



ISSN 2278 – 0211 (Online)

Ultrasound Findings in a Case of Hematocolpometrosalpinx in an Eleven Year Old Kenyan Girl

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Abstract:

In this case, an 11 years old female presented to our hospital with recurrent cramping lower abdominal pains for three consecutive months. She denied any history neither of dysuria nor per vaginal discharge. There was no history of sexual contact or sexual assault. Prior to coming to our hospital, she had undergone treatment for lower urinary tract infection on a clinical basis without improvement. The doctor at our hospital facility ordered for an abdominal ultrasound and urinalysis tests. The urine was 0-5pus cells/hpf, nil protein, nil glucose, nil nitrite, and had a specific gravity of 1010. The ultrasound revealed free fluid collection with low-level internal echoes in the endometrial cavity that extended into the vagina with a bulging membrane and also extended to be involving the fallopian tubes that were visualized as dilated fluid-filled structures with surrounding free fluid in the adnexae. This was then diagnosed as a severe case of haematocolpos that involved the fallopian tubes thus qualifying it to be haematosalpingometocolpos or haematocolpometrosalpinx. Haematocolpometrosalpinx is a collection of blood and fluid within the fallopian tubes, uterus, and vagina. This condition is usually due to acquired or congenital anomalies of the uterus and vagina. It can present in children, adolescent females or adult females. Patients may be asymptomatic or can present with vague pelvic discomfort or pain during defecation or urination due to pressure on the rectum or bladder by the pelvic mass. Pelvic ultrasound is an important diagnostic tool in evaluating the cause of unexplained recurrent lower abdominal pains in adolescent and pre-adolescent females. Following Hymenectomy, the patient commenced normal menses with no pain in the subsequent months.

Keywords: Hematometocolpos, Haematosalpingometocolpos, haematocolpometrosalpinx, haematocolpos

1. Case report

- Case Presentation: F.B. (not her real name) was an eleven (11) year old girl that presented in the accident and emergency unit with history of primary amenorrhea, cyclic lower abdominal pains last 3 months (cramping in nature) plus urine urgency. However, she reported no history of dysuria, she was given Buscopan plus with no relief, the second month the pain occurred and she was given Zinnat 250 milligrams twice a day for 5 days to treat what was suspected to be recurrent urinary tract infection. During the third month, the pain was worse, there was a palpable abdominal mass, and urine urgency thus the doctor referred the client to the radiology department for a pelvic scan to rule out any abdominal mass or chronic urinary tract infection. On physical examination, she had a palpable abdominal mass tender on touch and a bulging membrane was protruding within the vaginal canal. Her vital observations were normal and the total blood count done was normal. Urinalysis was normal.
- Examination ordered: Trans-abdominal pelvic ultrasound
- Indication: Lower abdominal pains with a palpable mass and urinary urgency.
- Procedure: Patient drank four glasses of water in order to fill her urinary bladder. She lay supine on the ultrasound examination couch with the lower abdomen exposed, and then ultrasound gel applied. The sonologist interrogated the uterus and ovaries using a multi-frequency 5-10MHZ curvilinear probe in sagittal and transverse planes. Representative sonograms (ultrasound images) were taken.
- Findings: The series of sonograms presented in figures 1, 2, 3, 4, 5, and figure 6. Figure 1 and Figure 2 shows a distended fluid-filled uterine cavity and vagina with low-level internal echoes. Figure 3 shows the fluid-filled distended vagina in longitudinal and transverse planes. Figure 4 and Figure 5 show fluid-filled distended fallopian tubes surrounded with minimal

free fluid collection respectively. Figure 6 shows the fluid-filled distended uterine cavity and vagina as being separate from the full urinary bladder. Overall, the sonograms showed fluid-filled distended fallopian tubes, uterine cavity, and vagina containing fluid with low-level internal echoes with posterior acoustic enhancement. The uterine wall appears thicker than the vaginal wall and the vagina appeared more distended with the bulging fluid-filled sac-like structure. The fallopian tubes had some little fluid similar to that in the endometrial cavity. Free fluid surrounded the normal sized ovaries that had normal follicular development.

Impression/Diagnosis: Considering the patient age and clinical history, and the classic sonographic findings of a dilated fluid-filled vagina, uterus, and fallopian tubes a diagnosis of Hematosalpingometocolpos due to imperforate hymen was entertained with a differential diagnosis of transverse vaginal septum.

- **Management and Outcome:** The young girl was taken in for day-care surgery by a gynecologist and hymenectomy was done under local anaesthesia. About 700mls of thick dark colored blood drained and the client discharged home on prophylactic antibiotics and paracetamol and advised on proper hygiene. She had minimal per vaginal bleeding for one week with no cramps and her menses were since then regular in the subsequent months. Pelvic ultrasound at 3 months later demonstrated a normal uterus with normal endometrium and both ovaries were normal and the fluid-filled dilated tubular structures previously noted in the adnexae were not visualized.

