Medical termination of pregnancy in bicornuate uterus with twin gestation

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ABSTRACT
The incidence of uterine anomalies in general population is about 3-5%. Abnormalities of fusion of mullerian duct during embryogenesis results in varied congenital abnormalities like arcuate, septate, uni-cornuate, bi-cornuate uterus. Majority of them are asymptomatic. The suspicion of uterine abnormalities is always considered when there is a history of recurrent abortions, intrauterine growth restrictions, preterm labour, mal-presentation. We are presenting a 31 year old pregnant woman who came with history of urine pregnancy test positive at 56 days of amenorrhea and requested medical termination of pregnancy. On ultrasound examination a bi-cornuate uterus with pregnancy in both horns of the uterus was imaged. Her first pregnancy was a normal full term delivery one year ago. She was not diagnosed with bi-cornuate uterus in her previous pregnancy. She was given a combination of mifepristone and misoprostol for termination of pregnancy, which ended in a successful medical termination of pregnancy, confirmed by transvaginal ultrasound done two weeks later.

Key words: Bicornuate uterus; mifepristone; twin gestation; uterine anomaly.

Introduction

An abnormal fusion of the Mullerian ducts during embryogenesis period results in a wide range of uterine developmental abnormalities, which present diagnostic challenges to treating obstetrician and the Sonologist.

The range of abnormalities varies from uterine and vagina agenesis to duplication and minor abnormalities of endometrial cavities.

The incidence of these malformations in general population varies from 3%-5%.[1]

Fertility and pregnancy outcome depend on the type of uterine abnormality.

The clinical significance of these abnormalities lies in the fact that adverse pregnancy outcomes such as miscarriage, mal-presentation, preterm labor, fetal growth restriction, abnormal placentation, and ectopic pregnancies are encountered in 15%-20% of the women with uterine developmental abnormalities.[2]

Many remain asymptomatic throughout the reproductive period. Some occur as incidental finding during routine gynecology imaging or during early pregnancy ultrasound.

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A high degree of suspicion in patients with recurrent miscarriages and malpresentation leads to an early diagnosis of these conditions.

Precise diagnosis of these conditions is made with modern diagnostic tools such as transvaginal ultrasound, hysteroscopy, magnetic resonance imaging, hysterosalpingogram, and laparoscopy.

One of the abnormalities is bicornuate uterus which can be complete or partial depending on the septum length. It is complete if septum is extending from fundus to external or internal os; it is partial if septum is confined to fundal region.

In this case report, we are discussing a patient who came to the outpatient department for termination of pregnancy; on doing a transvaginal ultrasound, gestation sacs were seen in both horns of the uterus. There was successful termination of pregnancy following administration of mifepristone and misoprostol.

Case History

A 35-year-old second gravida with the previous history of normal delivery 1 year ago came to the antenatal OPD for termination of pregnancy in her 6 weeks of pregnancy; her menstrual cycle was regular with no significant medical or surgical history.

In our hospital, we perform transvaginal ultrasound for all patients presenting with positive urine pregnancy test to confirm intrauterine pregnancy as a routine practice. For this patient, transvaginal ultrasound revealed bicornuate uterus with twin gestation sac and yolk sac in both right and left uterine cornus [Figure 1]. However, for this patient, there was no previous record of bicornuate uterus in the previous pregnancy.

Treatment protocols were 600 mg of mifepristone orally followed by 400 mg of misoprostol in the next 48 h in our OPD.

She developed abdominal cramps followed by vaginal bleeding with the expulsion of tissue-like clots.

She was called for a review transvaginal ultrasound 2 weeks after the mifepristone medication.

Transvaginal ultrasound showed empty right and left uterine cavities and confirmed the completion of the termination of pregnancy.

Discussion

Twin gestation in bicornuate uterus is an uncommon occurrence.

Reproductive outcome of women with bicornuate uterus is varied.

A large-scale study showed that the incidence of bicornuate uterus in infertile women was not different from that of fertile group, concluding that these women had no difficulty in becoming pregnant.\[^{3}\]

In another study, 60% of the pregnant women with bicornuate were expected to have normal viable infant though it may be associated with late miscarriage or preterm labor.\[^{4}\]

Termination of pregnancy with uterine anomalies is quite challenging.

Medical and surgical evacuations of pregnancy are the methods used for termination. Mifepristone and misoprostol have been shown to be an effective combination in the medical termination of pregnancy,\[^{5}\] although other agents, such as methotrexate,\[^{6}\] are used.

Those patients with uterine and/or cervical anomalies who undergo surgical termination of pregnancy are at increased risk of uterine perforation and adhesion formation. They are also more likely to be subjected to repeat surgical attempts at termination and the associated risks of general anesthesia. This group is more likely to have problems in conceiving and maintaining future pregnancies, and surgical manipulation may affect this further. On the other hand,
whatever may be the mode of termination, failure rate is increased when routine ultrasound is not performed prior termination.\textsuperscript{[7]}

Ultrasound examination of the pelvis is an essential tool for patients requesting termination of pregnancy.\textsuperscript{[8]}

Confirmation of intrauterine gestation and dating of pregnancy is vital. Before any termination of pregnancy, ultrasound follow-up of the patients to check for any remnants of gestational tissue after 2 weeks helps in documenting completeness of the termination of pregnancy.

Pennes et al. reported four patients with unsuspected congenital uterine anomalies in whom attempted pregnancy termination procedures failed to completely ablate the products of conception.\textsuperscript{[8]}

In our case, transvaginal ultrasound done after 2 weeks of mifepristone showed completion of termination of pregnancy.

Routine use of ultrasound in patients requesting termination is a good protocol, which acts as a complimentary tool in the evaluation of abnormal effect of pregnancy in uterine malformation.

Detection of uterine anomaly by ultrasound is operator dependent, which challenges the imaging skills of the person performing an ultrasound.

In our case report, ultrasound could not diagnose the presence of bicornuate in first pregnancy; this could be due to the small size of the horns or improper imaging technique, which is operator dependent. However, bicornuate uterus was successfully diagnosed in her second pregnancy.

Bicornuate uterus always does not seem to cause pregnancy complications as in our case report, the patient had a successful vaginal delivery with undiagnosed bicornuate uterus. On the other end of the spectrum, there have been various case reports where bicornuate pregnant uterus had varied presenting complaints. Hefny et al. describe a case of uterine rupture in a bicornuate uterus in early pregnancy.\textsuperscript{[9]}

Abdullahi and Aliyu describe a primi gravida with 12 weeks of pregnancy where a pelvic ultrasound showed an empty uterus and a right adnexal mass, which was misdiagnosed as an ectopic pregnancy. At surgery, she was found to have a bicornuate uterus with an intact pregnancy.\textsuperscript{[10]}

**Conclusion**

In conclusion, we emphasize the need for ultrasound screening in a patient requesting termination of pregnancy.\textsuperscript{[11]} Transvaginal ultrasound is a unique tool which helps the clinicians in diagnosis and management of pregnancy termination. However, further studies are needed to establish the routine use of ultrasound in the management of first-trimester pregnancy termination.

**Declaration of patient consent**
The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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**Conflicts of interest**
There are no conflicts of interest.

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