Acute Urinary Retention in Early Pregnancy: A Case Report

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ABSTRACT

An uncommon obstetric emergency called acute urine retention (AUR) in patients with retroverted uteri necessitates prompt treatment. If left untreated, it could result in major difficulties for the mother or the fetus. Between weeks 9 and 16 of gestation, the frequency of AUR peaked in healthy pregnancies. The female patient, age 31, who came with urinary hesitancy was discussed in this publication. A palpable urinary bladder was found during a physical examination. An intrauterine pregnancy was shown to be viable by obstetric ultrasonography and the uterus was retroflexed. With the implantation of a urinary catheter for one week, prophylactic antibiotics for one week, and follow-up with urology, the patient's symptoms disappeared. The most frequent cause of AUR is a retroverted uterus. Rapid identification and diagnosis are necessary. The risk factors, etiology, and clinical manifestation of AUR in the first and second trimesters of pregnancy should be known to clinicians.

Keywords: Acute urinary retention, first trimester, retroverted uterus.

I. INTRODUCTION

Even though acute urine retention (AUR) in pregnancy is uncommon, it can have negative effects on the mother and the fetus. AUR, which presents as a sudden inability to micturate with or without discomfort [1], is one of several clinical diseases that can develop as pregnancy continues as a result of anatomical and functional changes in the lower urinary tract. A healthy pregnant woman has a 0.47 percent probability of developing AUR. AUR can happen at any stage of pregnancy, however, it is most frequently seen between the ninth and sixteenth weeks [2]. Adenomyosis, myomas, cervical pregnancy, maternal anterior sacral meningoele, pelvic adhesions, congenital uterine malformations, endometriosis, and uterine prolapse are among the risk factors [3].

Women with AUR during pregnancy are treated in the ER, urology clinic, or obstetrics clinic. The secret to effective care and avoiding negative consequences including renal failure, bladder or uterine rupture, colon necrosis, urinary tract infection, uterine sacculation, spontaneous abortion, or fetal mortality is prompt detection of underlying illness.

Here, we present information on one pregnant woman at 14 weeks gestational age. In this situation, the uterus needed...
to be manually disimpacted while in the knee-chest position and immediately catheterized. The risk factors, etiology, clinical manifestation, diagnosis, and treatment of AUR in the first and second trimesters of pregnancy should all be made more widely known to doctors as a result of this case.

II. CASE PRESENTATION

A 31-year-old woman came to the ER with the chief complaint of not being able to urinate spontaneously for 2 hours before being admitted to the hospital. Difficulty urinating has been felt since 5 days ago. Complaints of pain when urinating were denied; abdominal pain, fever, and vaginal spotting were absent. The patient has a history of hypertension before pregnancy and is currently taking 250 mg methyldopa at a dose of 3 times per day. The patient does not remember the date of the first day of her last menstrual period, but the data from the previous CRL ultrasound obtained an estimated delivery on 17/02/2023.

On physical examination, vital signs were within normal limits. The blood pressure was 130/80 mmHg, the pulse rate was 88 beats per minute, and the temperature was 36.5 degrees Celsius. An abdominal examination revealed that the uterine fundus was not palpable and a full bladder was palpable. From the examination of the vulva and vagina, no vaginal bleeding, vaginal discharge, or slinger pain were found.

From the transvaginal ultrasound examination, it was found that the fetus was intrauterine, with a CRL of 80.7 mm according to a gestational age of 14 weeks and 1 day. The uterine was found retroflexed, both adnexa were within normal limits, and no mass or free fluid was found.

The patient was diagnosed with G3P2002 at 13 weeks and 4 days, chronic hypertension, and acute urinary retention. Insertion of a catheter tube was done in the ER and obtained 1800 cc of urine. From a complete urine examination, the urine color was clear yellow, weight 1.010, pH 6.5, and no leukocytes, protein, ketones, bilirubin, erythrocytes, epithelium, crystals, bacteria, and yeast cells were found. The urine culture examination did not reveal bacterial growth. On a kidney function test, urea was 10 mg/dL, serum creatinine was 0.7 mg/dL, and GFR was 116 ml/min.