2. List of Figures Showing Findings

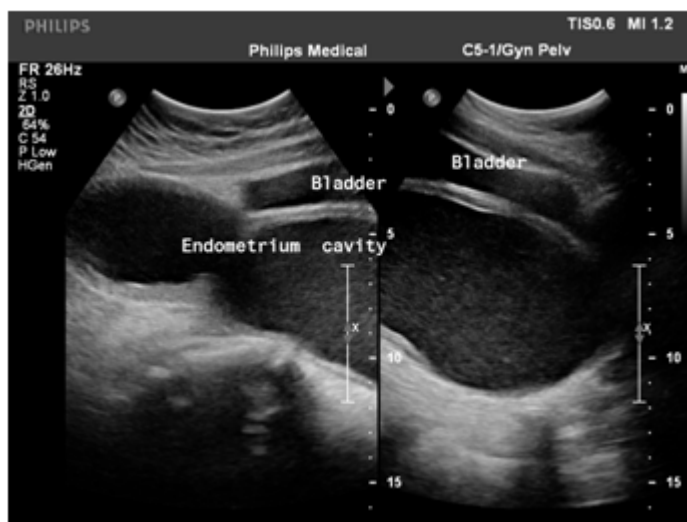


Figure 1: fluid with low level internal echoes is seen in the vagina and endometrium

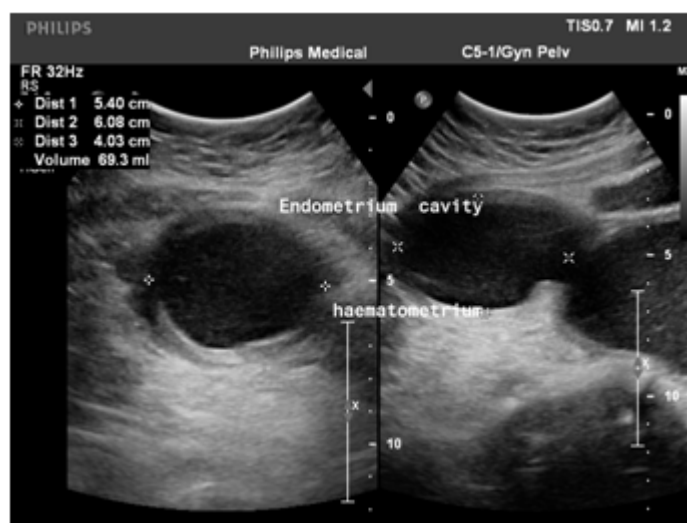


Figure 2: fluid with low level internal echoes is seen in the vagina and endometrium

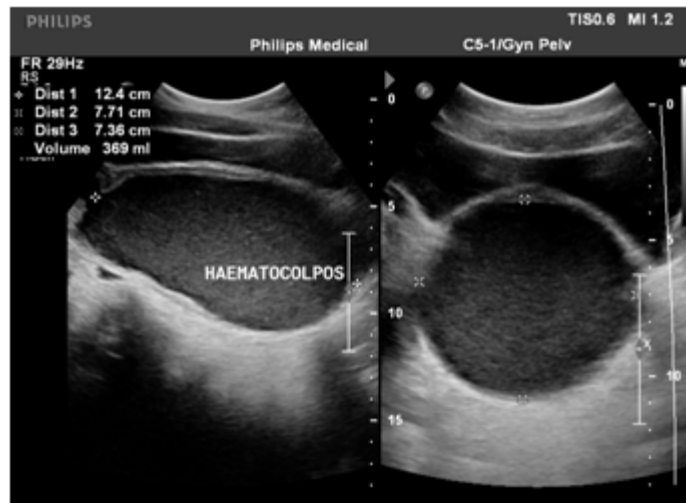


Figure 3: fluid with low level echoes is seen in the vagina with bulging membrane

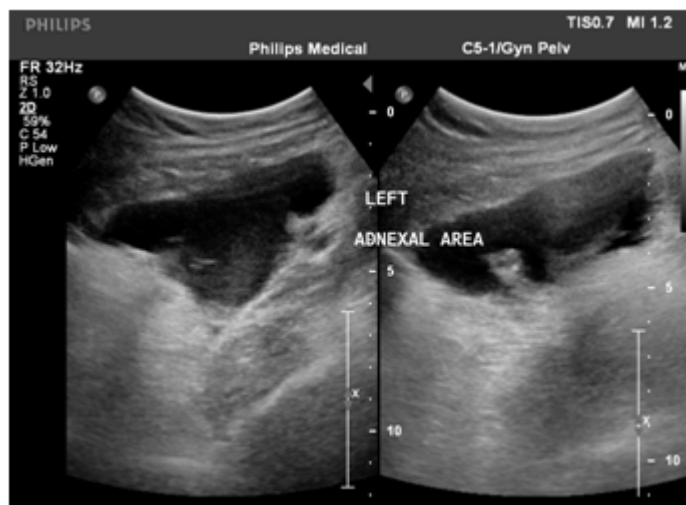


Figure 4: fluid- filled fallopian tube surrounded with free intraperitoneal fluid.

