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Unicornate Uterus: A Case Report with Poor Reproductive Outcome and Low Pregnancy Rates

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Abstract: The incidence of the uterine malformations is estimated to be 3-5% in the general population. Abnormal fusion of the mesonephric duct (mullarian duct) during embryonic life results in a variety of congenital uterine malformations like septate uterus, unicornuate uterus and bicornuate uterus. In the present case, the patient had a history of 3 miscarriages. She was 27 years old, married for 4 years. Due to bad obstetric history after thorough investigations, the cause for it is diagnosed as having unicornate uterus.

Key words: Unicornuate uterus, miscarriage, case, fusion, married

INTRODUCTION

Abnormal fusion of the mesonephric duct (mullarian duct) during embryonic life result in a variety of congenital uterine malformations (Ahmad *et al*., 2000; Buttram Jr. *et al*., 1988). Uterine malformations are estimated 3-5%. Because of better availability of diagnostic modalities, i.e., trance vaginal sonography, hysterosalpingography and laparoscopy, better detection of anomalies is possible. Reproductive outcomes can be improved with better treatment. The 15-25% of women with uterine anomalies have problems with fertility and reproduction. They have increased incidence ofmiscarriage, poor fetal growth, malpresentations and abnormal placental and ectopic pregnancies.

The unicornuate uterus results from normal differentiation of the mullerian duct but a rudimentary functional hornmay be found (Buttram Jr. *et al*., 1988). Patients with an asymmetric uterus and a rudimentary horn constitute 5-10% of those with uterovaginal anomalies (Rock and Schlaff, 1985). Approximately 75% of suchhorns do not communicate with the normal hemiuterus (Mulsow, 1945). Vaginal obstruction is associated with perivaginal mass, pain and endometriosis but cyclic menstrual flow may be present because of the normally functioning opposite side (Rock and Schlaff, 1985). This anomaly is usually associated with ipsilateral renal agenesis (67%) or ipsilateral pelvic kidney (Marshall and Beisel, 1978).

CASE REPORT

A 27 years old female was admitted to the hospital complaing of relative infertility. Her marital life was of 4 years. She had a history of 3 miscarriages. After 4th abortion she underwent thorough checkup that was free. All blood tests showed normal including thyroid profile. She weighed 70 kg. She did not have any history of consanguinity and there were no family history of any abnormal pregnancies. Her age at menarche was 12 years. Menstrual history was uneventful. There was no history of diseases. Transvaginal ultrasound revealed anormal uterus and normal adnexa. After that hysterosalpingography was done revealing unicornate uterus. The patient underwent diagnostic laparoscopy with hysteroscopy. Hysteroscopy showed a left unicornuate uterus and revealed a patent left cornus with no sign of ostium on the left side. Laparoscopy showed a left unicornuate uterus with a normal adnexa, a left non-communicating rudimentary horn with normal adnexa (Fig. 1 and 2).

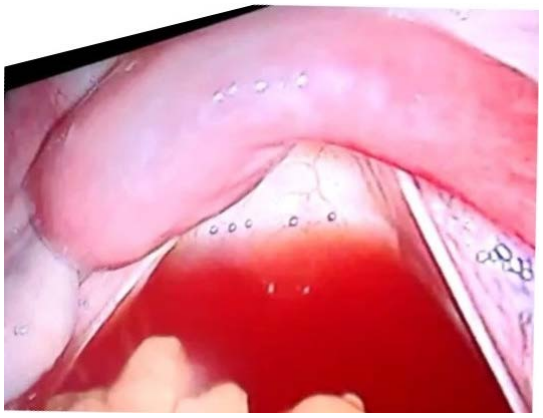

Fig. 1: Laparoscopic view showing left unicornuate uterus with right rudimentary horn

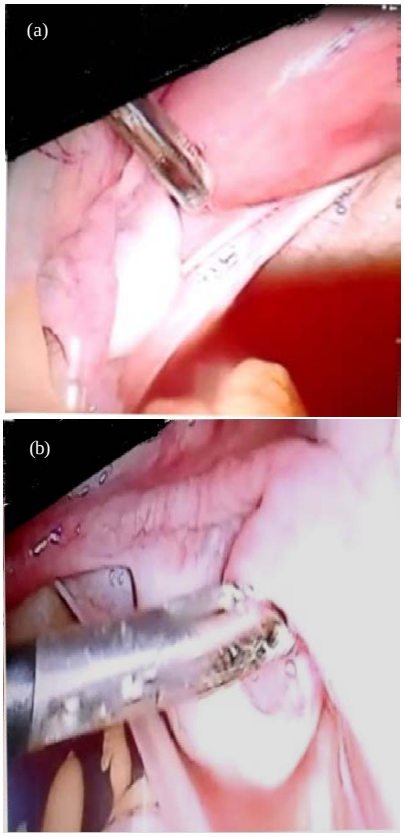

Fig. 2: a) Laparoscopy revealed normal left adnexa and b) right adnexa

DISCUSSION

Women with uterine anomalies have poorer reproductive outcomes and lower pregnancy rates compared with women who possess normal uterus. With introduction of MRI and 3D ultrasonography, increased rate of accurate diagnosis is now possible. Obstetrical complications such as preterm delivery and 1st trimester miscarriage are higher in women with abnormal uterus (Madhavi, 2012).

The uterus is developed from the fused caudal vertical parts of the paramesonephric ducts and the site of angular junction becomes the cervix dome and forms the fundus of the uterus (Arora *et al*., 2007; Moghadami-Tabrizi *et al*., 2008). The fusion between the ducts is incomplete at first, a septum persisting between the lumina. Later, the septum disappears so that a single cavity remains. The upper part of the cavity forms the lumen of the body and cervix of the uterus. The myometrium is formed from the surrounding mesenchyme. Failure of the paramesonephric duct to fuse may cause a variety of uterine defects they are: the uterus may be duplicated with two bodies and two cervices. There may be a complete septum through the uterus, making two uterine cavities and two cervices. There may be two separate uterine bodies with one cervix. One paramesonephric duct may fail to develop, leaving one uterine tube and half of the body of the uterus.

More than 50% of women with malformed uterus will stay completely asymptomatic (Green and Harris, 1976; Harger *et al*., 1983). Around 75-90% of cases of unicornuate uterus with rudimentary horn are non-communicanting (Buttram Jr. and Gibbons, 1979). The management of the present case illustrates the value of simultaneous laparoscopic and hysteroscopy evaluation of known uterine abnormalities. The literature suggests the need to remove the rudimentary horn of a unicornuate uterus and supports the laparoscopic approach if such a decision is taken (Olive and Henderson, 1987; Nezhat *et al*., 1994; Nezhat and Smith, 1999; Dicker *et al*., 1998). A high incidence of associated endometriosis has been documented in cases of obstructive mullerian anomalies if cavity is presen (Olive and Henderson, 1987; Nezhat *et al*., 1994; Nezhat and Smith, 1999; Dicker *et al*., 1998).

CONCLUSION

Women with uterine anomalies have poorer reproductive outcomes and lower pregnancy rates with all conceptions whether spontaneous or induced with assisted reproductive techniques, compared with women with normal uteri.

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