

Vanishing Hydrocolpos, A Rare Encounter For Radiologists - A Case Report

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1. Introduction

Vesicovaginal reflux is a rare, but well - known entity encountered by radiologists. It is a behavioral disorder, which is a type of dysfunctional elimination syndrome seen most commonly in pre - pubertal girls, most of them being obese. Vesicovaginal reflux: in its definition means reflux of urine into the vaginal vault either in supine or upright position during voiding. These patients present with varying clinical presentation which includes asymptomatic bacteriuria, recurrent urinary tract infections, dysuria, post - voiding incontinence and vulvovaginitis. The diagnosis is usually clinically but, radiological diagnosis is made when there is complete resolution of hydrocolpos on a post - voiding scan. Although this entity is rarely encountered by the radiologists it is important to be aware of this so as to differentiate this functional disorder presenting as hydrocolpos from other obstructive causes of hydrocolpos which may require surgical management.

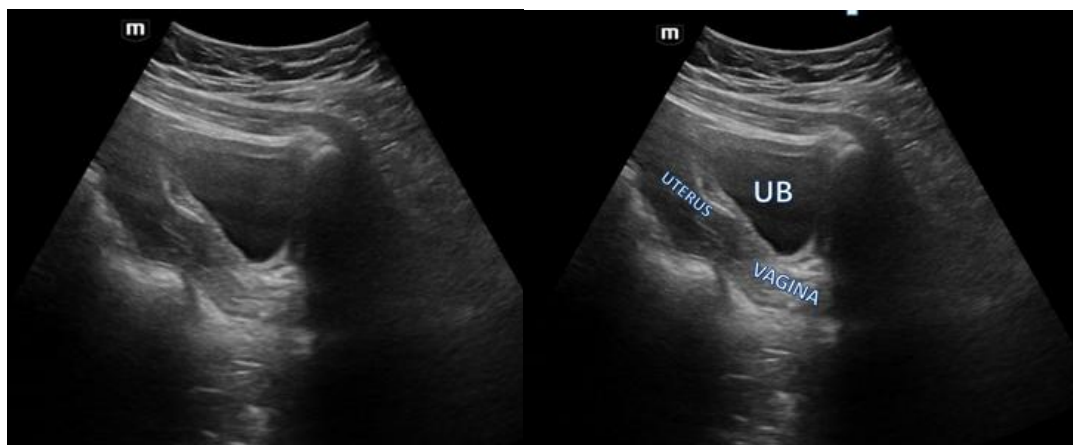
2. Case Report

A 12 - year - old adolescent female, weighing 78.6 kg, menarche not attained presented with intermittent abdominal

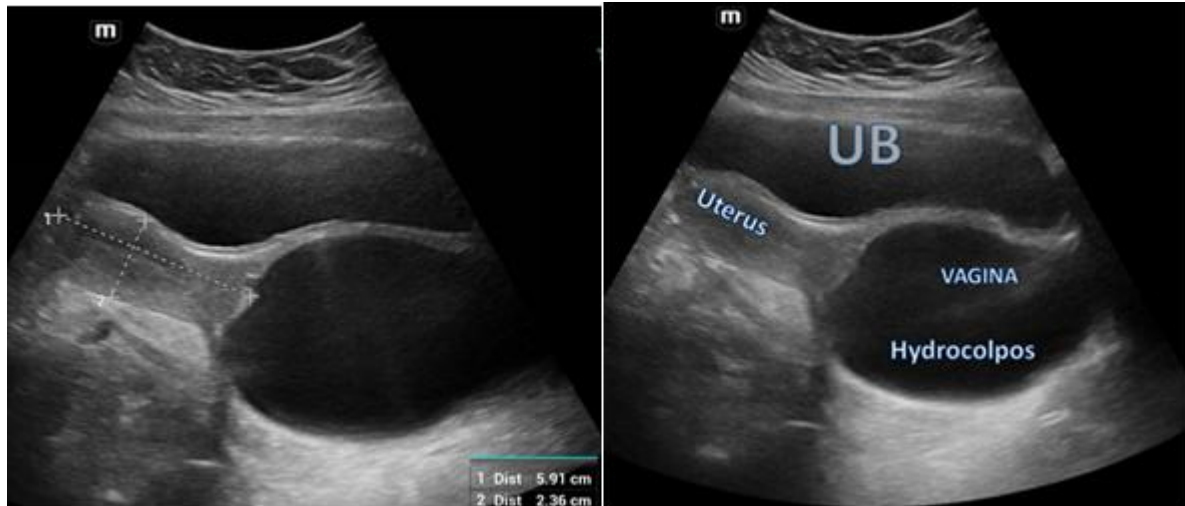
pain, recurrent UTI and urinary incontinence since childhood. Clinical examination revealed normal external genitalia. On limited per vaginal examination, hymen appeared normal – not imperforated. Renal function tests and blood counts were within normal limits, except for (Hb: 10.9gm). Urine examination revealed numerous pus cells, red blood cells and epithelial cells. There was significant bacteriuria (++); Escherichia coli was the organism isolated. Ultrasonography of the abdomen and pelvis revealed a grossly distended fluid - filled vagina that was suggestive of hydrocolpos. The uterus, both ovaries and the urinary bladder were normal. Postmicturition study showed complete evacuation of the vaginal fluid and postvoid residual urine of 39 ml in the urinary bladder. The ureteric jets on both sides were normally seen within the bladder. No obvious reproductive tract abnormalities were seen.

