ADULT ANTERIOR SACRAL MENINGOCELE MISDIAGNOSING AS ADNEXAL CYST ON PELVIS ULTRASOUND: A RARE CLINICAL PRESENTATION WITH LITERATURE REVIEW

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ABSTRACT

We present a case of anterior sacral meningocele (ASM) in 28 yeras female with lower abdominal pain misdiagnosed as adnexal cyst on pelvis ultrasound. She was evaluated with CT scan with 3-D reconstruction followed by MRI and also reviewed the literature regarding its clinical presentation and radiological findings. This case emphasizes the importance of considering an anterior sacral meningocele in patients with lower abdominal pain or pelvic cystic mass.

Key words: Adnexal cyst, Anterior Sacral Meningocele, CT, Lower abdominal pain, MRI.

Introduction

Anterior sacral meningocele (ASM) is a rare condition characterized by the herniation of the meningeal sac through a bony defect in the anterior aspect of sacrum.[1] It may be asymptomatic presenting late in life or present early with symptoms due to compression effect over the surrounding pelvic viscera.[2] It usually presents as a pelvic cystic lesion posterior to rectum and anterior to sacrum with a sacrococcygeal bony defect and communicates with spinal subarachnoid space on CT and MRI.[3]

We present a case of anterior sacral meningocele (ASM) in a female patient. Additionally, we discuss the radiological features and review the literature. This case highlights the importance of this rare entity in patients particularly the females with lower abdominal pain or pelvic cystic mass on ultrasound, which is the purpose of reporting this case.

Case Report

A 28-years old female with suspicious diagnosis of adnexal cyst on ultrasound referred to radiology department for CT scan abdomen. She had history of lower abdominal pain since 1 year, no other symptoms or co-morbid. Abdominal examination revealed only mild tenderness in pelvis. Her basic laboratory investigations were unremarkable. Tumor markers like alpha fetoprotein, beta human chorionic gonadotropin and CA-125 were also within normal limits. She was evaluated with CT scan followed by MRI pelvis. CT scan shows a large well defined non-enhancing cystic lesion with density similar to cerebrospinal fluid in presacral space with a bony defect in anterior sacrum, non-visualization of 4th and 5th sacral bones and spina bifida of sacrum (Fig. 1a-b). The lesion was not associated with ovaries and displacing the rectum anterolaterally. Her 3-D CT reconstruction of pelvis shows a smooth curved sacral defect on right side and sacral spina bifida (Fig. 2). On MRI the presacral lesion is hypointense on T1WI and hyperintense on T2WI, showing communication by a small neck with spinal subarachoid space (Fig. 3). Based on these findings the patient was diagnosed with anterior sacral meningocele with sacral defect and sacral spina bifida.

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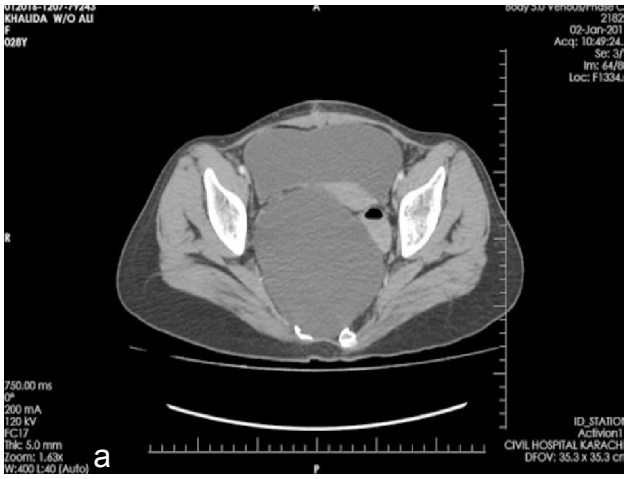

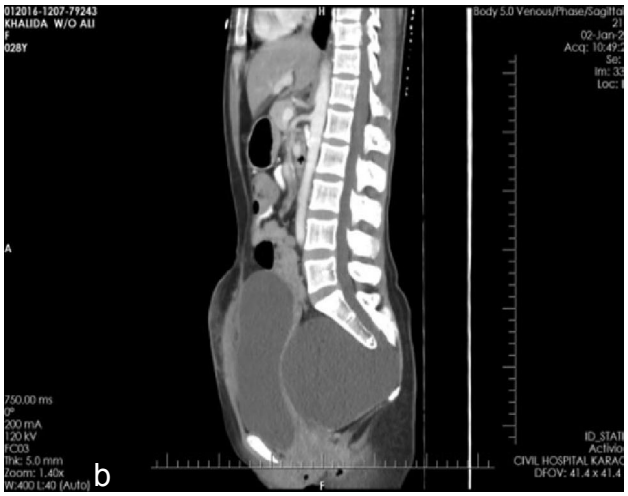

Figure 1 (a-b): Axial and sagittal sections of CECT showing a large well defined non-enhancing cystic lesion presacral space with a bony defect in anterior sacrum communicating with spinal subarachoid space.

