Mucocolpos associated with bladder exstrophy: a case report

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Introduction: *We present the first reported case demonstrating an association of mucocolpos and bladder exstrophy.*
Materials: *A term baby girl presented with bladder exstrophy and underwent a successful primary bladder closure and ureteral reimplantation. Subsequently, she presented with a fluid-filled pelvic mass which was found to be a mucocolpos.*
Results: *Surgical drainage of the collection was required.*
Conclusion: *Mucocolpos should be considered in the differential diagnosis of a pelvic mass in a patient with bladder exstrophy.*

Key Words: mucocolpos, bladder exstrophy

Introduction

Mucocolpos is a congenital cystic dilatation of the vagina caused by obstruction of the distal genital tract, resulting in the accumulation of fluid and mucus secretions.[1] It is a condition that may manifest either at birth as a palpable hypogastric mass, or more commonly at puberty, presenting as a progressive accumulation of menstrual blood causing hematometrocolpos.[2] Associated congenital urinary tract anomalies have been described. However, there are no reported cases of mucocolpos associated with bladder exstrophy. We describe an infant who underwent primary closure of bladder exstrophy who subsequently presented with bladder outlet obstruction from a large mucocolpos.

Case presentation and management

A term baby girl was born uneventfully with a 2 cm x 2 cm bladder exstrophy plate.

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On the first day of life, primary bladder closure in conjunction with cephalic ureteral reimplantation was performed since the bladder plate was found to be favorable and elastic. The bladder neck was tapered in order to improve outlet resistance and bilateral concurrent oblique iliac osteostomies were performed. No vaginal abnormalities were noted.

The initial postoperative course was uneventful and abdominal ultrasonography on day 7 revealed normal appearing kidneys without hydronephosis. The right and left ureteral stents were removed successfully on POD #11 and 14, respectively. The infant was kept on prophylactic antibiotics. Bladder cycling was begun by clamping of the suprapubic tube. Initial residual volumes were 60 cc. The serum creatinine value had reached a nadir of 26 mmol/L.

Repeat abdominal ultrasonography at 1 month demonstrated a grade 1 right and grade 3 left hydonephrosis. There was a concern about post-ureteral reimplantation obstruction. The infant was voiding well with low residual volumes. A MAG-3 renal scan was performed showing no obvious sign of ureteral obstruction.

Six weeks post-operatively, the suprapubic catheter was removed. The residual urine volumes at the time of removal were 10 cc to 30 cc. Repeat abdominal U/S demonstrated stable hydronephrosis and a small ill defined structure behind the bladder.

Ten weeks post-operatively, the infant returned to the ER with fever and lethargy. Initial blood studies revealed a WBC count of 27 x 10^6/mL and a creatinine of 25 mmol/L. Catheterization was difficult as a result of an acute ventral displacement of the urethra. Urinalysis of the catheterized specimen was consistent with a urinary tract infection.

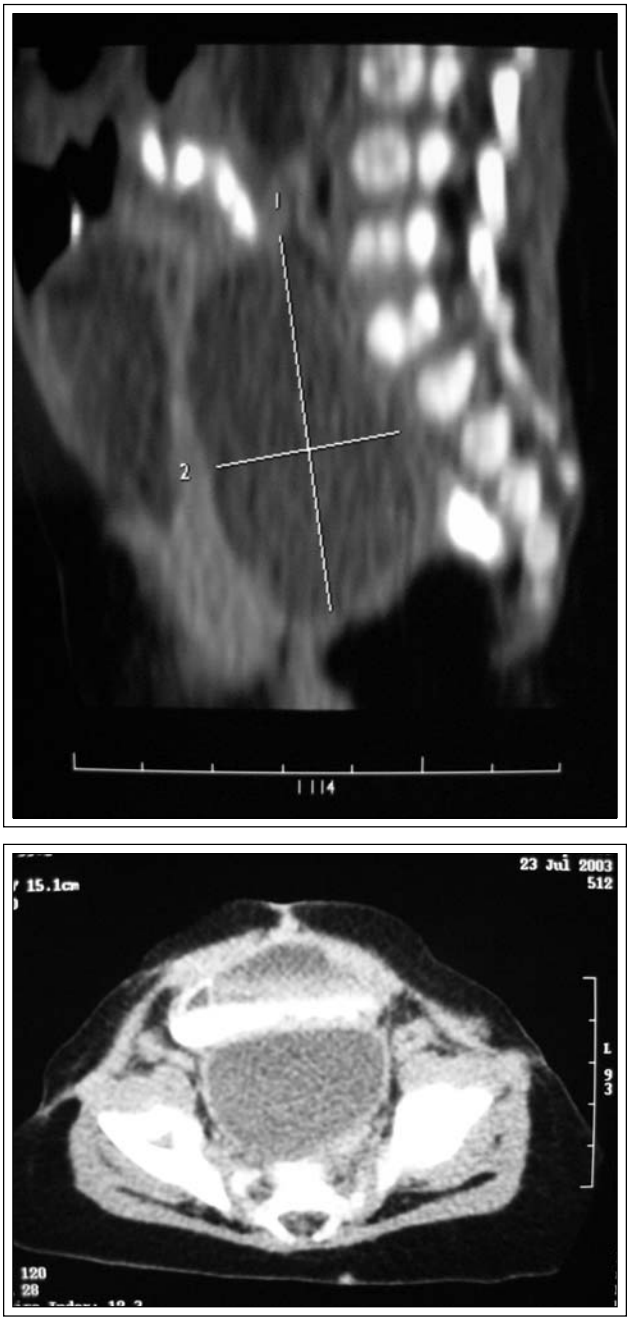

Figure 1. Pelvic CT 10 minutes post-contrast injection revealing a 5.2 cm x 4.2 cm fluid filled collection posterior to the bladder and anterior to the rectum seen in (a) axial and (b) sagittal views.

An abdominal ultrasound showed a 4 cm x 4.5 cm x 2.5cm fluid-filled pelvic mass immediately behind the bladder, distinct from the rectum. A CT scan more precisely demonstrated a 5.2 cm x 4.2 cm x 2.6 cm collection between the bladder and rectum. Figure 1

Intraoperative evaluation by vaginoscopy and cystoscopy revealed a distal vaginal anular membrane with an obstructive lower lip. Incisions into the membrane were made at the 5 and 7 o'clock positions. Mucoid material was drained. Further examination revealed a normal vagina, cervix and bladder mucosa. Catheter drainage was maintained in both the vagina and bladder. Significant improvement in the hydroureteronephrosis was noted on ultrasound 6 months postoperatively.

Discussion

This case represents the first reported association of mucocolpos and bladder exstrophy. An imperforate hymen slowly lead to the development of a mucocolpos. The ventral displacement of the urethra and bladder outlet obstruction that ensued contributed to the persistence of postoperative hydronephrosis.

As such, mucocolpos should be considered in the differential diagnosis of retrovesical collections in patients with bladder exstrophy. □

References

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