Radiology for the surgeon

Soft-tissue case 59

Presentation

A 42-year old previously healthy woman presented to our outpatient clinic with a chief complaint of a huge mass in the left buttock that had gradually increased in size during the previous 7 years. The mass was painless, but it caused great difficulty in sitting and walking. She did not complain about dyspareunia or any problem with defecation. Physical examination revealed a 10-cm cystic mass in the left buttock region (Fig. 1) that was nontender. Rigid sigmoidoscopy did not show any rectal lesion. The patient underwent magnetic resonance imaging of the pelvis. The representative images (Fig. 2, Fig. 3) are shown.

What is the likely diagnosis?

FIG. 1. Photograph showing the left buttock mass.

FIG. 2. Axial T_2-weighted magnetic resonance image of the pelvis.

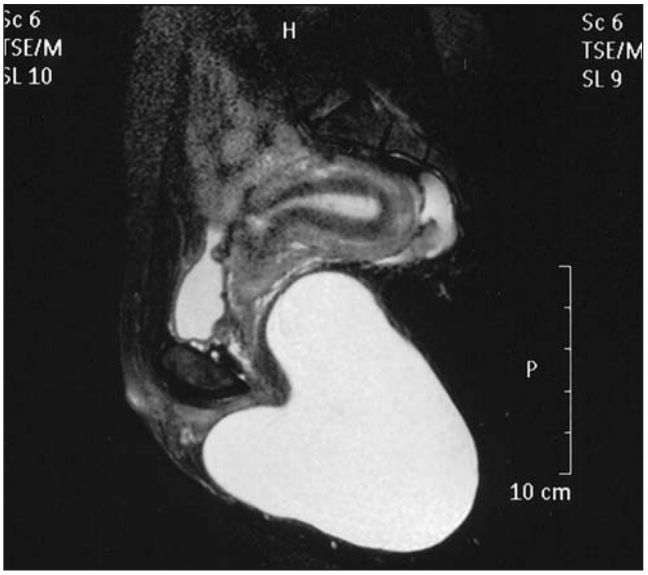

FIG. 3. Sagittal T_2-weighted magnetic resonance image of the pelvis.

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Diagnosis

Giant epidermal cyst of the ischiorectal fossa

Magnetic resonance imaging (MRI) of the pelvis demonstrated a well-circumscribed, homogeneous and unilocular cystic lesion 13 × 10 × 8 cm in size in the left ischiorectal fossa. The lesion demonstrated high signal intensity on T_2-weighted images. No intralesional solid component or debris was noted. Medially, the lesion displaced the vagina and the anal canal contralaterally (Fig. 4, arrows); superiorly, the lesion elevated the levator ani muscles without direct intra-abdominal extension (Fig. 5, arrows). No definite communication between the cystic lesion and the spinal canal was seen. Differential diagnoses included epidermal cyst, Gartner duct cyst, rectal duplication cyst and tailgut cyst.

In view of the symptoms, surgical excision of the cystic lesion was performed via the perineal approach. Intraoperatively, the lesion was noted to have occupied the whole left ischiorectal fossa just below the levator ani muscles, displacing the vagina and the anal canal to the contralateral side. The lesion had no communication with the gut and the vagina. The resected specimen measured 14 × 13 × 6 cm in size and 650 g in weight (Fig. 6). On histological examination, the cystic lesion was lined by thin stratified squamous epithelium and contained keratin material, which was compatible with the diagnosis of epidermal cyst.

FIG. 4. Axial T_2-weighted magnetic resonance image of the pelvis showing the hyperintense unilocular cystic lesion in the left ischiorectal fossa with displacement of the vagina and the anal canal (arrows).

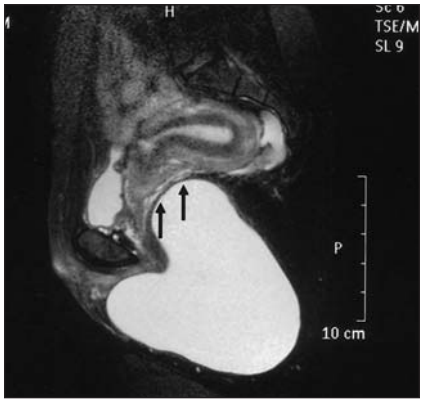

FIG. 5. Sagittal T_2-weighted magnetic resonance image of the pelvis showing the hyperintense unilocular cystic lesion with elevation of the levator ani muscles (arrows)

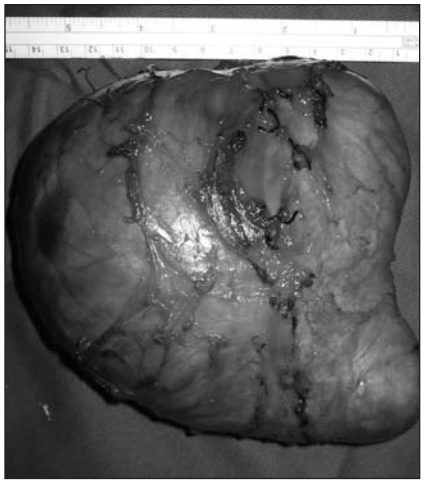

FIG. 6. Photograph of the resected specimen.

The ischiorectal fossa can be affected by a wide spectrum of pathological entities, including congenital or developmental, inflammatory and neoplastic lesions. The most typical clinical presentation is an asymptomatic perineal, gluteal or labial mass. For patients with larger lesions, pressure effect on the rectum and the urogenital tract can produce symptoms like perineal pain, constipation, urinary frequency and dyspareunia. Secondary infection, rupture and malignant transformation are possible complications. Both computed tomography and MRI have been used in the definitive diagnosis of these lesions, with MRI being the modality of choice because of its superior contrast resolution.[1]

Ischiorectal fossa epidermal cysts are usually unilocular and have high signal intensity on T_2-weighted MRI. They are lined by stratified squamous epithelium and contained keratin material. They are generally small, but several cases of giant epidermal cysts affecting the ischiorectal fossa with a diameter of 5 cm or more have been reported in the literature.[2] The differential diagnoses of ischiorectal fossa epidermal cyst on MRI include Gartner duct cyst, rectal duplication cyst and tailgut cyst.

Gartner duct cysts are congenital lesions resulting from incomplete regression of the Wolffian ducts. They are usually confined to the vaginal walls, but the larger cysts can extend into the ischiorectal fossa. The MRI features of Gartner duct cysts are very similar to that of epidermal cysts.[3] Rectal duplication cysts are also unilocular on MRI, but they are attached to the alimentary tract. They are lined by epithelium similar to that of the alimentary tract and possess a smooth muscle coat.[4] Tailgut cysts are uncommon congenital lesions caused by incomplete regression of the embryonic tailgut. On MRI, tailgut cysts are usually multilocular instead of unilocular, and they show high-signal intensity on T_2-weighted images.[5] Both rectal duplication cysts and tailgut cysts have the potential for malignant transformation; thus it is essential to differentiate these lesions from benign epidermal cysts.[4,5]

All symptomatic ischiorectal fossa cystic lesions should be subjected to surgical excision. For asymptomatic lesions, if the MRI features are suspicious of rectal duplication cyst or tailgut cyst, early complete surgical excision is also recommended. This can help to establish a definitive diagnosis and to eliminate future risks of complications and malignant transformation.[4,5]

Competing interests: None declared.

References

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