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Surgical Excision of A Giant Presacral Epidermoid Cyst: A Case Report and Review of the Posterior Surgical Strategy

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ABSTRACT: Retrorectal tumors are rare lesions arising in the potential space between the rectum and the sacrum. Their nonspecific clinical presentation frequently leads to misdiagnosis and inappropriate surgical management. Epidermoid cysts represent a significant subset of congenital retrorectal lesions, typically occurring in middle-aged women.
We report the case of a 32-year-old male presenting with a two-year history of a slowly progressive, painless gluteal mass. Physical examination revealed a fluctuating mass in the sacrococcygeal region. Magnetic Resonance Imaging (MRI) demonstrated an unilocular cystic lesion in the retrorectal space below the S3 vertebral level. The patient underwent complete *en bloc* excision via a posterior (Kraske) approach. Histopathological analysis confirmed a benign epidermoid cyst. The postoperative course was uneventful, with no evidence of recurrence during follow-up.
This case highlights the diagnostic importance of pelvic MRI in evaluating indeterminate perianal masses. Preoperative biopsy is contraindicated for cystic lesions due to the risk of infection. The posterior approach provides excellent exposure for low-lying tumors, allowing for complete resection while preserving pelvic floor function. A high index of suspicion is essential to avoid confusion with common anorectal conditions such as pilonidal disease.

KEYWORDS: Retrorectal tumor, Presacral cyst, Epidermoid cyst, Kraske procedure, Sacrococcygeal region

INTRODUCTION

Tumors of the retrorectal (presacral) space represent a rare and heterogeneous group of pathologies, occurring in approximately 1 in 40,000 hospital admissions (1). This anatomically complex region is bounded anteriorly by the rectum, posteriorly by the sacrum, superiorly by the peritoneal reflection, and inferiorly by the pelvic floor musculature. The embryological diversity of this space—containing elements of the neuroectoderm, notochord, and hindgut—gives rise to a wide spectrum of lesions, ranging from benign congenital cysts to aggressive malignancies like chordomas and sarcomas (2). Among these, congenital developmental cysts comprise the majority (60%), with epidermoid cysts being a distinct subclass characterized by a lining of stratified squamous epithelium without skin appendages (3).
The clinical management of retrorectal tumors poses a significant challenge due to their nonspecific presentation and difficult anatomical access. Misdiagnosis is common, with many patients undergoing inappropriate procedures for presumed pilonidal disease or anal fistulas before the true nature of the lesion is identified (4). Surgical excision is the cornerstone of treatment to prevent infection, mechanical compression, and malignant degeneration. However, the choice of surgical approach—anterior, posterior, or combined—remains a subject of debate, contingent upon the tumor's size and its relationship to the S3 vertebra (5). We present the case of a 32-year-old male with a large retrorectal epidermoid cyst successfully managed via a posterior (Kraske) approach, followed by a review of current diagnostic and therapeutic strategies.

CASE PRESENTATION

A 32-year-old male presented with a two-year history of a slowly enlarging, painless mass in the sacrococcygeal region. He reported no bowel or bladder dysfunction, lower extremity neurological symptoms, or weight loss. His medical history included no prior pelvic or anorectal surgery. Physical examination revealed a soft, non-tender, fluctuating mass approximately 7 cm in diameter in the intergluteal cleft. The overlying skin was intact with no evidence of acute inflammation or sinus tracts. Digital rectal examination demonstrated normal sphincter tone and a smooth rectal mucosa; however, a palpable extra-rectal mass was noted posteriorly, bulging against the rectal wall but not invading it.
A computed tomography (CT) scan showed scalloping of the anterior sacrum without aggressive bone destruction. For better characterization, pelvic Magnetic Resonance Imaging (MRI) was performed and revealed a well-circumscribed unilocular cystic

lesion in the retrorectal space measuring 92 x 65 x 87 mm. The cyst displayed low signal intensity on T1-weighted images and high signal intensity on T2-weighted images. It extended from the coccyx superiorly, displacing
the rectum anteriorly, with no evidence of invasion into the rectal wall or pelvic sidewalls. Routine laboratory investigations, including tumor markers (CEA, CA 19-9), were within normal limits.

