

# Large perirectal epidermoid cyst in a young woman

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## ABSTRACT

Epidermoid cysts are usually found in different sites of body, especially skin and central nervous system, but are rarely reported in perirectal space. In this case report we present a 31 years old woman with right perirectal epidermoid cyst who underwent complete excision after imaging studies. Microscopic evaluation of the tissues confirmed an epidermoid cyst with no sign of malignant transformation. Imaging modalities especially magnetic resonance imaging play an important role in narrowing the differential diagnosis and choosing the best therapeutic approach for patients.

**Keywords:** Presacral, perirectal, epidermoid, cyst

## INTRODUCTION

Perirectal/presacral region is a potential space for different pathologies ranging from benign to malignant lesions, with different sources. Anterior meningoceles, sacrococcygeal teratoma, retrorectal pyogenic abscess and developmental cysts including epidermoid, dermoid, tailgut duplication and neuroenteric cyst are among these lesions and most of

them have ectodermal origins. Epidermoid cysts are usually found in different sites of body, especially skin and central nervous system, but are rarely reported in perirectal space.<sup>3,4</sup> In this article, we present a patient with symptomatic perirectal epidermoid cyst.



**Figure 1.** Ultrasound exam from pelvic region showing a large mass in right posterior region of pelvis with slightly heterogeneous echogenicity, almost similar to muscles.

## Case Presentation

A 31 years old woman referred to gynecology and then general surgery clinic with vague hypogastric pain for two months. Performed physical exams were normal and patient had regular menstrual cycles, and no urinary or intestinal symptoms. A transabdominal ultrasound exam, performed by radiologist showed normal kidneys, urinary bladder, uterus, ovaries and adnexal regions. The only noticeable finding was a well-defined, oval shaped slightly heterogeneous mass in the right side of pelvis (Fig 1). Color and power Doppler studies didn't show

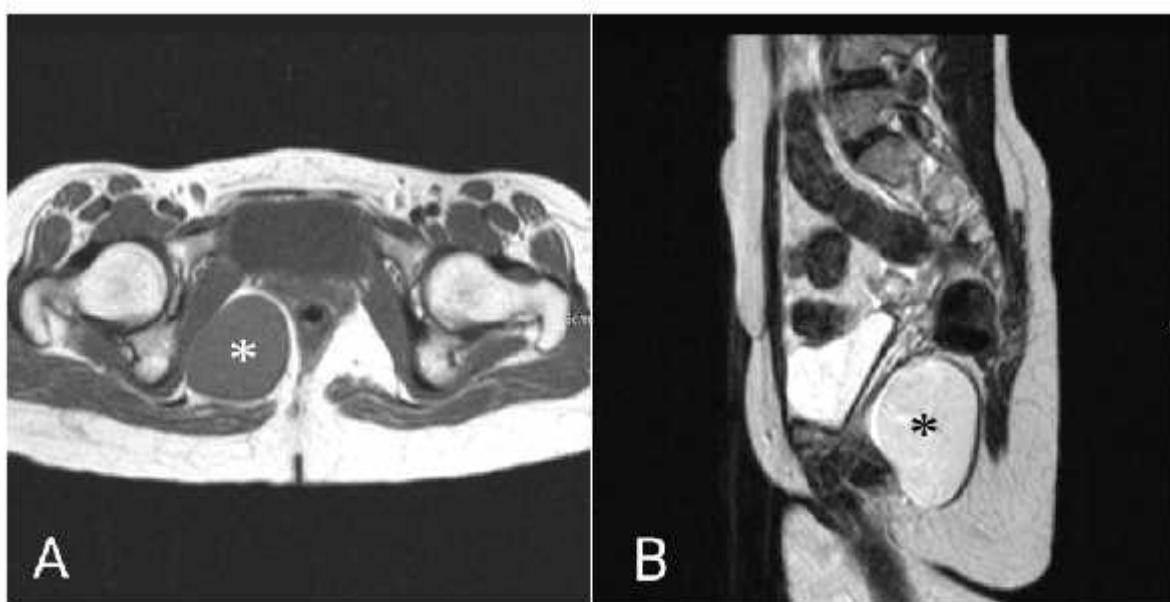
traceable vascularity. For further evaluation, a computed tomography was performed which indicated a large, hypodense mass in right perirectal region with fluid attenuation (Fig 2). No solid component or measurable enhancement was noted in arterial and venous phases. Evaluation of other pelvic structures including sacrococcygeal bones, pelvic vessels and muscles didn't show any abnormalities on CT scan. Magnetic resonance imaging confirmed extraperitoneal nature of the lesion and demonstrated a sharp margin cystic mass with mass effect on

adjacent organs, mostly the rectum. No signal changes or radiologic sign of involvement were noticed in pelvic organs (Fig 3). T1W images showed the lesion slightly heterogeneous and iso to

hyperintense compared to CSF and urine. Signal intensities were slightly lower compared to CSF on T2W images.



**Figure 2.** Axial and coronal CT scan images showing a well defined fluid attenuated mass in right pararectal region (white Asterisk). note the untouched fat tissue between mass and rectal wall.



**Figure 3.** Magnetic resonance imaging on T1W (A) and T2W (B) sequences showing the same mass (Asterisk) with intensities higher than CSF (near to muscle) and slightly lower than CSF and urine, on T1 and T2 respectively.

Based on clinical and imaging findings patient underwent laparotomy through a hypogastric midline incision. A complete excision of the mass was performed and no sign of gross adjacent involvement or regional lymphadenopathy was observed during the operation. Microscopic evaluation of the tissues confirmed an epidermoid cyst with no sign of malignant transformation. The patient has been discharged six days after surgery and was symptom free during six month follow up.

### Discussion

Epidermoid cyst are rarely seen in perirectal/presacral region and most reported cases are found in women of reproductive ages. , Like

other developmental cysts, they might be mistaken for adnexal masses on imaging, especially ultrasound exams. Therefor cross sectional studies like computed tomography and magnetic resonance imaging could help by depicting the lesion's morphological features, anatomical location and coexisting findings, therefore narrowing the differential diagnosis prior to operation. Many of the reported cases with perirectal and especially presacral epidermoid cysts also coexisted with meningoceles. Therefore a special attention to sacrococcygeal and spinal structures is advised. Imaging features of epidermoid cysts are usually nonspecific, being mostly a complete cystic mass with attenuation and intensity similar to CSF or slightly

different based on protein content, to a more complex lesion. T2W images are more useful to confirm smaller cysts and septations than T1W or CT scan<sup>3</sup>. Rarely a high protein contained cyst might be vividly hyperintense on T1W, presenting as a so called "white epidermoid". In recent studies, the role of diffusion weighted Imaging is rising for differentiating epidermoid cysts from other developmental cysts of perirectal/presacral region.<sup>7</sup>, Unlike many other cystic masses like tailgut duplication cysts or neurocentric cysts, epidermoid cysts show high intensity on DWI images with corresponding low signal on ADC map, due to both restricted diffusion and T2 shine-through phenomenon. Therefor if available, DWI/ADC sequences are recommended for similar lesions.

### Conclusion

Developmental cystic lesions including epidermoid cysts, are rare but important pathologies in perirectal/presacral region. Imaging modalities especially magnetic resonance imaging play an important role in narrowing the differential diagnosis and choosing the best therapeutic approach for patients.

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