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A Tailgut Cyst Diagnosed by Endoscopic Ultrasound-Guided Fine-Needle Aspiration

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Abstract

Tailgut cysts are rare developmental cysts. Surgery has been the primary method of diagnosis and treatment of these cysts, but endoscopic ultrasound (EUS) has recently been used to establish diagnosis. Only 2 cases of tailgut cyst diagnosed by EUS-guided FNA have been reported. We present a woman in her fourth decade who presented for evaluation of perirectal mass. EUS-guided fine-needle aspiration (FNA) helped establish the diagnosis of tailgut cyst. The patient opted for observation rather than surgery.

Introduction

Retrorectal tumors are rare developmental lesions that include tailgut cysts, dermoid and epidermoid cysts, teratomas, rectal duplication cysts, and neuroenteric cysts.¹⁻⁴ Tailgut cysts are hypothesized to arise from the embryonic post anal gut. During development, the human embryo has a tail at the gestational age of 28 to 35 days. The hindgut extends into the tail, which regresses by the eighth week. However, incomplete regression leads to formation of a tailgut cyst.¹⁻³ These cysts are traditionally diagnosed after surgical resection, although endoscopic ultrasound (EUS) has been recently used for diagnosis.^{2,5,6}

Case Report

A woman in her fourth decade with lower abdominal pain was referred for evaluation of a perirectal mass noted upon digital rectal examination. She had an unremarkable colonoscopy. Abdominal CT revealed a multiloculated cystic mass anterior to the lower sacrum to the right of midline and posterolateral to the rectum (Figure 1). EUS showed a well-delineated hypoechoic mass with a few cystic spaces measuring 3.7 x 3.4 cm in the retrorectal space anterior to the sacrum, 15 cm from the anal verge (Figure 2). Fine-needle aspiration (FNA) of the lesion revealed anucleate squamous cells with keratin debris and scattered multinucleated histiocytes consistent with tailgut cyst (Figure 3). A diagnosis of tailgut cyst was established considering the pre-sacral location, squamous cells on histology, and multilocular nature of the cyst. The patient opted for observation rather than surgery and is doing well at 1-year follow up.

Discussion

Retrorectal lesions are rare, with a cited incidence of 1 in 40,000 hospital admissions.¹ The retrorectal region is a space surrounded by the rectum anteriorly, the sacrum and coccyx posteriorly, the peritoneal reflection superiorly, the levator ani and the coccygeus muscles inferiorly, and the iliac vessels and ureters laterally.^{1,2} Tailgut cysts are mostly located in the retrorectal space, but have been noted in the perirenal space, the perianal skin, and preredally.

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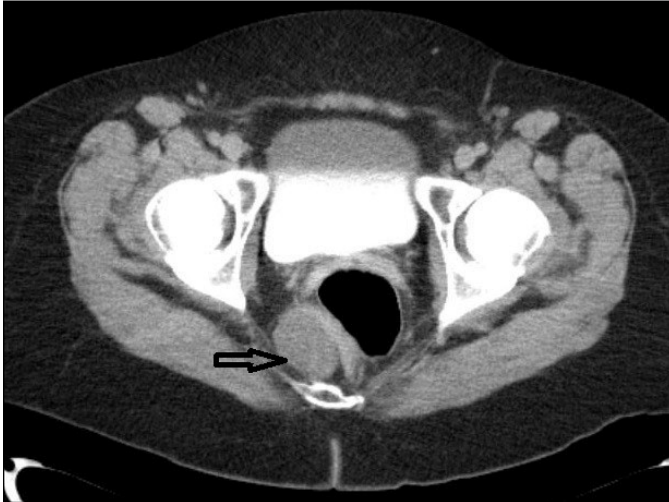


Figure 1. Axial abdominal CT showing the tailgut cyst.