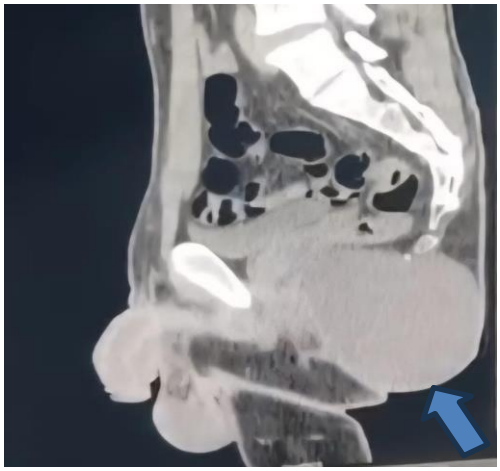

Figure 1: Sagittal reconstruction of contrast-enhanced CT demonstrating a voluminous, hypodense presacral mass(arrow) is shown displacing the rectum anteriorly with associated pressure-induced sacral scalloping.

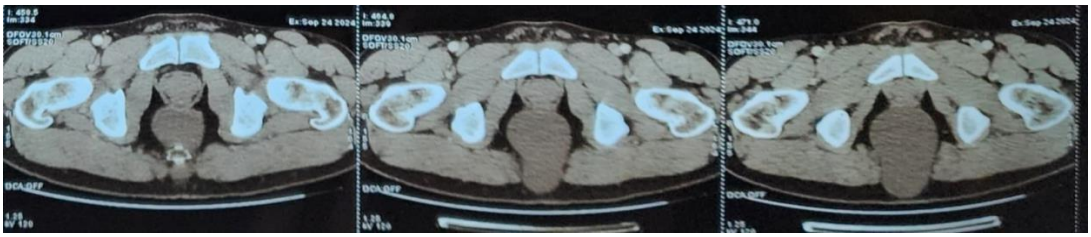

Figure 2: Axial CT Imaging demonstrating the relationship between the 9-cm cyst and the mesorectal plane showing a lack of aggressive invasion into adjacent pelvic structures.

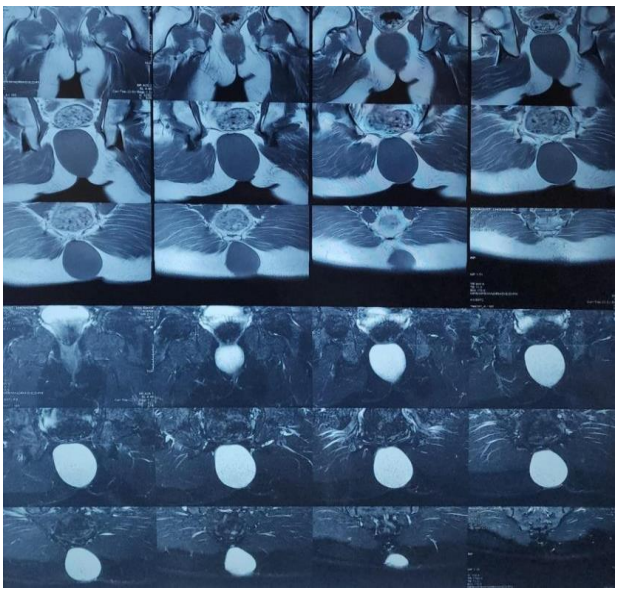

Figure 3: Preoperative Pelvic MRI. Axial and coronal sequences demonstrate a well- circumscribed, unilocular retrorectal lesion with characteristic T2-weighted hypersignal and T1- weighted hyposignal.

Given the diagnosis of a benign retrorectal cyst located below the S3 level, the patient underwent complete *en bloc* excision via a

posterior (Kraske) approach in the prone jackknife position. The cyst was dissected free from the mesorectum and sacrum without rupture. The patient's postoperative course was uneventful. Histopathological examination confirmed a cyst wall lined by stratified squamous epithelium filled with keratinous debris, consistent with an epidermoid cyst, with no evidence of malignancy.

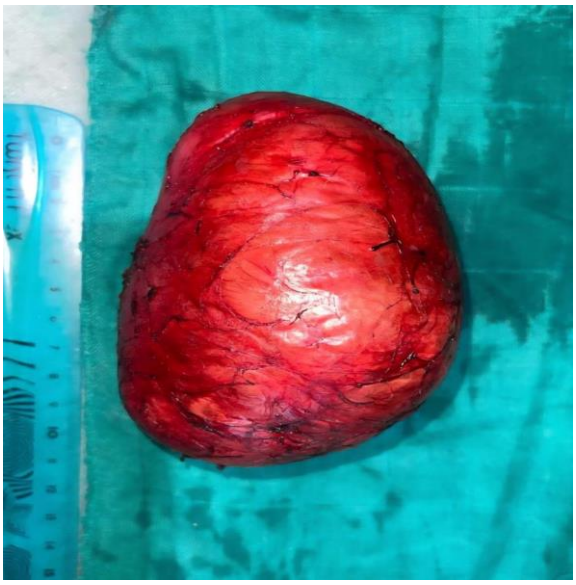

Figure 4: Macroscopic Surgical Specimen. The 9-cm encapsulated mass successfully excised *en bloc* via a posterior Kraske approach

