Manual reduction in conjunction with Arabin pessary to reduce first trimester urinary retention relapse

To the Editor,

We present our experience of acute urinary retention in the first trimester, solved through manual reduction and subsequent Arabin pessary placement with the aim of highlighting what we believe to be a useful approach. Moreover, to the best of our knowledge, few inconclusive data have previously been reported about Arabin pessary use to reduce recurrent urinary retention after manual reduction of retroverted uteri.

Case 1: A 35 years old, Gravida 2 Para 1 at 13.5 weeks. Attended emergency room for pelvic pain. A bladder globe, correlated to an obstructed urination for a retroverted uterus was detected. There was no sonographic sign of uterine incarceration. The patient was catheterized (800 cc of urine) and discharged after education to reduce urinary retention. Urine culture was negative. Five days later she presented again with a globe of 750 cc of urine. The cervix was cranialized on transabdominal ultrasound (Figure 1A). Therefore, a manual reduction of retroverted uterus was performed under sedation without complication. Subsequently, an Arabin pessary was placed (Figure 1B). The patient voided spontaneously after the procedure, with negative post-micturition residues. Some days later the patient presented because of a spontaneous expulsion of the pessary. However, she also had a retroposed cervix and no urinary retention at this time. The follow-up at 16 weeks was negative, with normal reported urinary voiding, and negative post-micturition residue. The cervix was posteriorized, even in absence of the pessary (Figure 1C).

Case 2: A 35 years old, Gravida 2 Para 1 at 13.1 weeks. Attended because of complete inability to urinate. She presented with a urinary globe correlated to a retroverted uterus. During three evaluations, spaced three-four hours apart, to monitor the ability for spontaneous urination, she underwent three bladder catheterizations, respectively of 1200, 1100 and 1000 cc. Ultrasound scan excluded uterine incarceration and reported a cranialized and retropubic cervix. Urine culture was negative. A manual reduction of the retroverted uterus was performed under sedation without complication. After the manoeuvre, an Arabin pessary was placed to maintain the modified angle of the cervix. The patient voided spontaneously after the procedure, with negative post-micturition residues. The follow-up at 16.6 weeks was negative, with a negative urine culture (Figure 1D). After Arabin removal, the cervix remained posterior (Figure 1E), and the patient regularly and spontaneously voided, with a negative post-micturition residue.

In both cases, the subsequent pregnancy controls were regular, and he patients reported no more acute urinary retention.

Acute urinary retention, defined as failure to willingly empty a bladder filled by over 200 mL of urine, occurs in between 1:3000-1:8000 pregnancies, typically before 16 weeks of gestation (1). This rare occurrence has also been associated with incarcerate uteri. A non-incarcerated retroverted uterus is an uncommon cause of inability to void urine (2), due to mechanical compression on the lower bladder by the anteriorly and superiorly displacing uterine cervix and to the increase in the vesical - urethral angle (3,4).

Urinary catheter or intermittent bladder catheterization are possible approaches. However, these procedures are reported to cause patient discomfort and a higher risk of urinary infections. The patients' education (adequate position during urination, adequate hydration, periodic urination at pre-established time) is the first strategy to reduce urinary retention (5).

A manual reduction of retroverted uteri was reported to be a valid option. The repositioning of the uterus in an anterior

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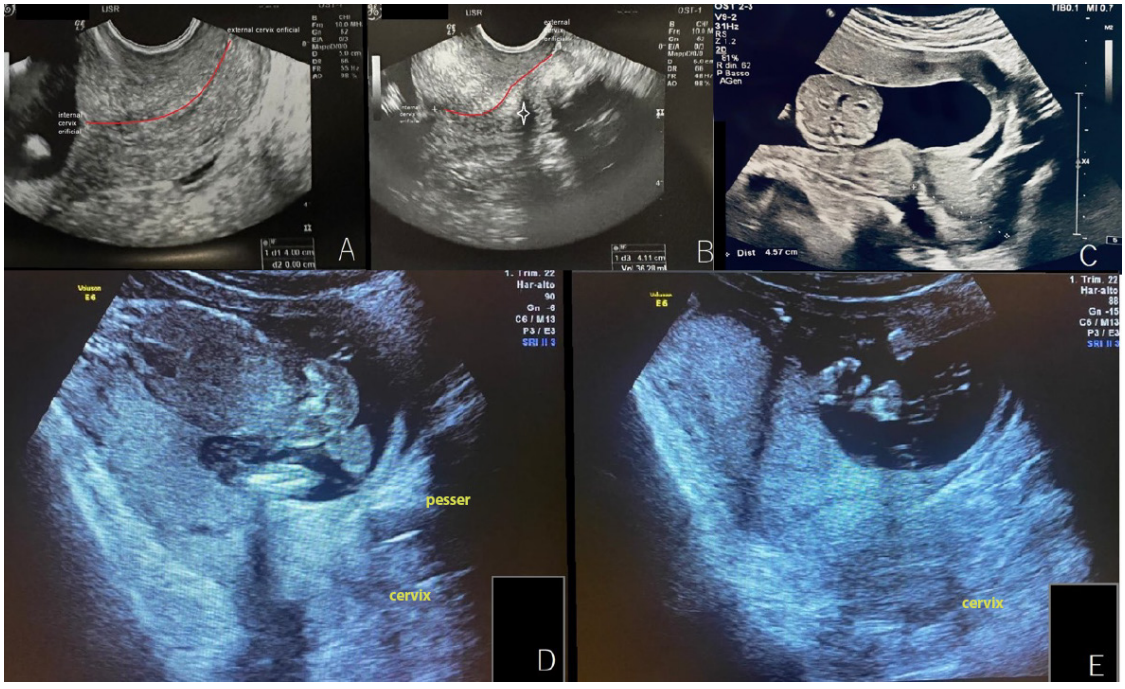

Figure 1. Case 1: (A) Under the pubic region and cervix of the patient, at first hospital attendance; (B) Modified angle of cervix after pessary placement. The acoustic shadow of the pessary is highlighted with a white star while the direction of the cervix is indicated with a red line; (C) Ultrasound visualization of the retroposed cervix at 16-week follow-up. Case 2: (D) Ultrasound visualization of Arabin pessary at routine follow-up visit; (E) A persistent retroposed cervix after pessary removal

position, in which the bladder is decompressed, may be performed by first putting the patient in the dorsal lithotomy position, under local or general anaesthesia. Then two fingers should be inserted into the vagina along the posterior fornix. With simultaneous pressure on the suprapubic abdominal wall, a sudden loss of resistance is obtained as the uterus is repositioned into its anterior location (5-7). A gentle and slow pressure will prevent placenta detachment or premature rupture of the membrane (5). Some authors propose manual subsequent vaginal ring positioning until 20 weeks gestation (5). Arabin placement is a well-accepted and minimally invasive procedure, but not yet validated as a therapy for urinary retention. However, few data are reported about Arabin pessary in this clinical situation (8,9). Even if its use seems to be beneficial and it is a minimally invasive and relatively simple and complication-free, the use of Arabin pessary to prevent a relapse is not widely recognized. In particular, in the presented cases, even if the patients presented with similar characteristics, one retained and one spontaneously expelled the Arabin pessary, although the eventual outcomes were similar. A possible explanation for this difference may be that after a few days in the posteriorized position, the cervix maintained its placement without Arabin. It may be of interest to evaluate the minimum time to achieve a cervical posterior placement.

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