Case Study: Incarceration of the Retroverted Gravid Uterus - A Complication of Natural Pregnancy

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INTRODUCTION

- The uterus in most women is antverted, flexed towards the bladder, while about 15% women have a retroverted/retroflexed uterus tilted towards spine (1).
- In very early pregnancy, the uterus is retroverted in about 20% women. This typically auto corrects to antverted by the first trimester (2).
- In 1 in 3000-10,000 pregnancies, the gravid uterus continues to enlarge in retroverted position and become trapped in the pelvis between symphysis pubis and sacral promontory.
- This is called an incarcerated gravid uterus (1).
- The major risk factors include retroverted uterus in the first trimester, previous uterine incarceration, adhesions from previous surgeries, uterine anomalies, ovarian cysts, pelvipereitonitis, endometriosis and a deep sacral concavity with an overhanging promontory (3).
- The most common presentation is intermittent and recurrent symptoms which include suprapubic or lower abdominal pain, pelvic fullness, urinary frequency, dysuria, dribbling of urine due to overflow incontinence, and often progressive recurrent urinary retention (4).
- The complications include preterm delivery, premature rupture of membrane, and miscarriage; as well as severe urinary retention from compression of bladder and urethra, bladder rupture, ureteric rupture, ureteric wall necrosis, rectal gangrene, and cervicovaginal fistula (5-7).

CASE PRESENTATION

- 34-year-old female G3P0A2 at 14 weeks of gestation presented to the ER complaining of acute urinary retention and suprapubic pain for 5-6 days.
- The problem started first as difficulty voiding associated with dysuria and frequency. Her OBGYN ordered urology, urine culture, and started Nitrofurantoin for a possible urinary tract infection (UTI).
- After 3 days she had to rush to the ER because she could not void at all, with increasing suprapubic pain.
- In the ER, a Foley catheter was placed obtaining 900 ml of urine and relieving her urinary retention. When the Foley was removed the suprapubic pain and urinary retention resumed.
- Physical exam showed a soft, non-tender abdomen, fullness in the lower abdomen, no guarding or rebound, bowel sounds positive in all 4 quadrants, and no costovertebral angle tenderness.
- Pelvic exam showed external genitalia with no abnormalities. No vaginal bleeding or vaginal discharge was noted. The cervix was unreachable, and uterus was retroverted, with no adnexal masses palpable.
- Labs were within normal limit for her current pregnancy.
- Renal and bladder US ordered first and reported as normal.
- Transabdominal US reported single live intrauterine fetus at 13 week 1 day. The uterus was noted to be retroflexed with the fundus seen in the pelvic cul-de-sac giving the impression of an incarcerated uterus. This was diagnosed as the cause of patient’s acute symptoms of urinary retention.
- Manual reduction of the uterus was performed in the OR and the patient's symptoms improved. A post procedure ultrasound confirmed normal uterine position and reassuring fetal well-being.

FIGURES

Fig 1. Transabdominal (TA) US

Fig 2. TA US, uterus after manual reduction.

DISCUSSION

- Our patient presented with incarcerated uterus and she was counseled about her future risk of incarceration in current and subsequent pregnancies.
- Early recognition of incarcerated uterus in pregnancy may reduce complications.
- Third trimester incarceration may lead to increased fetal mortality and maternal morbidity.
- When the incarceration of uterus occurs, the position of cervix becomes displaced upward above the symphysis precluding vaginal delivery (8).
- The diagnosis of incarcerated uterus may be difficult due to variable clinical presentation.
- It is the responsibility of obstetrician to closely examine the women in early pregnancy with history of retroverted uterus, as passive and active reduction can be performed in early pregnancy to avoid complications.
- Imaging modalities like US and MRI can be performed to confirm the uterine incarceration.
- Cesarean section must be performed for successful delivery as some previous case studies showed fatal death when vaginal deliveries were attempted (9).
- Preoperative diagnosis of incarceration is essential to avoid intraoperative complications especially to the mother, as distorted anatomy due to incarceration may result in trauma to the bladder, vagina, and cervix during surgery and even in some cases incarcerated uterus resulted in transvaginal caesarean sections and subsequent unnecessary hysterectomy (7, 10).

CONCLUSIONS

- Incarceration of the gravid uterus is a rare but serious complication of pregnancy.
- The diagnosis is clinical and confirmed with imaging, with magnetic resonance imaging being superior to outline the distorted maternal anatomy.
- Early diagnosis of incarceration of a retroverted uterus is of high clinical importance and reduction should be attempted to restore polarity and avoid unnecessary complications and misery to the patient and family.

REFERENCES