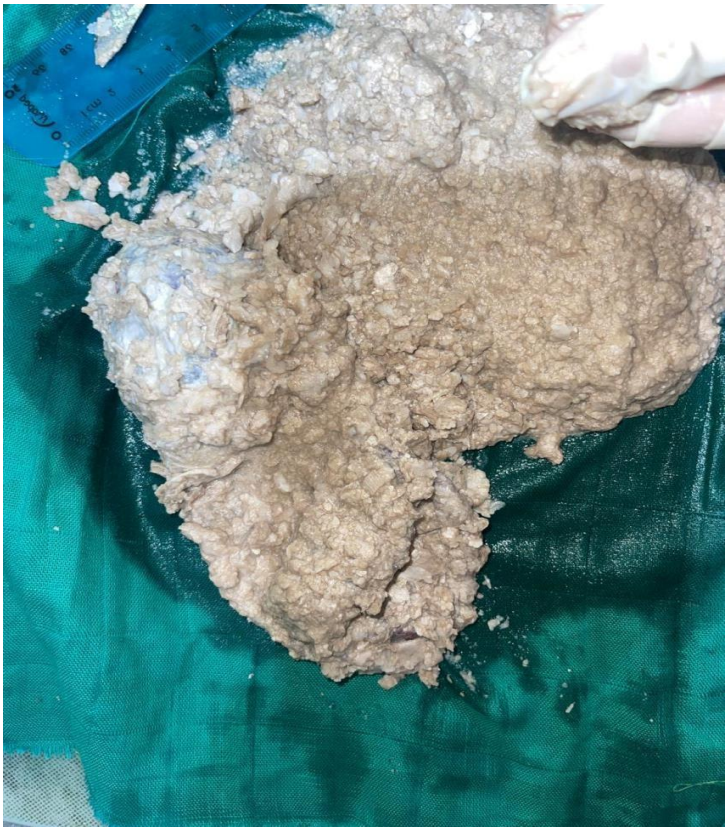

Figure 5: Pathological Gross Examination. Sectioning of the specimen revealing the pathognomonic "cottage-cheese" appearance of keratinous debris, confirming the diagnosis of an epidermoid cyst.

DISCUSSION

The retrorectal space is a potential space that is clinically silent until a mass reaches significant size or becomes infected. The classification of tumors in this region is traditionally based on the system proposed by Uhlig and Johnson, which categorizes lesions into congenital, neurogenic, osseous, inflammatory, and miscellaneous groups (6). Congenital developmental cysts are the most frequent etiology, resulting from the incomplete regression of the tailgut or errors in ectodermal tube closure. Epidermoid cysts, such as the one described in this case, are distinguished from dermoid cysts by the absence of skin appendages (hair follicles, sebaceous glands) and from tailgut cysts (retrorectal cystic hamartomas) by their lining of solely squamous epithelium rather than a mix of transitional, glandular, and squamous cells (7). Although benign, the natural history of these cysts involves slow expansion, leading to the compression of adjacent structures.

The clinical presentation of retrorectal tumors is notoriously vague, often delaying diagnosis. While nearly half of patients are asymptomatic and diagnosed incidentally during pelvic imaging, symptomatic patients typically present with the "classic" triad of constipation, lower back pain, and a palpable mass (8). In this case, the patient presented with an external swelling, which can mislead clinicians into diagnosing a pilonidal abscess or an anal fistula. It is critical to differentiate a retrorectal cyst from these common perianal conditions, as incision and drainage of a developmental cyst carries a high risk of secondary infection and the formation of a complex, chronic discharging sinus. A history of multiple "recurrent pilonidal abscesses" should raise immediate suspicion for an underlying retrorectal tumor (9). Digital rectal examination is the single most important clinical test, capable of identifying the mass in up to 97% of cases as a retrorectal fullness or a rubbery mass displacing the posterior rectal wall (10).

Radiological assessment is pivotal for surgical planning, with MRI being the gold standard modality. MRI provides superior soft-tissue contrast, allowing for the precise delineation of the cyst's relationship to the rectal wall, sacral nerve roots, and pelvic floor muscles (11). A key diagnostic feature of epidermoid cysts on MRI is the lack of internal enhancement and restricted diffusion, which helps differentiate them from abscesses or solid neoplasms. The presence of a "tail" or fluid tract extending to the coccyx is a radiological sign indicative of developmental cysts. CT scanning is complementary and is primarily utilized to evaluate osseous involvement. In benign cysts, pressure erosion can cause smooth scalloping of the sacrum, as seen in our patient, which must be distinguished from the aggressive, moth-eaten bone destruction typical of chordomas or chondrosarcomas (12).

