

Perineal dermoid cyst

Published on 26.07.2015

DOI: 10.1594/EURORAD/CASE.12843

ISSN: 1563-4086

Section: Uroradiology & genital male imaging

Area of Interest: Pelvis

Procedure: Diagnostic procedure

Imaging Technique: Ultrasound

Imaging Technique: MR

Special Focus: Pathology Case Type: Clinical Cases

Authors: S. Woussen, A. De Backer, F. Vanhoenacker

Patient: 32 years, male

Clinical History:

A 32-year-old male patient presented with a right-sided gluteal mass. His past medical history was unremarkable. On rectal examination there was right-sided fullness.

Imaging Findings:

Ultrasound of the right gluteal region showed a unilocular, thin-walled lesion with intralesional reflections (Fig. 1). MRI of the pelvis confirmed a well-circumscribed mass located posteriorly to the bladder causing left-sided deviation of the rectum. The lesion was slightly hyperintense compared to muscle on T1-weighted images (WI) (Fig. 2, 3) and of intermediate to high signal on T2-WI (Fig. 4). There were multiple intralesional areas of low signal on T1-WI and of high signal on T2-WI. On fat-suppressed T2-WI, the lesion was heterogeneously hyperintense (Fig. 5). The lesion did not enhance after intravenous administration of gadolinium (Fig. 6). Based on imaging findings a tentative diagnosis of dermoid cyst was made and subsequently surgical excision was performed. Diagnosis of dermoid cyst was confirmed on histopathological examination.

Discussion:

Developmental cysts are rare congenital cysts arising in the retrorectal space including epidermoid, dermoid, enteric and neuroenteric cysts. They have an incidence of 1 per 40000 and most commonly affect middle-aged women (with a female-to-male ratio of 3:1) [1-3].

Approximately 50% are asymptomatic and present as an incidental finding during clinical examination or imaging [1, 2]. Physical examination may show a funnel-shaped dimple in the postanal midline or a chronic perianal fistula. This fistula may communicate with the cyst. A smooth, firm mass may be felt in the retrorectal space during digital rectal examination [1, 2].

Large lesions may cause compression on adjacent organs, such as the rectum and urethra. Rectal compression may cause constipation, rectal fullness, painful defecation and tenesmus, whereas local compression on the urethra can cause dysuria and urinary frequency [1-4]. Complications of developmental cysts consist of infection and bleeding. Malignant degeneration may occur in enteric cysts [2].

Dermoid cysts are lined with squamous epithelium and contain, unlike epidermoid cysts, skin appendages such as hair follicles, sweat glands, sebaceous glands and/or tooth buds [2, 3]. In our case, a histopathological diagnosis of dermoid cyst was made based on the presence of sebaceous glands in the surgical specimens.

On ultrasound, dermoid cysts are seen as unilocular or multilocular retrorectal lesions, often containing internal

echoes due to mucoid material or inflammatory debris [1, 2].

CT shows well-circumscribed, uni-or multilocular hypoattenuating lesions anterior to the sacrum and posterior to the rectum. In rare cases, thin calcifications may be seen. Secondary infection may result in thickening of the cystic wall with adjacent inflammatory changes [1-3]. Dermoid cysts may be associated with sacroccocygeal deformities, which were not present in our case [1, 2].

Whereas retrorectal developmental cysts are of low signal intensity on T1-WI and of high signal intensity on T2-WI, dermoid cysts may show high signal intensity on T1-WI due to the presence of sebaceous contents and intermediate (to high) signal intensity on T2-WI [3, 4]. Intralesional foci of low signal may be due to keratin debris [5]. Use of fat-suppressed T2-WI and gadolinium-enhanced MR images may be useful to demonstrate the cystic nature of dermoid cysts, as there will be no fat suppression and no central enhancement of gadolinium [5]. The differential diagnosis with epidermoid cyst is not always straightforward on imaging alone and histopathological examination is often needed for final diagnosis.

Surgical excision of dermoid cysts is only recommended in symptomatic cases [2-3].

Differential Diagnosis List: Dermoid cyst, Epidermoid cysts, Cystic sacrococcygeal teratomas

