INTRODUCTION

Meningoceles are commonly found at the thoracic and lumbo-sacral spinal levels, mostly posterior. They constitute about 10% of all patients with spina bifida. Anterior sacral meningocele (ASM) is an exceedingly rare condition, which may be asymptomatic presenting late in life or present early with symptoms due to compression effect over the surrounding pelvic viscera. This case emphasizes the importance of considering an anterior sacral meningocele in patients with lower abdominal mass and concomitant urinary symptoms.

CASE REPORT

A 2-month-old female baby was admitted through the out-patient clinic with the complaints of abdominal distension and urinary difficulty for one week. She was born full-term at hospital with no significant perinatal history. The abdominal distension had developed gradually, mainly at the lower abdomen and there were no associated gastro-intestinal symptoms. The baby had to strain, while passing urine and there was history of retention of urine, off and on.

On examination, she had distended lower abdomen with a palpable, firm, well circumscribed, rounded and non-tender immobile mass. It was dull on percussion, extending from the symphysis pubis upto the umbilicus. Anal, urethral and vaginal orifices were separately appreciable. Anal tone was normal on digital rectal examination. Clinically, she was suspected to have the pelvic mass as the cause of her symptoms.

On investigation, her Hb% was 8.8 gm/dl with raised TLC (20,700/cmm). Serum creatinine was normal, but serum potassium was low (2.9 mEq/l). Initial ultrasound of the abdomen and pelvis showed bilateral hydronephrosis and a cystic mass measuring (8.9 cm x 9.7 cm) having an echogenic area of (3.6 cm x 7.5 cm) in the pelvic region, anteriorly abutting the urinary bladder giving an impression of hydrocolpos. Magnetic resonance imaging (MRI) was then performed, which showed a pelvic mass originating from lower sacral segments anteriorly and compressing the urinary bladder (Figure 1). After optimization of her condition, the baby was operated. Pfannensteil incision was used to approach the pelvic cavity. The urinary bladder was found to be thick walled, with normal looking uterus, fallopian tubes and ovaries. A huge, retro-peritoneal, multi-loculated cystic mass was identified arising from the lower sacral and coccygeal segments, just behind the rectum. Cyst was initially deflated to aid its excision and was then excised. The stump was ligated and closed. The specimen sent for histopathology which later confirmed it to be a meningocele.

ABSTRACT

Anterior sacral meningocele is a rare condition presenting as a lower abdominal mass. One such case was seen in a baby girl aged 2 months, who was admitted with abdominal distension and urinary difficulty for one week. She had a lower abdominal mass which investigated by MRI, turned out to be an anterior sacral meningocele causing her symptoms. The meningocele was excised successfully via an open abdominal approach. Postoperative recovery and follow-ups remained uneventful. Presentation, various diagnostic modalities and treatment options for an anterior sacral meningocele are briefly discussed.

Key words: Meningocele. Anterior sacral meningocele. Lower abdominal mass.

Figure 1: MRI lower abdomen-sagittal section on T2 weighted sequence showing the pre-spinal cystic mass.

Postoperative recovery was uneventful. The baby was allowed oral feeds on 3rd postoperative day and was sent home on the 5th postoperative day. At follow-up, the...
Anterior sacral meningocele is a rare congenital malformation. It was first described in Lancet in 1837 from the Medical Society of London as a part of neural tube defect spectrum. Since then, only 250 cases have been reported in the literature. It usually presents as a cystic mass arising from anterior sacral and coccygeal defect, lies behind the rectum and in front of the sacrum, in the pelvis and communicates by a small neck with the spinal sub-arachnoid space. The same pattern of defect was observed in this patient. It occurs equally in both genders in childhood, but in adults, female pre-dominance has been observed and represents 2.8% of all presacral tumours in females. 

There may be a familial tendency. ASM may remain asymptomatic until discovered late in life or manifest early by non-specific symptoms, as in this patient who presented with lower abdominal distension and difficulty in micturition. Plain radiography, ultrasound, myelography, computed tomography (CT) and magnetic resonance imaging (MRI), are the imaging techniques to reach the diagnosis. However, MRI is the imaging study of choice for properly defining the anatomy and planning its excision. In this case too, the MR imaging clearly defined the origin and the extent of the meningocele, which was also confirmed per operatively. So MR scan should be considered, if any pelvic mass is encountered with local compression effects in an infant.

Surgery is the best treatment and various approaches have been described in the literature for the excision of an anterior sacral meningocele. Traditional approaches described are; the posterior (posterior sagittal, lumbar and/or sacral laminectomy, laminotomy) and the anterior (laparoscopic or open trans-abdominal/laparotomy) approaches. Posterior approach is preferred most of the time especially in uncomplicated cases, however, anterior trans-abdominal (laparotomy) approach is considered to be safe, because it provides an excellent exposure, helps in properly defining the anatomy and aid its excision. In our patient too, we used the lower abdominal approach which provided us with a good exposure and excision of the meningocele. It should be employed in such cases therefore.

Once the initial problem is taken care of, one must pay attention to a number of issues, which may be encountered in the long-term. There is a fair chance of recurrence in cases of anterior sacral meningocele. In our patient, the baby did not develop any sign of recurrence, as evidenced by the ultrasound done one month after the initial surgery. The other probability is the development of a “neurogenic bladder” as patients with anterior sacral meningocele may have a neurogenic bladder. Our patient was found to have a thick walled urinary bladder. So the parents were counseled for any symptoms developing in future with special insistence on regular follow-ups.

Anterior sacral meningoceles, though rare, should be considered in an infant presenting with lower abdominal mass along with symptoms due to compression. MRI should be the investigation of choice in properly defining the anatomy before exploration for the mass. Lower abdominal open approach provides an easy access to the lesion.

REFERENCES