Tailgut cysts occur predominantly in middle-aged women and have a female-to-male ratio of approximately 3:1. No familial association has been detected.² Tailgut cysts are usually found incidentally during physical exam. Symptoms of mass effect or pain are present in 50% of patients, and include rectal fullness, bleeding and pain on defecation, constipation, lower abdominal and back pain, and symptoms associated with genitourinary obstruction.³

Differential diagnosis includes epidermoid cyst, dermoid cyst, rectal duplication cyst, neuroenteric cysts, and teratomas.¹ Distinguishing features of tailgut cysts are precoccygeal location, unlike teratomas, which are post coccygeal. Tailgut cysts are multilocular while others are unilocular. Epidermal cysts are lined by squamous epithelium only,

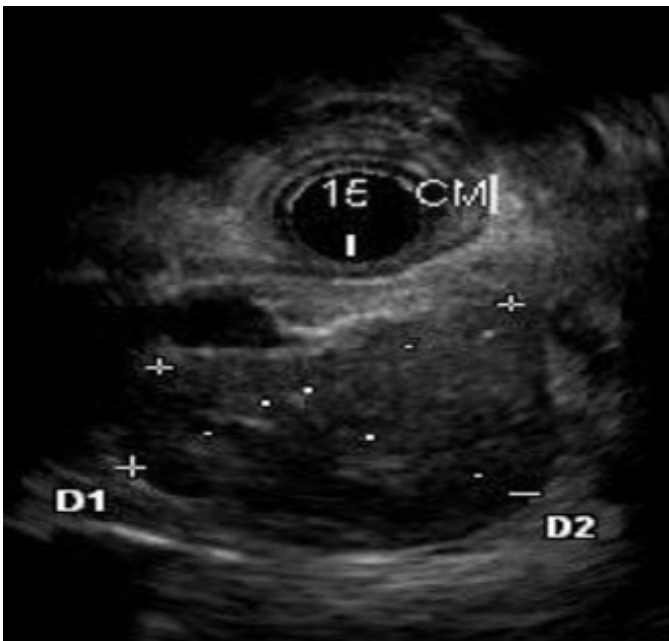


Figure 2. EUS showing the tailgut cyst.

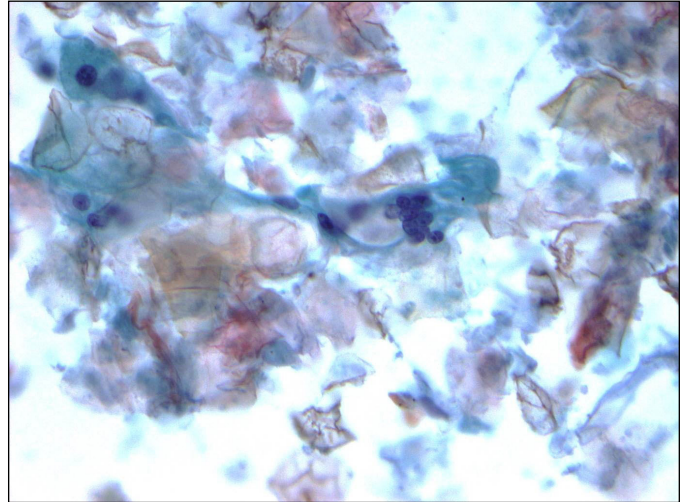


Figure 3. FNA histology of glandular and squamous cells from the tailgut cyst.

whereas the tailgut cyst wall can be lined by a variety of epithelia: stratified squamous, columnar, cuboidal, ciliated, mucinous, gastric, and transitional.³ Teratomas and dermoid cysts differ from tailgut cysts by the presence of components from the 3 germ layers. Rectal duplication cysts can be distinguished from tailgut cysts by the presence of a well-developed smooth muscle layer.⁴ Neuroenteric cysts are identifiable by well-defined lamina propria and mucosa of endodermal origin (e.g., intestinal, bladder).³

Malignant transformation is rare. The majority are adenocarcinoma or carcinoids.¹ Malignancy is more common in the pediatric population than in adults. Solid lesions are more likely to be malignant than cystic lesions.¹

Surgical resection has been the traditional method of diagnosis and treatment of tailgut cysts. EUS-guided FNA has recently been used to diagnose tailgut cyst in 2 reported cases, and has provided a reliable diagnosis. EUS has been found to be a safe technique in this context, with only rare cases of infection occurring in patients.⁵ EUS-guided FNA, a minimally invasive technique, could be used as an alternative to surgery to diagnose tailgut cysts. Further studies are needed to help establish safety and efficacy of this promising method.

Disclosures

Author contributions: H. Rathinamanickam reviewed the literature, wrote the manuscript, and is the article guarantor. S. Pawa reviewed the manuscript.

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Informed consent could not be obtained because the patient was not reachable and no contact information is available for the next of kin. All identifying patient information has been removed.

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