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Second Trimester D&E with Uterus Didelphys

Haley Glatthorn [α] & Glenmarie Matthews [σ]

Abstract- Uterus didelphys is one of the rarest of the Mullerian duct anomalies and can lead to unique obstetric and gynecologic outcomes and considerations. This case describes a patient with known uterus didelphys and intact longitudinal vaginal septum who desired termination of pregnancy at 17 weeks gestation due to fetal anomaly. She underwent dilation and evacuation (D&E) under ultrasound guidance and the pregnancy was removed from the right-sided uterus. Preoperative mifepristone and misoprostol were used for cervical ripening. This case demonstrates that second trimester D&E can be safely performed on patients with uterus didelphys and is aided by the adjunctive use of prostaglandins, mifepristone, and ultrasound guidance to avoid intraoperative complications.

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I. Introduction

Mullerian duct anomalies include a wide range of congenital structural abnormalities of the female reproductive tract. During typical embryogenesis, the Mullerian ducts fuse completely to form a single uterus, cervix and vagina in the developing female fetus[1]. Mullerian anomalies occur when this process does not occur to completion. The resulting anatomical abnormalities vary by the degree to which fusion fails to occur and are categorized as arcuate, septate, bicornuate, unicornuate, or didelphysuterus[2]. A didelphys uterus is the most extreme variant of this phenomenon and is characterized by complete duplication of the uterus, cervix, and vagina[1-3]. This is one of the rarest of the mullerian anomalies with an estimated incidence between 1 in 2,000 to 1 in 30,000 in the general population[4] In this case report, we describe a patient with a didelphys uterus who had an uncomplicated second trimester termination of pregnancy with dilation and evacuation.

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II. Case

The patient is a 32 year old gravida 2 para 1 with a known history of didelphys uterus diagnosed at age 14, and a prior cesarean section on the contralateral uterus. She presented to our practice at 16 weeks gestation for a second opinion and early anatomic survey due to suspected fetal anomaly. She was otherwise healthy with no significant medical history. Ultrasonography findings were significant for a pregnancy in the right uterus complicated by anhydramnios diagnosed with an amniotic fluid index of 1.0 cm, as well as bilateral polycystic kidneys in the fetus. The patient was counseled on the implications of these findings and the poor prognosis for the pregnancy. She elected to undergo chorionic villus sampling for genetic testing and planned for termination of pregnancy the following week.

Attempt was made to place laminaria prior to the procedure but the right cervix was not easily identified on exam. The patient was referred to our complex family planning department and was scheduled for D&E at 17 weeks 1 day gestation. Prior to surgery, we discussed the possibility of septum resection to aid in visualization of the bilateral cervices. However, the patient strongly desired to maintain the septum if possible, as it had not caused any problem to date. The patient was consented for D&E under ultrasound guidance and possible septum resection. She received 200 mg mifepristone the day prior to surgery in the office and 600 mcg misoprostol buccally two hours prior to the procedure. Operative findings showed a didelphys uterus with both the right and left cervix visualized, a vaginal septum separating the cervices, and an intrauterine pregnancy in right uterus, which was approximately 17-week size. An exam under anesthesia was performed and the right cervix was noted to be 1 cm dilated, 0% effaced, and -3 station. The fetal parts were removed without difficulty. During and after evacuation of the placenta, brisk bleeding was noted and was determined to be secondary to uterine atony. The patient's bleeding responded well to uterotonics and hemostasis was achieved after one intramuscular dose of methergine 0.2 mg and misoprostol 1000 mcg per rectum. The fundus was noted to be firm with good uterine tone. Ultrasound

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guidance was utilized to visualize the cavity and the endometrial stripe appeared clean. Estimated blood loss was 300 milliliters.

The patient had an uncomplicated post-operative course and recovered well. She did not endorse any complaints at her follow up visit.

III. Discussion

There is limited information in the literature regarding termination of pregnancy in a patient with uterus didelphys. To our knowledge, ours is the first case report to describe second trimester D&E on a patient with this condition. Goldwaithe, et al describe a failed attempt at dilation and curettage with suction for a patient with uterus didelphys who desired first trimester elective termination of pregnancy[5]. Despite the use of ultrasound guidance, they were unable to safely access the uterus containing the pregnancy due to difficulty with instrumentation. The patient then had a successful medical abortion using mifepristone and misoprostol[5]. We utilized pre-operative mifepristone and misoprostol, which likely assisted us in successfully completing a surgical abortion. Our experience suggests that these standard cervical preparation agents can be used with good result. Initially, laminaria placement was attempted on our patient but it failed due to inability to adequately visualize her right cervix. We then saw the patient several days later and elected to use pharmacologic pre-operative cervical ripening. We would recommend again pursuing this approach in the future, as there is evidence that cervical preparation with mifepristone works more quickly and is a less painful method of cervical ripening compared to laminaria in second trimester termination of pregnancy[6]. While mifepristone is approved by the Food and Drug Administration (FDA) for its use in inducing medical termination of pregnancy, misoprostol is not. However, misoprostol is often utilized off-label for cervical ripening in both induction of labor and termination of pregnancy and is widely accepted in clinical practice.

The presence of a longitudinal vaginal septum appears to be ubiquitous in patients with uterus didelphys[7] However, the extent and flexibility of the septum varies within the population of women with this condition[7]. Some patients opt for removal of the septum if it is a source of dyspareunia, however removal is not necessary for normal sexual function or for successful vaginal delivery[7]. An intact septummay be at higher risk for tearing during the second stage of labor as the fetal vertex descends. However, the septum may be flexible or lateral enough to avoid injury during delivery[7]. Our patient was consented for possible resection of the septum in the event that it interfered with our ability to safely instrument the gravid uterus. However, there was ultimately no need to remove it and it was her desire that it remain intact. Resection of the septum does not appear to be a necessity for normal sexual function, successful vaginal delivery, or completion of D&E, but it remains a reasonable option if a patient desires removal or the septum prohibits the provider from safely completing a procedure.

In our patient, uterine atony was noted after evacuation of placental tissue but responded well to uterotonics. Due to the rarity of this condition, it is unknown if this patient's anatomic differences caused an increased risk for atony or hemorrhage. The prior case reports that we surveyed on obstetric and gynecologic outcomes in patients with uterus didelphys do not note any bleeding complications[4,7], and this patient did not endorse any history of excessive blood loss with her prior cesarean delivery. Maki, et al describe the delivery of twin fetuses—one vaginally and one via cesarean section—in separate horns of a didelphys uterus[8]. During the patient's labor course, her uterine contraction patterns were monitored via tocometer and each uterus contracted independently of the other approximately 90 percent of the time. This suggests that synchronous myometrial contraction is independently generated in each uterus from two separate pacemaker sites[8]. The contraction stimulus spreads via gap junctions, and the anatomical separation of the two uteri prevents communication with the contralateral horn[8]. Therefore, in the case of our patient, the non-pregnant left uterus likely had little bearing on the ability of the right uterus to contract down adequately.

We utilized intraoperative ultrasound guidance to direct our instruments appropriately and avoid injury. We would recommend the use of ultrasound in future undertakings of D&E on patients with uterus didelphys, as the orientation of the uterus may not be consistent with expectations based on anatomically normal patients. Even with the use of ultrasound guidance, this can be a more technically challenging procedure and these patients may be best served by referral to specialized complex family planning providers.

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