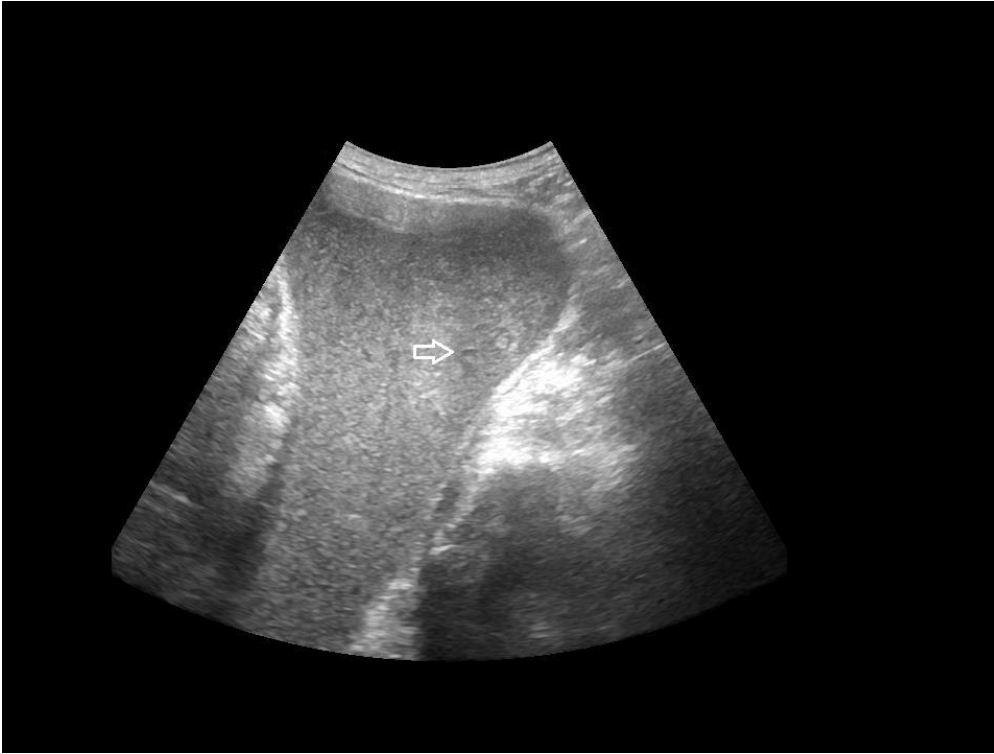
Final Diagnosis: Dermoid cyst

References:

- Munteanu I, Badulescu A, Mastalier B, Munteanu ML, Diaconu E, Popescu C (2013) Retrorectal dermoid cyst: a rare clinical entity. *Current Health Sciences Journal* 39: 179 (PMID: [24778859](#))
- Dahan H, Arrivé L, Wendum D, le Pointe HD, Djouhri H, Tubiana JM (2001) Retrorectal developmental cysts in adults: clinical and radiologic-histopathologic review, differential diagnosis, and treatment. *Radiographics* 21: 575-584 (PMID: [11353107](#))
- Lahaye MJ, Beets GL, Beets-Tan RG, Levy AD (2015) Retrorectal Developmental Cysts. In: Levy AD, Morteale KJ, Yeh BM. *Gastrointestinal Imaging*. New York: Oxford University Press; p. 271-273
- Chellamuthu S, Kakani NK, Amarnath TS, Rathinavel B (2012) Large dermoid cyst in an adult male pelvis. *Eurorad Radiological Case Database* doi: 10.1594/EURORAD/CASE.9950
- Nicolay S, De Schepper A, Pouillon M (2014) Epidermal inclusion cyst of the perianal region. *JBR-BTR* 97: 166-167 (PMID: [25223130](#))

Figure 1

a



Description: Iso- to hyperreflective thin-walled lesion with intralesional reflections (arrow). **Origin:** Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.

Figure 2

a



Description: Well-circumscribed mass located anteriorly and to the right of the rectum, slightly hyperintense compared to muscle on T1-WI with hypointense contents (arrow). **Origin:** Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.