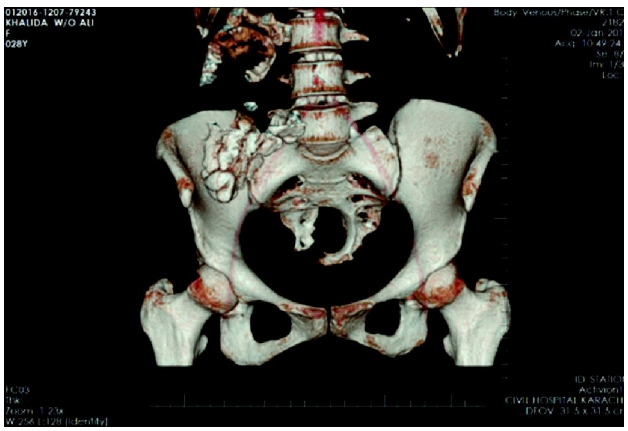

Figure 2: 3-D CT reconstruction of pelvis shows a smooth curved sacral defect on right side and spina bifida.

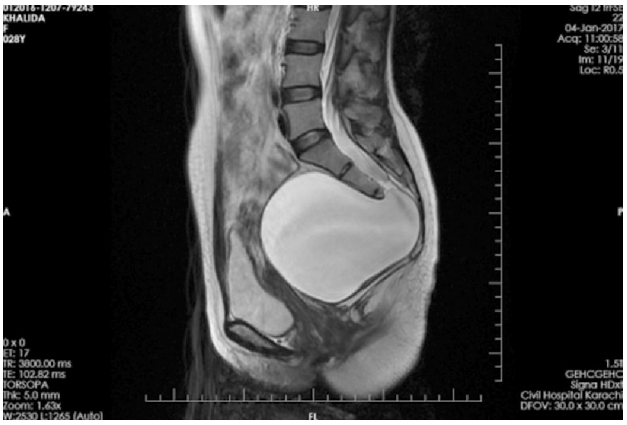

Figure 3: Sagittal T2WI of MRI pelvis showing a T2 hyperintense presacral lesion communicating with spinal subarachoid space by a small neck.

Discussion

Anterior sacral meningocele (ASM) is defined as a cyst in the presacral space secondary to agenesis of a portion of the anterior sacrum.[1] It is a rare disorder, first described in 1837. It usually occurs sporadically, but familial cases have been reported as part of the Currarino syndrome characterized by anorectal malformation, sacral defect and presacral mass.[4] In our case there was no family history of congenital malformation or genetic disorder. In approxi-mately 50% of cases, associated malformations are found, such as spina bifida, spinal dysraphism, bicor-nuate uterus, and imperforate anus.[5] They are gene-rally diagnosed in the second or third decades and are more prevalent in women with ratio of 4:1,[6] representing 2.8% of all presacral tumors in females.[7,8] Radiological investigations including plain radiographs, ultrasound, computed tomography and magnetic resonance imaging (MRI) are the imaging techniques to reach the diagnosis. 'Scimitar' sign, a smooth curved unilateral sacral defect simulating shape of Arabic sabre on plain X-ray, is considered to be pathognomonic of ASM,[9] also seen on 3-D CT reconstruction of pelvis in our case. On CT and MRI it is present as a cystic mass in presacral space with defect in anterior sacrum and communicates with spinal subarachoid space by a small neck[3] same findings are also present in this patient.

Surgery is the best treatment for anterior sacral meningocele to obliterate the communication between

the ASM and subarachnoid space and various approaches have been described in the literature for the excision of an anterior sacral meningocele.[1,3]

Conclusion

Since the anterior sacral meningocele is a rare entity, it may be confused with more common cystic lesions of gynecologic origin during routine ultrasound examinations of female patients. When cystic lesions of a presacral location whose relationship with gynecological organs is not clear are detected during an ultrasound, an MRI would be an appropriate approach for evaluation an anterior sacral meningocele.

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