Urinary retention secondary to gynaecological pathology

Dominic Fairbrass FY2, North Lincolnshire and Goole NHS Foundation Trust

Introduction

- Acute urinary retention is a relatively uncommon presentation in children and can be secondary to a variety of causes; most commonly neurological processes (17%), voiding dysfunction (15%), urinary tract infection (13%) and constipation (13%)[1].
- Imperforate hymen resulting in haematocolpus and subsequent urinary retention has an approximate incidence rate of 0.05%-0.1% and if left untreated can lead to a range of complications including infection, hydronephrosis and renal failure. [2]
- Haematocolpus is typically managed through surgical intervention, usually either by hymenectomy or cruciate hymenal incision. A low rate of recurrence exists and post-operative outcomes are generally very positive.[3]
- This case highlights the importance of considering a broad range of differentials when assessing and managing paediatric patients with acute urinary retention.

Initial presentation and management

<u>History at presentation</u>

A 12-year-old girl with no significant past medical history, born GA 40+0 NVD, antenatal imaging unremarkable.

She presented with a 2-week history of intermittent, worsening urinary retention with suprapubic pain. She additionally had a prolonged history of passing hard stools with bowels not open for the last two days. No gynaecological history was taken at initial assessment.

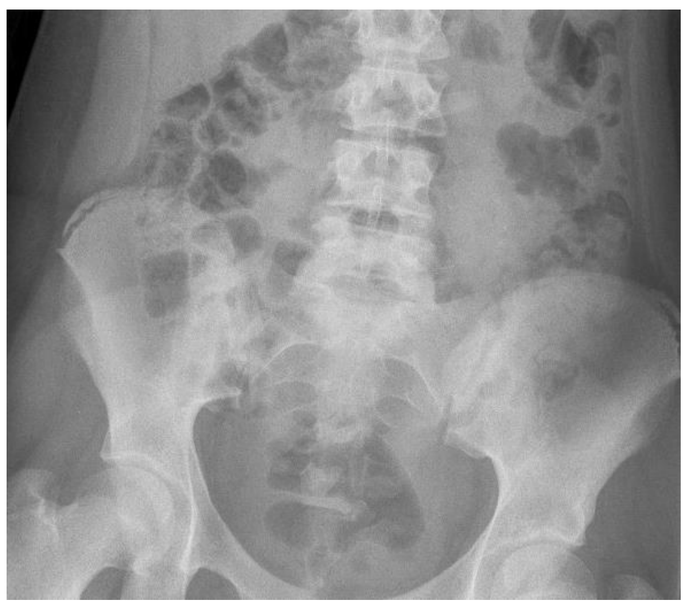
<u>Examination at presentation</u>

Upon examination the patient reported acute abdominal pain with notable suprapubic distention and tenderness, a bulky mass was palpated in the area of the bladder. She appeared well perfused but pale and was afebrile with normal observations recorded.

<u>Diagnosis and management</u>

This patient was initially believed to be in urinary retention secondary to constipation with the following management plan formulated;

1. Urgent catheterisation (1300ml drained)
2. Urine MCS
3. Laxatives
4. Abdominal X-Ray (Figure 1)

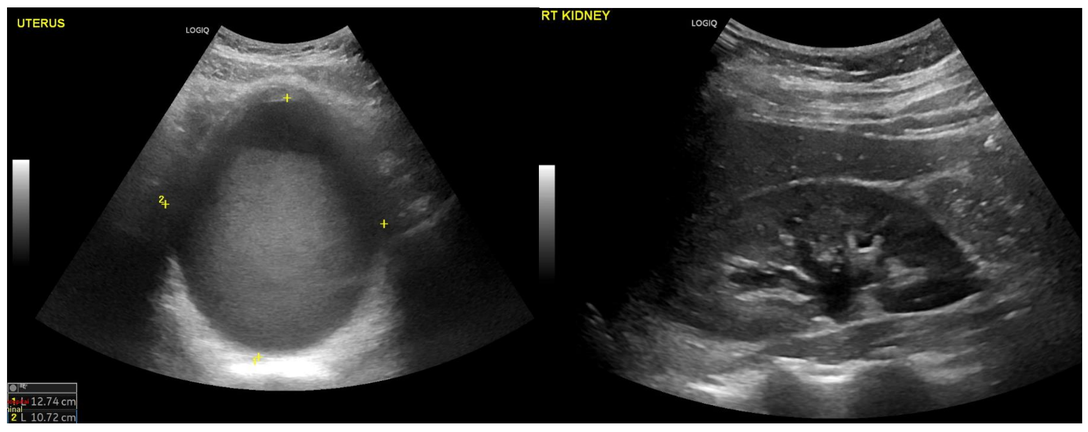


(Figure 1)

