CASE REPORT

Transabdominal ultrasound-guided Gartner's abscess drainage, a rare cause of acute urinary retention in second trimester of pregnancy

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SUMMARY

Acute retention of urine in pregnancy is an emergency, since it can lead to loss of pregnancy besides other dire complications. Gartner's abscess is an extremely rare cause for this condition. We present a case of a 23-year-old primigravida woman who presented to us at 24 weeks of pregnancy with acute retention of urine. After clinical and radiological evaluation, a large Gartner's abscess was found to be the cause. Per vaginal drainage of the abscess was not attempted because insertion of transvaginal probe was extremely painful for the patient, and the abscess was located high up in the anterior fornix. Transabdominal approach under sonographic guidance was used for the drainage of the abscess. Careful aspiration of the abscess, avoiding injury to the placenta, fetus and maternal bladder, revealed 60 cc of frank pus. The patient was given injection hydroxyprogesterone caproate and antibiotics in the preprocedure period. Antibiotics were continued in the postprocedure period, and she was discharged at 26 weeks of pregnancy in satisfactory condition.

BACKGROUND

Acute retention of urine in pregnancy is a rare event. Most of the cases are attributed to acutely retroverted uterus and in some other cases no apparent cause is found. Early diagnosis and rapid measures are essential to avoid irreversible uterine ischaemia, spontaneous abortion, infections, permanent bladder dysfunction and loss of pregnancy. Our patient presented with Gartner's abscess causing retention of urine, a diagnosis difficult to make and even more difficult to treat. Gartner's ducts are identified in approximately 25% of all adult women, and nearly 1% evolves into Gartner's duct cysts.¹ The abscess, in spite of being large in size, was located high up in the anterior fornix and not visible on per speculum examination. Therefore, a transabdominal approach, despite its challenges, had to be used to drain the pus. We present an unusual case with an atypical cause and isolated treatment of the same.

CASE PRESENTATION

Our patient, a 23-year-old primigravida woman, presented to our emergency department in January 2018 with inability to pass urine for the past 4 days. According to the patient, she was apparently asymptomatic 4 days previously when

she had difficulty in passage of urine which gradually increased over the course of the next few days to the extent of complete inability to pass urine. She also had associated pain in the abdomen and the perineal region and fever. However, she had no other symptoms. She was seen by a doctor at a private institute in Lucknow, India. The patient was catheterised and was started on intravenous antibiotics but no apparent cause was found, and consequently, she was referred to us. She gave a history of similar vaginal swellings associated with fever twice in the past. She had not sought any medical attention as the swellings subsided after spontaneous discharge of pus through the vaginal route. She did not report to have any other significant family history or history suggestive of any chronic illness. On admission, she was conscious, oriented but uncomfortable due to intense pain in the perineal region. She had tachycardia, attributed to pain, other vitals were normal. The patient was giving a history of fever 4 days previously which responded to antibiotics prescribed elsewhere. Her indwelling per urethral catheter with Uro Bag had 200 cc of urine. On examination, she had a fundal height corresponding to 24 weeks, uterus was relaxed and fetal cardiac activity was present as seen on ultrasound. Per speculum examination showed anteriorly pulled cervix, and no swelling could be located. However, per vaginal examination revealed a tense tender cystic mass of approximately 5×4 cm located at the superior portion of the anterior vaginal wall, with smooth surface and well-defined margins.

INVESTIGATIONS

Transabdominal ultrasonography showed a single live intrauterine fetus with a composite gestational age of 23 weeks 1 day, with anterior placenta extending up to the midcavity and adequate amount of liquor. A spherical hypoechoic collection on the superior portion of the anterior vaginal wall of 6.2×5.7×4.2 cm corresponding to 59.7 mL with echogenic particles with swirling movement on transducer pressure (figure 1). The maternal urinary system was unremarkable.

Total leucocyte count: $2.14 \times 10^{10}/L$

Differential count: N80, L16, E3.

Pus cytology: Necrotic material, acute inflammatory exudate.

