

Septoplasty allows successful delivery in a primary aborter with six previous first trimester miscarriages

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Summary

Purpose: To demonstrate that septoplasty can correct a problem of recurrent miscarriage. **Methods:** The patient was a primary aborter with a history of six consecutive miscarriages. Septoplasty by hysteroscopy/laparoscopy was performed. The septum was diagnosed by 3D sonohysterography. **Results:** She delivered a healthy live baby at 36 weeks. **Conclusion:** This case clearly demonstrates that sometimes the uterine septum plays an important role in recurrent miscarriage and that septoplasty can improve the chances of successful delivery. The case also shows that a definitive diagnosis of a bicornuate uterus by HSG and/or MRI can not be made.

Key words: Septoplasty; Miscarriage; 3-D sonohysterogram.

Introduction

When women present with a history of recurrent miscarriage most clinicians will perform uterine evaluations to determine if there are any uterine defects, e.g., adhesions, submucosal fibroids, polyps or congenital uterine anomalies. The main remediable congenital anomaly is the uterine septum. The best method for detection of the septum is either 3-dimensional (3D) ultrasound [1-4] or sonohysterography [5-8].

There are no randomized studies evaluating whether hysteroscopic resection of a septate uterus improves the miscarriage rate. However there are several observational studies suggesting that removing the septum can decrease miscarriage rates [9, 10]. A meta-analysis by Homer *et al.* of published retrospective data comparing pregnancy outcome before and after hysteroscopic septoplasty found a marked decreased miscarriage rate after surgery [11].

However not all studies agree that resection of the septum improves pregnancy outcome [12]. Even Homer *et al.* whose meta-analysis concluded that surgical repair was beneficial stated that the data did not support elective hysteroscopies [11]. In fact the data from Homer *et al.* suggested that after a single miscarriage 80-90% with a septate uterus will have a live birth in the next pregnancy [11].

The mechanism believed to be the etiologic factor for miscarriage with the subseptate uterus is that the embryo can implant on the septum which has a considerably reduced vascular supply relative to the rest of the uterus [12, 13]. Thus it would seem that the subseptate uterus should not be the sole cause of multiple repeated miscarriages in a primary aborter.

A case is presented where a primary aborter did have six consecutive miscarriages but was successful on her seventh pregnancy following hysteroscopic septoplasty.

Case Report

A 34-year-old woman, gravida 6, para 0-0-6-0, had the sixth miscarriage between five and eight weeks. The fetal products were evaluated in three of the losses and showed 46XY in two and 46XX in the other.

As part of the patient's evaluation by her preceding physician she had a hysterosalpingogram which suggested a bicornuate uterus. Since a subsequent magnetic resonance imaging (MRI) study also confirmed the likelihood of a bicornuate uterus, no further uterine evaluations were performed.

Other testing from the patient's previous physicians included: free thyroxin 0.9 ng/dl (nl 0.7-1.8), triiodothyronine 103 ng/dl (nl 60-181), thyroxin 6.3 ug/dl (nl 4.5-10.9), thyroid stimulating hormone 5.49 uIU/ml (nl 0.35-5.5), anticardiolipin antibody – IgG 15.0 GPL (nl < 23.0), ANA 0.6 (negative), lupus anticoagulant negative, prolactin 6.7 ng/ml (nl 3.0-20.0), testosterone < 20 ng/dl (nl 0-80), dehydroepiandrosterone sulfate 64 ug/dl (nl 35-430), Factor II – no mutation, Factor V Leiden – no mutation found, antiphosphatidyl serine IgG 3 GPS (nl 0-15), antithrombin activity 99% (nl 75-135), antithrombin antigen 121% (nl 75-130), homocysteine 9.2 umol/l (nl 3.3-10.4), protein S functional 69% (nl 60-145), protein C functional 75% (nl 74-151). She was subsequently treated with levo-thyroxin 112 mcg daily.

To further evaluate the possibility of a septated uterus a sonohysterogram was performed with 3D ultrasound. A septum was suggested rather than a bicornuate uterus.

The woman was given 3.75 mg depot-leuprolide acetate intramuscularly four weeks prior to diagnostic laparoscopy. Since the laparoscope did not show evidence of a bicornuate uterus, an operative hysteroscopy was performed. The septum was then transected by the Holmium laser. Postoperatively an intrauterine stent was placed for one week. She was then treated with 2.5 mg of conjugated estrogen twice daily for one month.

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A hysterosalpingogram was performed eight weeks following surgery and the uterine cavity was nearly normal with just a slightly arcuate fundus. Four months after surgery the patient conceived naturally. She delivered by cesarean section at 36 weeks a healthy 5 pound 14 ounce baby.

Discussion

As mentioned there are no controlled studies proving the efficacy of surgical removal of the septum to prevent subsequent miscarriages, just observational studies [3, 10, 14]. In fact the latest study suggested that transection of a septate uterus does not help prevent subsequent miscarriages [12]. In lieu of another observational study attempting to refute the aforementioned study [14] sometimes one extreme case report can present a convincing argument that at least in some instances a septate uterus can be a cause of recurrent miscarriages. Furthermore this case illustrates that at least in some cases transection of the septum may help to allow a successful outcome.

Chromosome analysis was performed on the fetal contents three times and each time it was normal. For sure the two with normal males proved no evidence of aneuploidy and probably the normal female also (though maternal contamination was possible). One can not say for sure that some of the six pregnancies may have implanted somewhere other than the septum but were lost for some other reason, e.g., a chromosome abnormality or progesterone deficiency.

There is no proof that the mechanism involved in miscarriage related to the uterine septum involves implantation on a relatively avascular septum. It is merely a hypothesis. The possibility exists that the uterine septum leads to some other mechanism for miscarriage even when the implantation is in the uterine wall and not the septum.

This case illustrates one other clinical point. A hysterosalpingogram and MRI combination is not sufficient to diagnose a bicornuate uterus and exclude a septate uterus. With multiple losses laparoscopy and hysteroscopy might be utilized directly, or maybe as illustrated in this case, the use of hysterosonogram with 3D ultrasound would provide a better method to diagnose a septate uterus [5-8].

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