The role of preoperative biopsy in retrorectal tumors is a subject of significant controversy. The current consensus strongly advises against biopsy for cystic lesions unless there is a compelling radiological suspicion of malignancy that would alter management (e.g., neoadjuvant therapy for sarcoma) (13). Percutaneous biopsy of a cystic lesion poses a substantial risk of introducing infection into a previously sterile space, converting a simple cyst into a complex abscess. Furthermore, there is a risk of tumor seeding along the needle tract and the potential for injury to the rectum or presacral venous plexus. Diagnosis is therefore best confirmed by definitive histopathology following *en bloc* excision. In cases where a solid tumor is suspected and a biopsy is deemed necessary, a transperineal or transgluteal approach is preferred over a transrectal approach to avoid contaminating the presacral space with enteric bacteria (14).

Surgical excision is indicated for all retrorectal tumors, including asymptomatic benign cysts. The rationale for resection includes the prevention of infection (reported in 30-50% of cysts), the relief of mechanical symptoms, and the elimination of the risk of malignant degeneration. Although rare, malignant transformation of epidermoid cysts into squamous cell carcinoma has been documented (15). The surgical approach is dictated by the tumor's vertical position relative to the third sacral vertebra (S3). The rectum's upper third is covered by peritoneum, while the middle and lower thirds are extraperitoneal; the S3 level generally demarcates the limit of visibility from a perineal approach. Lesions located entirely below S3 are best approached posteriorly, while those above S3 or crossing the pelvic brim require an anterior (abdominal) or combined approach (16).

The posterior approach, also known as the Kraske or York-Mason procedure, was utilized in this case and is ideal for low-lying benign cysts. It avoids entry into the peritoneal cavity and provides direct exposure to the presacral space. The patient is typically placed in the prone jackknife position, which splays the buttocks and brings the lesion closer to the surface. A critical step in the posterior approach is the management of the coccyx. Many surgeons advocate for routine coccygectomy, not only to improve exposure but also because the coccyx may harbor totipotent cellular remnants that could serve as a nidus for recurrence (17). However, others argue that coccygectomy should be selective, reserved for cases where the tumor is adherent to the bone. In our case, the coccyx was removed to facilitate the dissection of the large 9 cm cyst. Care must be taken during the dissection to stay in the plane between the cyst and the mesorectum to avoid rectal injury, which is the most serious complication of the posterior approach (18).

The anterior approach is reserved for high lesions and allows for better visualization of the ureters, iliac vessels, and pelvic nerves. In recent years, minimally invasive techniques, including laparoscopic and robotic-assisted resection, have gained popularity for high retrorectal tumors

(19). These approaches offer the benefits of magnification, reduced blood loss, and shorter hospital stays. For massive tumors that extend both into the abdomen and the perineum (dumbbell tumors), a combined abdominoperineal approach is necessary to ensure

complete removal and vascular control. Regardless of the approach, the goal is always complete microscopic (R0) resection. Incomplete excision, particularly the leaving behind of parts of the cyst wall, is the single most significant predictor of recurrence (20).

Postoperative morbidity is primarily related to wound complications and neurogenic dysfunction. The posterior approach is associated with a higher rate of wound infection and seroma due to the creation of a large dead space and the proximity to the anus. Meticulous hemostasis, the use of closed-suction drains, and prophylactic antibiotics are essential preventative measures. Neurological complications, such as neurogenic bladder or sexual dysfunction, can occur if the superior hypogastric plexus or pelvic splanchnic nerves are damaged during dissection. These risks are minimized by adhering to the "holy plane" of rectal surgery—the avascular areolar tissue plane between the mesorectum and the presacral fascia. Long-term prognosis for completely resected benign epidermoid cysts is excellent, with recurrence rates of less than 5% in expert hands.(1)

CONCLUSION

Retrorectal epidermoid cysts are rare entities that require a high index of suspicion, particularly when presenting as atypical perineal masses in young males. The distinction between these developmental cysts and common anorectal pathologies, such as pilonidal abscesses, is critical to preventing iatrogenic complications and ensuring appropriate management. MRI remains the gold standard for preoperative characterization and surgical planning, effectively determining the tumor's relationship to the S3 vertebra. Preoperative biopsy should be strictly avoided for cystic lesions to prevent infection and tumor seeding. Complete surgical excision, tailored to the anatomical level of the lesion, remains the definitive treatment to resolve symptoms and eliminate the risk of malignant degeneration. The posterior (Kraske) approach is a safe and effective technique for low-lying lesions, offering excellent exposure and low morbidity when performed with meticulous attention to the presacral anatomy.