3. USG Findings

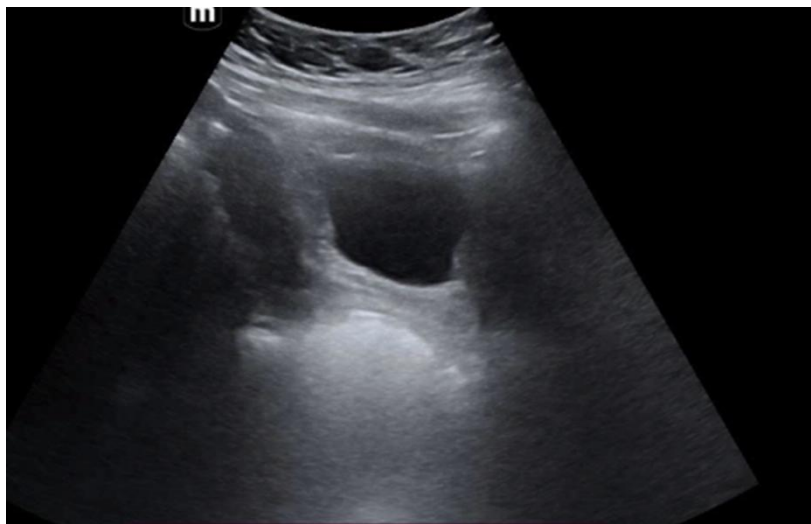
- 1) Initial ultrasound showed partially filled urinary bladder. Reproductive organs were normal



- 2) Patient was asked to wait for a full bladder scan. Ultrasound was performed after 15 minutes. USG: Showed a cystic area inferior to the uterus, anterior to recto - sigmoid and posterior to urinary bladder (appearing like hydrocolpos). Visualized posterior UB wall showed no obvious defect.



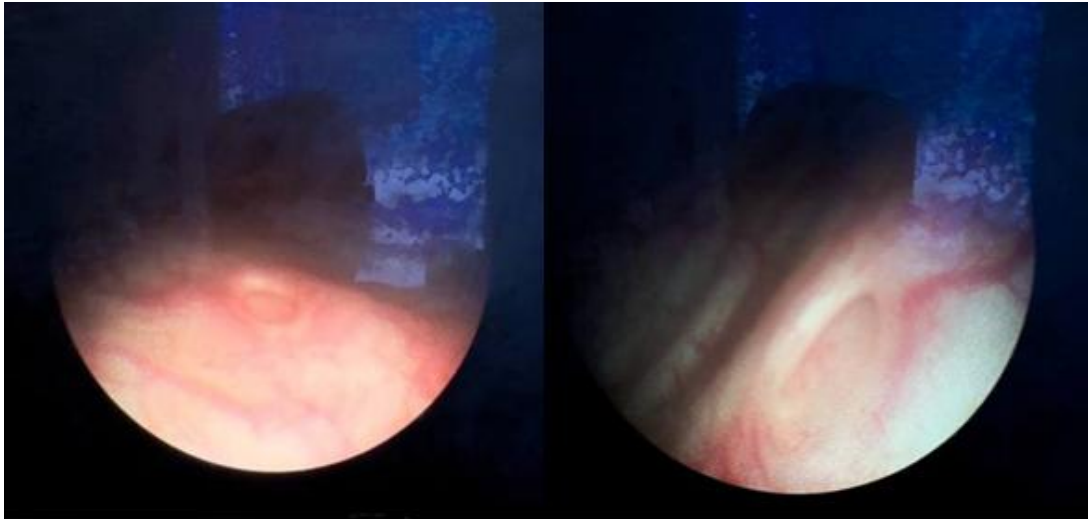
- 3) Following which, patient was asked to void and another scan was performed. Scan showed no e/o of previously seen hydrocolpos or cystic area. Post void residual urine was ~ 39ml.



- 4) For further evaluation – CT urogram was advised to rule out any communication with the urinary tract, vesico - vaginal fistula, ectopic ureter. There is contrast filled distension of the vaginal cavity when the urinary bladder is over distended with complete emptying of vaginal contrast in post - void scan. (PVR: 25cc). No renal duplex collecting system / ectopic ureter insertion / vesico - vaginal or urethro - vaginal fistula detected.



- 5) Cysto - genitoscopy was done for further confirmation. Normal ureteral opening seen. No diverticulum / out - pouching noted in the bladder or urethra. No ectopic ureter insertion noted.



4. Discussion

Vesico - vaginal reflux is commonly encountered; still it remains a rare cause for hydrocolpos. VVR causes filling of vagina with urine in a retrograde fashion while during micturition. It can occur in both, the supine and the upright positions. [1]Clinical manifestations vary in patients, commonly including urinary incontinence, recurrent urinary tract infection (UTI), wetting, vulvovaginitis and vaginal discharge may be the various presentations. [1, 3, 5]. UTI maybe due to contamination from the vaginal flora, most commonly by the bacteria; *Escherichia coli*. VVR is commonly seen in prepubertal females however, it may also be seen in post - pubertal girls and women. [3]Obesity plays a role in risk factor. The vaginal distention may be complete, partial or minimal; gross distention is relatively uncommon. [4] The urogenital tract anatomy is usually normal for age. [3, 4]Etiologies include a relatively horizontal vagina in the prepubertal age, tightly apposed labia in obese subjects, labia minora adhesions, hypospadiasis and spastic pelvic floor muscles (as seen in patients with cerebral palsy). [1, 3, 5-7] A wide bladder neck, a spinning top urethra or low - bladder volumes may be the associated functional voiding disturbances. [1, 8, 9]The diagnosis of VVR is by resolution of the hydrocolpos on a postvoid USG and can be confirmed with a voiding cystourethrogram, which shows gradual distension of the vagina during micturition due to its retrograde filling as the bladder empties.

In our case gross hydrocolpos makes it unusual. Absence of hydrometra and limited per vaginal examination ruled out an imperforate hymen.

Instructions on proper voiding form a key element in the management of VVR. [3]

References

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