We performed the treatment by inserting a dower catheter for 48 hours and a knee-chest position three times a day for 15 minutes each, followed by bladder training for 24 hours. The response was good when doing bladder training. After the 4th day, the patient had spontaneous urination. The patient was discharged and educated to perform the chest knee position until the gestational age reached > 20 weeks.

III. DISCUSSION

An estimated 11 percent to 15 percent of pregnant women experience uterine retroversion; of them, 1.4 percent develop AUR [4]. The most frequent cause of AUR is a retroverted uterus [5]. The cervix is displaced by a retroverted gravid uterus, which also compresses the lower bladder and prevents drainage to the urethra [6]. During a Valsalva maneuver, three women with retroverted gravid uteruses discovered no restriction on urethral mobility [7]. At the end of the first trimester, the uterus usually rises out of the pelvis. When wedged between the sacral promontory and the pubic symphysis, a retroverted gravid uterus may become imprisoned. One in every 3000 pregnancies has incarceration of a retroverted gravid uterus, which is an uncommon cause of AUR [8].

Healthcare professionals might not do a pelvic examination on patients who report urine retention because they are unaware of the urogynecological problems that might happen during pregnancy. According to published data, urinary retention, vaginal bleeding, abortion, dysuria, overflow incontinence, incomplete voiding, rectal pressure, tenesmus, and constipation are among the signs of a retroverted gravid uterus in the second trimester [9]. Other signs might be present, though. There have been numerous examples of asymptomatic uterine imprisonment at term, according to research [10]. During pregnancy, the uterus may naturally advance. Therefore, conservative treatment may be used to safely manage some instances [11].

Imaging is a helpful supplement to clinical symptoms and physical examination in the identification of a retroverted gravid uterus and an AUR. Although ultrasonography is the preferred method, a retroverted uterus can be mistaken for an ectopic pregnancy or placenta previa because it can be challenging to see beyond the pubic symphysis [12]. For difficult cases, magnetic resonance imaging (MRI) may be helpful. According to a study, MRI was the preferred imaging technique for uterine posterior imprisonment, and it was advised to use MRI before manual or colonoscopy-assisted relocation to rule out anterior incarceration [13].

Both conservative methods and more intrusive interventions can be used to treat AUR caused by a retroverted uterus. High-risk patients should avoid the

Fig. 1. The fetus was intrauterine with a gestational age of 14 weeks 1 day.

Fig. 2. Uterus was found retroflexed.
Valsalva maneuver, employ a Crede technique to start or maintain voiding, and adopt the knee-chest position before going to bed, changing from the supine to the prone position before getting up [7]. Bladder decompression techniques include hand reduction or implantation of an indwelling Foley catheter. A tenaculum should be applied to the cervix’s posterior lip when the patient is in Trendelenburg or the knee-chest position, according to another study [14]. After 20 weeks of pregnancy, a manual reduction is not advised since it increases the chance of preterm labor. If a manual reduction is unsuccessful, invasive surgery, such as a laparotomy or laparoscopy with colonoscopy-assisted relocation, may be contemplated. If a uterus becomes imprisoned due to fibroid masses and causes AUR, a myomectomy may be necessary [15]. To prevent uterine sacculation, close monitoring is essential, particularly for confinement brought on by endometriosis or extensive adhesions.

Maintaining a normal vesicourethral angle and keeping the uterus anterior after an invasive or minimally invasive treatment is crucial. A soft pessary may occasionally be employed [16]. According to a study, pessaries were used to successfully treat three cases of urine retention brought on by uterine imprisonment [17]. Pessaries are painful, burdensome, and impede blood flow to the uterus, according to a different study, which concluded that they shouldn’t be utilized for impacted uterus [18]. When appropriate, antibiotics should be taken into account.

IV. CONCLUSION

In conclusion, AUR is an uncommon emergency that can happen throughout the first and second trimesters of pregnancy and calls for quick identification and diagnosis. Pregnancy-related AUR risk is 0.47 percent. Preterm deliveries and advanced maternal age (>35 years) are associated with an increased risk of AUR in women. In normal pregnancies, the peak incidence of AUR onset occurred between weeks 9 and 16. The early diagnosis, effective treatment, careful evaluation, and close follow-up of AUR during pregnancy are required to reduce AUR-related problems and detect high-risk pregnancies.

CONFLICT OF INTEREST

Authors declare that they do not have any conflict of interest.

REFERENCES