REFERENCES

1) Messick CA, Hull T, Rosselli G, Kiran RP. Lesions of the retrorectal space: diagnosis and management. *Dis Colon Rectum*. 2013;56(10):1152-1158.
2) Hainsworth A, Al Najami I, Dixit A, et al. Surgical management of retrorectal tumours: a systematic review. *Colorectal Dis*. 2023;25(1):32-41.
3) Lev-Chelouche D, Gutman M, Goldman G, et al. Presacral cysts: diagnosis and management. *Tech Coloproctol*. 2003;7(2):109-113.
4) Gupta S, Sikora SS, Gupta R, Singh RK. Presacral tumors: current status. *J Gastrointest Surg*. 2017;21(9):1558-1564.
5) Wolpert A, Beer-Gabel M, Lifschitz O, Zbar AP. The management of presacral masses in the adult.
    a. *Tech Coloproctol*. 2002;6(1):43-49.
6) Uhlig BE, Johnson RL. Presacral tumors and cysts in adults. *Dis Colon Rectum*. 1975;18(7):581-589.
7) Dahan H, Arrivé L, Wendum D, Docou le Pointe H, Djouhri H, Tubiana JM. Retrorectal developmental cysts in adults: clinical and radiologic-histopathologic review, differential diagnosis, and treatment. *Radiographics*. 2001;21(3):575-584.
8) Jao SW, Beart RW Jr, Spencer RJ, Reiman HM, Ilstrup DM. Retrorectal tumors. Mayo Clinic experience, 1900-1985. *Dis Colon Rectum*. 1985;28(9):644-652.
9) Chereau N, Lefevre JH, Meurette G, Mourra N, Shields C, Parc Y. Surgical resection of retrorectal tumours in adults: long-term results in 47 patients. *Colorectal Dis*. 2013;15(8):e476-482.
10) Hobson KG, Ghaemmaghami V, Roe JP, Goodnight JE, Khatri VP. Tumors of the retrorectal space.
    a. *Dis Colon Rectum*. 2005;48(10):1964-1974.
11) Sagar PM, Buchmann P. Retrorectal tumors: a diagnostic and therapeutic challenge. *Ann Surg*. 2018;268(4):e33-e34.
12) Glasgow SC, Birnbaum EH, Lowney JK, Fleshman JW, Kodner IJ, Dietz DW, et al. Retrorectal tumors: a diagnostic and therapeutic challenge. *Dis Colon Rectum*. 2005;48(8):1581-1587.
13) Merchea A, Larson DW, Hubner M, et al. The value of preoperative biopsy in the management of solid presacral tumors. *Dis Colon Rectum*. 2013;56(6):756-760.
14) Dozois EJ, Jacofsky DJ, Dozois RR. Presacral tumors. In: Wolff BG, Fleshman JW, Beck DE, et al., editors. *The ASCRS Textbook of Colon and Rectal Surgery*. New York: Springer; 2007. p. 501-514.
15) Tokunaga Y, Saito T, Ilzuka A, et al. Malignant transformation of a presacral epidermoid cyst: a case report. *Surg Case Rep*. 2020;6(1):166.
16) Baek SK, Hwang GS, Vinci A, Jafari MD, Jafari F, Moghadamyeghaneh Z, et al. Retrorectal tumors: a comprehensive literature review. *World J Surg*. 2016;40(8):2001-2015.
17) Sakr A, Kim HS, Han YD, Cho MS, Hur H, Min BS, et al. Single-center experience of 24 cases of tailgut cyst. *Ann*

Coloproctol. 2019;35(5):268-274.

18) Mualem N, Meiri A, Horesh N, Pery R, Greenberg R, Avital S. The surgical management of retrorectal tumors: a 20-year single-institution experience. *Int J Colorectal Dis*. 2021;36(8):1733- 1739.
19) Zhou JL, Wu B, Xiao Y, Lin GL, Wang WZ, Zhang GN. A laparoscopic approach to retrorectal tumors: a review of the literature and a case report. *Medicine (Baltimore)*. 2024;103(12):e37521.
20) Riojas CM, Hahn CD, Johnson EK. Presacral epidermoid cyst in a male: a case report and literature review. *J Surg Educ*. 2010;67(4):227-230.