Figure 3

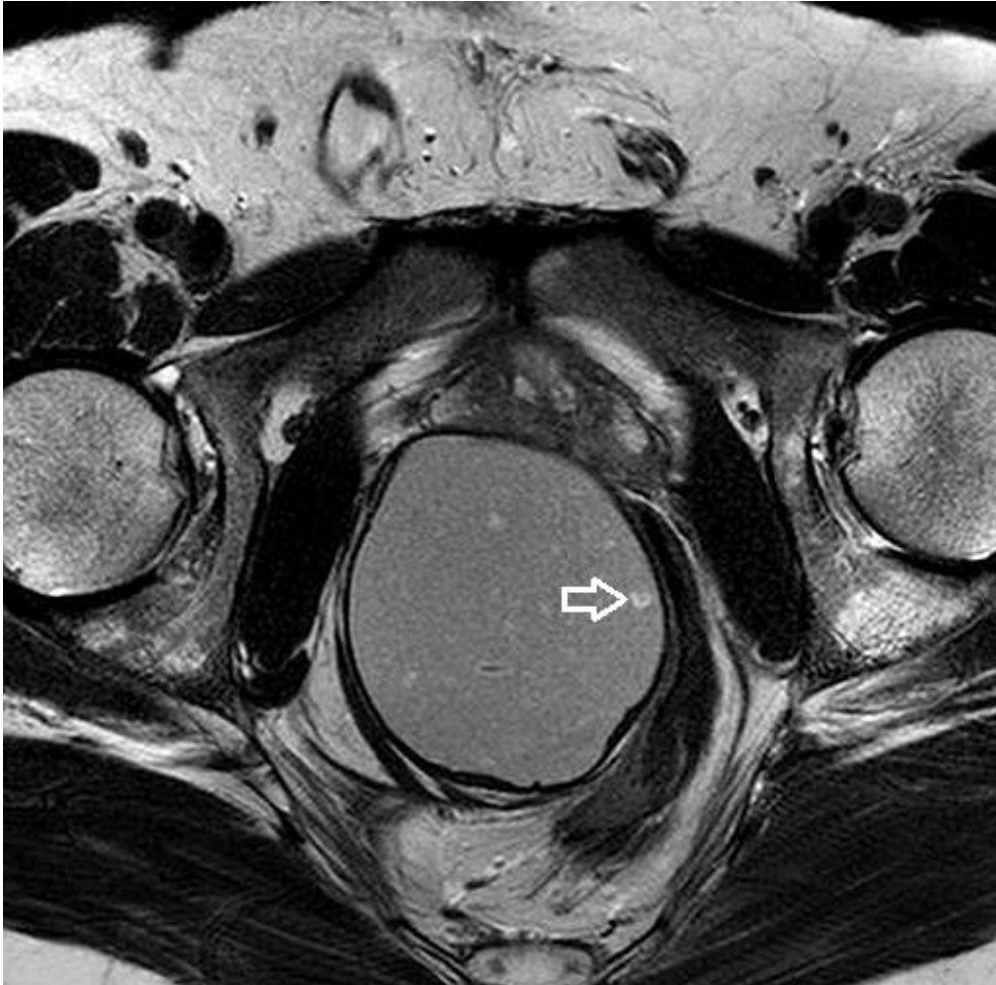
a



Description: Mass located posteriorly to the bladder, slightly hyperintense compared to muscle on T1-WI with hypointense contents (arrow). **Origin:** Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.

Figure 4

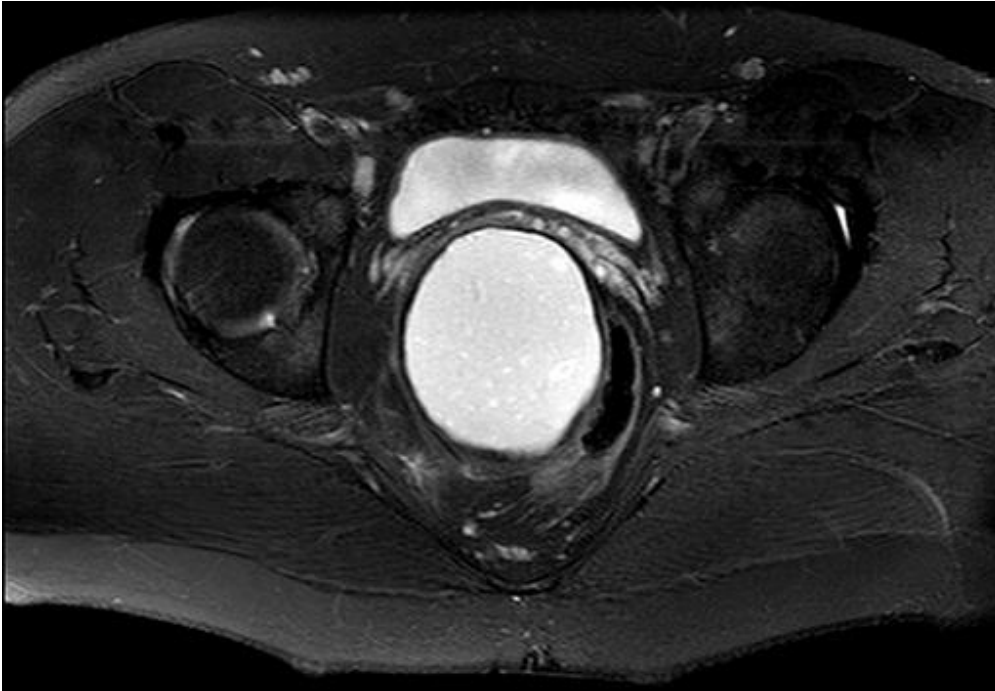
a



Description: The mass is slightly hyperintense compared to muscle on T2-WI with hyperintense contents (arrow). **Origin:** Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.

Figure 5

a



Description: Heterogeneously hyperintense lesion. **Origin:** Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.

Figure 6

a



Description: The mass shows no enhancement following intravenous administration of gadolinium.

Origin: Department of Radiology, AZ Sint-Lucas, Ghent, Belgium.