Following successful bladder drainage, the urinary catheter was removed and laxatives with enema were administered. Unfortunately, trial without catheter proved unsuccessful due to a misunderstanding of the underlying pathology. An abnormal appearance of the external genitalia was noted and incorrectly attributed to raised intra-pelvic pressure secondary to retention and constipation.

At this point consultant review including gynaecological history was performed, identifying an abnormal gynaecological history. Patient reported menarche 6-weeks-ago with intermittent bleeding since then with cyclical abdominal predating menarche.

The patient was re-catheterised and an US KUB requested demonstrating a 130mm x 110mm cystic mas with low echogenicity consistent with haematocolpus or haemorrhagic cyst (Figures 2,3). It additionally showed a mild bilateral hydronephrosis. A referral for gynaecological review and MRI pelvis was requested.



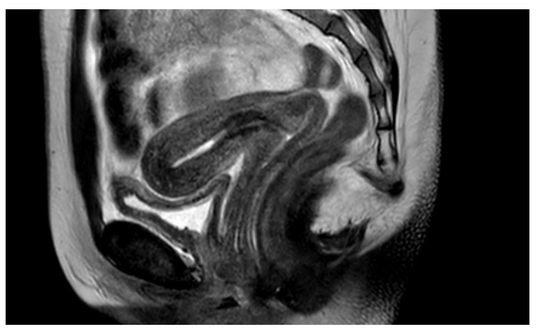
<u>Resolution</u> (Figures 2,3)

Later the same day the overnight on-call team was called to review the patient due to increasing abdominal pain. Analgesia was given for symptom relief and reassurance provided. Examination remained consistent with previous findings and no acute cause for concern was identified.

Several hours later the on-call team were urgently called to the patient due to nursing staff reporting sudden onset per vaginum bleeding totalling 750mls. The blood collected was described as being not fresh in nature.

The patient was understandably initially very distressed, however they quickly reported the complete resolution of all previous symptoms. The patient was reviewed overnight by the on-call gynaecology team, tranexamic acid was prescribed. Transfusion was not deemed appropriate due to no further bleeding, the appearance of passed blood and haemodynamic stability. Blood testing performed later showed no evidence of acute blood loss.

An urgent MRI was scheduled for the morning showing a uterus of normal size and shape, no evidence of focal mass lesion was identified, and traces of free fluid were seen within the pelvis (Figure 4). A retrospective diagnosis of haematocolpus was made.



(Figure 4)

Discussion

This case is important in highlighting several key learning points and improvements for future care; most obviously the importance of taking a clear and thorough gynaecological history in patients of relevant pubertal development. The underlying potential pathology of adolescent urinary retention is broad and an accurate initial diagnosis not only ensures appropriate treatment but is also essential in avoiding unnecessary and invasive interventions such as in the management of constipation.

This case also highlights the tendency of clinicians at times to fixate upon a specific diagnosis despite the emergence of additional information that could prompt re-evaluation. In this case factors such as an unconvincing constipation history, non-specific radiological findings for constipation and an abnormal examination of the external genitalia were falsely attributed purely to constipation and retention.

In addition to these learning points I believe this case to be of additional clinical interest due to the spontaneous resolution of this haematocolpus without the need for surgical intervention.

References

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2. Lee KH, Hong JS, Jung HJ, Jeong HK, Moon SJ, Park WH, Jeong YM, Song SW, Suk Y, Son MJ, Lim JJ, Shin JI. Imperforate Hymen: A Comprehensive Systematic Review. J Clin Med. 2019 Jan 7;8(1):56. doi: 10.3390/jcm8010056. PMID: 30621064; PMCID: PMC6352236.
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