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Figure 1 Preprocedure ultrasound image showing Gartner's abscess.

Pus culture and sensitivity: sterile (because the patient has already received intravenous antibiotics).

TREATMENT

On evaluation, as per images seen in literature and ruling out other probable anterior vaginal wall masses, a diagnosis of Gartner's abscess was made. Gartner's abscess diagnosis was made because it was situated at the anterior wall of the superior portion of the vagina. Ultrasound shadow was spherical hypoechoic collection and it has plenty of echogenic particles with in it, and compression of transducer induced swirling of contained pus, so it was suggestive of abscess. Attempt at transvaginal drainage of the abscess was not made because the swelling was located high up in the anterior fornix, was highly tender and needed regional or general anaesthesia for drainage. Thereafter, the decision for a transabdominal drainage was taken. Abdomen was painted and draped. Local anaesthesia (1% Xylocaine) was given. A 25-gauge spinal needle was inserted under ultrasonographic guidance, carefully avoiding the maternal bladder, fetus and placenta, and 60 cc of pus was aspirated (figure 2). Immediate post procedure, resolution of abscess was noted (figure 3). Progesterone support by intramuscular route was given for 1 day. Injectable antibiotics (injection ceftriaxone 1g intravenously, 12 hourly, injection metronidazole 500mg

Figure 2 Amount of pus drained during the procedure.

Figure 3 Immediate postprocedure ultrasound showing resolution of abscess.

intravenously, 8 hourly, injection gentamicin 80mg intravenously, 12 hourly) were continued for a total of 7 days.

OUTCOME AND FOLLOW-UP

Per urethral catheter was removed in the postprocedure period. The patient was able to pass urine without difficulty and had relief of pain in the perineal region. She did not have any preterm labour pains or leaking/bleeding per vaginum which are the dreaded complications of our procedure nor did she have recurrence of any urinary symptoms. She was given antibiotics. On day 5 postprocedure, a repeat ultrasound was performed to rule out any recurrence (figure 4). The patient was discharged at 26 weeks of gestation in a satisfactory condition, and Gartner's cyst removal as a definitive treatment was planned in the postpuerperium period in view of the symptoms being recurrent.

DISCUSSION

Van der Linden *et al* reported an incidence of acute urinary retention as 0.07 per 1000 women per year.² Acute urinary retention in early pregnancy is even rarer with reported cases commonly attributed to obstructing bladder or pelvic masses,³⁻⁵ vulval oedema,⁶ cervical pregnancy⁷ or retroverted uterus.⁸ In a study done by Chen *et al* in 2016, the risk of AUR during pregnancy

Figure 4 Five days postprocedure follow-up image.

was 0.47% with the peak incidence of AUR onset in normal pregnancies occurring between the 9th and 16th gestational weeks.⁹ We present a case of AUR occurring at 24 weeks of gestation as a result of Gartner's abscess obstructing the bladder outlet. Gartner's cyst or abscess are mostly drained vaginally. After making this rare diagnosis, we decided to use a transabdominal approach for aspiration of pus, thus preventing the complications of AUR before any permanent damage could occur to the patient or her baby. This case is unique not only because of its atypical presentation but also because it demonstrates the feasibility of abdominal approach for drainage of Gartner's abscess in a pregnant patient. To the best

of our knowledge, no case of Gartner's abscess causing acute retention of urine in pregnancy has been reported in literature so far.

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Learning points

- ▶ Acute urinary retention can be caused by Gartner's abscess. Therefore, it should be considered in a case where retention cannot be attributed to other causes and simple conservative measures fail to relieve the symptoms.
- ▶ Gartner's cyst should be brought to medical attention and aptly treated as soon as symptoms appear, especially in low socioeconomic countries. If allowed to persist in a female until she conceives, it can cause acute urinary retention leading to dire consequences.
- ▶ Drainage of Gartner's abscess is also feasible through the transabdominal route in cases where transvaginal aspiration is not possible.

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