure 3), and required controlled aspiration of cystic
content to allow pelvic dissection. Using dissection around the cyst all the way to the pelvic floor with, the tumor was completely excised and removed without injury to the rectum. Postoperative course was uneventful except urinary retention. There were no signs of anal sphincter disturbances. Pathology reports was consistent with tailgut cyst.

Discussion

Tailgut cyst is a rare neoplasm of the retorectal space, which develops from post anal fetal gut remnants, and presents more frequently in middle age women. The nature of this lesion is usually benign, only occasionally showing malignant transformation. However, the rarely reported malignancy arising in tailgut cyst, adds validity to the more aggressive approach. The actual rate of malignancy in tailgut cysts is not well known. Hjermstad and Helwig\(^2\) reported on one case (2\%) of poorly differentiated carcinoma in a series of 53 tailgut cysts registered in the U.S. armed forces pathology department. On the other hand, Prasad et al\(^3\) reported on 2 cases (40\%) of malignancy in a series of 5 tailgut cysts.

Clinical diagnosis of tailgut cyst may be difficult, since these lesions are often asymptomatic for prolonged periods of time. Symptoms resulting from local mass effects or complications may slowly and gradually develop, which may result in less frequent seek for medical attention.

Most of the literature support the complete excision of these tumors at the time of diagnosis, even if asymptomatic, mainly to exclude other potentially malignant
pathologies, which may mimic tailgut cysts\textsuperscript{1,7}. Needle biopsy of cystic pre-sacral lesions is not recommended, owing to the risk of infection, which may be life threatening, especially if an unexpected meningocele is encountered\textsuperscript{9}. Results of such biopsy will likely not change management, as surgical resection is the recommended definitive treatment of these tumors.

The presented cases had demonstrated tailgut cyst nearly completely obstructing to the rectum, causing prolonged significant dilatation of the sigmoid colon proximally. These cases demonstrate that these cysts, if left untreated, may produce a significant mass effect, requiring more complicated surgery and hence further supporting the standard teaching of complete surgical excision even if these cysts are asymptomatic or only minimally symptomatic at diagnosis.

Surgical approach for suspected tailgut cyst depends on location within the pre-sacral space. Lesions confined to the lower part of the pre-sacral space, usually lower than the level of S2, may be accessible through a posterior approach, with or without excision of the coccyx bone. High lesions, occupying most of the pre-sacral space, usually require trans-abdominal approach. Occasionally, large tumors may require combined approach to allow complete resection. Surgery for large pre-sacral tumors may be challenging and demanding even for a trained colorectal surgeon. The two cases presented here represent several technical and decision making challenges. In both cases access to the pelvis was difficult owing to the combination of a large mass occupying most of the pelvis, and markedly distanced sigmoid colon obscuring the pelvic inlet. In the first case, division of the rectum at the junction of the dilated segment and the compressed one was required to
allow access to the pelvis. On the second case, a purse-string suture was applied at the upper part of the cyst, and its thick content was aspirated to allow room for pelvic dissection. In addition to technical needs, there may be a doubt if this chronically massively dilated colon would ever return to normal function after decompression. In the first case, where the rectum has been divided to allow access to the pelvis, the surgeon elected to resect this segment. On the second case the dilated colon resumed normal function after surgery.

In summary, these cases represent an unusual presentation of tailgut cyst, chronically obstructing the large bowel, facing the surgeons with surgical dilemmas and technically demanding surgery. This case adds validity to the approach of resection of these tumors when diagnosed.
Reference


Legends to the figures:

Figure 1: MRI showing the cyst and the proximal colon dilatation

Figure 2: CT showing the marked distention of the sigmoid colon

Figure 3: Intraoperative pictures of the (a) dilated colon and (b) the large cyst blocking access to the pelvis.
Figure 1:
Figure 2:
Figure 3

A.
B.