

Anterior sacral meningocele mimicking bladder neck rupture on ultrasonography

Ultrasonografide mesane boyun rüptürünü taklit eden anterior sakral meningesel

Yaşar Türk¹, Ali Sedagheh Pakravan², Mehmet Kamuran Bircan¹

ABSTRACT

Anterior sacral meningocele could be asymptomatic or may present as a retrorectal mass with complaining of pelvic pain. We report the case of a 49-year-old who was diagnosed incidentally after an emergency room visit following trauma. Anterior sacral meningoceles could be mistaken as vesical globe. A detailed ultrasonography examination is mandatory and computed tomography or magnetic resonance imaging is the best imaging method.

Key words: Anterior sacral meningocele; computed tomography; horseshoe kidney; trauma; ultrasonography.

ÖZET

Anterior sakral meningesel, asemptomatik olabileceği gibi, pelvik ağrıya yol açan retrorektal kitle şeklinde de ortaya çıkabilmektedir. Burada, travma sebebi ile acil servise başvurmuş ve bu esnada tesadüfen anterior sakral meningesel tanısı almış olan 49 yaşındaki olgu sunulmaktadır. Anterior sakral meningesellerin yanlışlıkla glob vezikal tanısı alabildiği bilinmektedir. Detaylı bir ultrasonografik incelemenin şart olduğu bu durumda, en başarılı görüntüleme yöntemleri ise bilgisayarlı tomografi ve manyetik rezonans görüntülemesidir.

Anahtar sözcükler: Anterior sakral meningesel; bilgisayarlı tomografi; atnalı böbrek; travma; ultrasonografik.

Meningocele may be asymptomatic and discovered incidentally or may present as a retrorectal mass.^[1] Anterior sacral meningoceles may produce urinary, rectal, and menstrual pain.^[2] We present a case of an anterior sacral meningocele diagnosed incidentally after an emergency room visit following trauma. To prevent misdiagnosis, one should always remember that anterior sacral meningoceles can sometimes be mistaken for the bladder. A detailed ultrasonography (US) examination is mandatory and computed tomography (CT) or magnetic resonance imaging (MRI) is the best imaging method for confirming the diagnosis.

Case report

A 49-year-old male was admitted to our clinic after falling from a height. His medical history consisted of hypertension and diabetes mellitus.

The patient had left hemiplegia, and a 16 F Foley urethral catheter was inserted in the emergency room. He underwent cranial multislice CT and abdominopelvic US. Cranial CT showed an infratentorial hematoma with a compressed 4th ventricle due to a mass effect and subarachnoid hemorrhage. The preliminary US findings revealed a cystic mass in the pelvic region, which was thought to be the bladder. The balloon of the urethral Foley catheter was thought to be outside the bladder due to urethral rupture caused in the fall. Further imaging revealed a horseshoe kidney with an anterior cystic mass containing air bubbles, suspicious for an abscess. Detailed US examination showed that the Foley catheter extended toward the cystic mass anterior to the horseshoe kidney (Fig. 1). For a definitive diagnosis, abdominopelvic CT was performed with intravenous contrast. CT showed an S3-5 anterior defect with a large anterior sacral

¹Department of Radiology, Private Doğan Hospital, İstanbul, Turkey

²Department of Internal Medicine, Saint Louis University Hospital, Saint Louis, USA

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Correspondence:
Yaşar Türk
Ziya Gökalp Street No: 2, 34290
Küçükçekmece, İstanbul, Turkey
Phone: +90 212 624 34 34-1701
E-mail: dryasarturk@gmail.com

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Figure 1. Midsagittal US shows a large anterior sacral meningocele (ASM) and the Foley urethral catheter balloon (FB) inside the compressed, displaced bladder.



Figure 2. Axial CT image at the level of the kidneys in the excretory phase shows the bladder (B) with air bubbles (ab) inside a cystic mass anterior to a horseshoe kidney (HSK).

meningocele, which had compressed and displaced the bladder superiorly. There was no bladder rupture, and the Foley urethral catheter remained inside the compressed bladder (Fig. 2 and 3).

Discussion

Neural tube defects are the result of unsuccessful neural tube closure (neurulation) in early embryonic life. A meningocele, which develops in the fourth gestational week, is the most frequent form of an open neural tube defect.

Protrusion of the meninges through a developmental bony defect in the anterior sacral wall forming a spinal fluid-filled sac and occasionally containing neural elements is characteristic of an anterior sacral meningocele. Meningoceles may be associated with other malformations of the neuraxis.^[3-5] In our patient, however, no accompanying brain malformation was found.



Figure 3. Midsagittal CT shows a large anterior sacral meningocele (ASM), compressing and displacing the bladder (B) superiorly, and the Foley urethral catheter balloon (FB) inside the compressed bladder.

Since its first description by Bryant in 1837, only about 154 cases have been reported in the world literature.^[6]

This case demonstrates that without thorough imaging studies and careful differential diagnosis, it is easy to mistake an anterior meningocele for the bladder. In the present case, one could easily think that the anterior sacral meningocele was a ruptured bladder, that the catheter was outside the bladder, and that the compressed and displaced bladder with air bubbles was an abscess. With a high index of suspicion, CT or MRI should be performed for a definitive diagnosis. An accurate diagnosis prevented an unnecessary percutaneous cystostomy, exploration, or endoscopic intervention, all of which have their risks. False exploration or percutaneous catheter replacement inside a meningocele can lead to complications such as cerebrospinal fluid leakage and meningitis.

On US examinations, rare alternative localization of a meningocele should be considered to prevent complications. Careful US monitoring should be done and, if necessary, verified with additional imaging methods to prevent potential morbidity and mortality. As US is not always adequate for the diagnosis of meningocele, modalities such as CT or MRI should be used to make a correct diagnosis.

As a conclusion, anterior sacral meningoceles are rare and can easily be mistaken for the bladder. In this paper, we present an anterior sacral meningocele mimicking the bladder. CT or MRI is the best imaging method to confirm the diagnosis.

Conflict of interest

No conflict of interest was declared by the authors.

References

1. Massimi L, Calisti A, Koutzoglou M, Di Rocco C. Giant anterior sacral meningocele and posterior sagittal approach. *Childs Nerv Syst* 2003;19:722-8. [\[CrossRef\]](#)
2. Smith HP, Davis CH Jr. Anterior sacral meningocele: two case reports and discussion of surgical approach. *Neurosurgery* 1980;7:61-7. [\[CrossRef\]](#)
3. Ahn NU, Sponseller PD, Ahn UM, Nallamshetty L, Rose PS, Buchowski JM, et al. Dural ectasia in the Marfan syndrome: MR and CT findings and criteria. *Genet Med* 2000;2:173-9. [\[CrossRef\]](#)
4. Nallamshetty L, Ahn NU, Ahn UM, Nallamshetty HS, Rose PS, Buchowski JM, et al. Dural ectasia and back pain: review of the literature and case report. *J Spinal Disord Tech* 2002;15:326-9. [\[CrossRef\]](#)
5. Jeon BC, Kim DH, Kwon KY. Anterior endoscopic treatment of a huge anterior sacral meningocele: technical case report. *Neurosurgery* 2003;52:1231-3. [\[CrossRef\]](#)
6. Samuel D, Puvaneswary M. Anterior sacral meningocele. *Med J Malaysia* 1989;44:243-7.