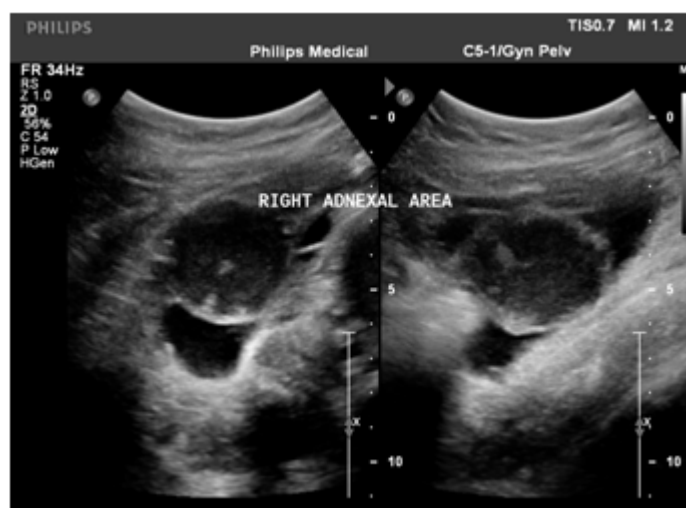


Figure 5: fluid-filled dilated tubular structure in the adnexa with low level internal

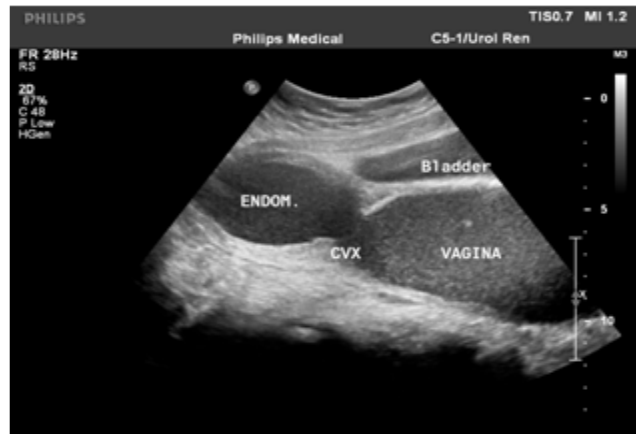


Figure 6: Vagina and endometrial canal are seen filled with fluid that has low level echoes

3. Discussion

In the initial consultations, our client had not undergone pelvic or perineal physical examinations despite her complaints on the lower abdomen. This may have contributed to a delayed diagnosis and consequent patient suffering. Perineal and pelvic physical examinations are important for medical practitioners that attend to children or adolescent females that present with lower abdominal pains. In addition, ultrasound plays a vital role in unraveling the underlying cause of pelvic symptoms in children or adolescent females that experience lower abdominal pains. In the case of haematometocolpos, the distended uterus or vagina appears as a pear-shaped structure with either anechoic or echogenic internal contents. If clotted blood is contained within the uterus, echoes emanating from the clotted blood can be seen. These are usually mobile when the patient is scanned in dependent positions. In this case no perineal examination had been done or even a pelvic ultrasound and the client was empirically treated for urinary infection because the clinical complaints mimic the same.

According to Shi Guang (1998), acquired or congenital obstruction of the female genital tract impedes flow of the cervical secretions or menstrual blood. In the female genital tract, congenital obstruction may be caused by an imperforate hymen, a vaginal membrane, or absence or some degree of atresia of the vagina. Embryologically, the hymen is of urogenital sinus origin and hence an imperforate hymen is not usually associated with other congenital anomalies. However, since the vagina is a derivative of the Mullerian duct origin, vaginal anomalies tend to be associated with uterus and the urinary bladder abnormalities.

Hematometocolpos is a collection of blood and fluid within the uterus and vagina as a sequel to congenital or acquired obstructive malformation of the uterus or vagina. Some obstructive causes in an adolescent girl may include imperforate hymen, septated vagina, rudimentary uterine horn, and vaginal atresia. In adults, some obstructive causes may be cervical stenosis from cervical or endometrial tumors, and post-irradiation fibrosis. While some non-obstructive causes include urogenital sinus anomalies and ureteral/vaginal fistulas. In terms of clinical presentation, some patients may be asymptomatic but can present with vague pelvic discomfort or pain during defaecation or urination due to compression on the rectum or bladder by the pelvic mass. (Dahnert, 2005)

There have been some ultrasound case reports of haematometocolpos, haematometra, and haematosalpinx all of which exhibit relatively similar ultrasonic appearance (Anna Hawrylak, n.d; Buzi et al, 1998; Dr Maxime St-Amant and Radswiki et al, n.d; Orbak et al, 1998;). However, the particular case presented here involves a much younger patient and it was severe in the sense that the fluid extended into the fallopian tubes in addition to that in the uterus and vagina and thus it was actually a case of haematocolpometrosalpinx or haematosalpingometocolpos .

4. Conclusion

This case demonstrates the importance of pelvic and perineal physical examination as well as the role of pelvic ultrasound in young adolescent females who complain of lower abdominal pains. Ultrasound is a useful tool in demonstrating the extent of the fluid or blood within the uterus and vagina as well as into the fallopian tubes as happened in this case involving a much younger patient with fluid extending into the fallopian tubes in addition to that in the uterus and vagina and thus it was actually a case of haematocolpometrosalpinx.

5. References

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