Hysteroscopic findings of the uterine cavity for women with recurrent pregnancy loss

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Abstract

Objective: The purpose of this study was to determine the frequency of uterine defects (congenital and acquired) in patients with two consecutive miscarriages or more as a one of the investigative procedures.

Design and setting: This is a prospective observational study was done in the departments of Obstetrics & Gynaecology, Sohag university hospital.

Patients and Methods: Ninety two patients with recurrent pregnancy loss after two or more consecutive miscarriages. All patients had a complete history taken, physical examination and diagnostic hysteroscopy with directed biopsy.

Results: The overall hysteroscopic findings among women with recurrent pregnancy loss were 32(34.7%) versus 62(67.3%) of them with no pathological abnormality. Congenital and acquired abnormalities were found in 13(14.1%) and 19(20.6%) of patients of the study groups, respectively. Septate uterus was the most common congenital anomaly and represented about 5(5.4 %) among patients of the study groups. However, intrauterine adhesion was the most common acquired uterine defect and represented about 11(11.9%) among patients of the study groups. The congenital and acquired anomalies were slightly more in the two consecutive miscarriages group 8 (15.3%) and 11 (21.1%) respectively than the three or more miscarriages group 5 (12.5%) and 8 (20%) however, this difference was not statistically significant. The only two patients having both congenital and acquired anomalies were in the three or more miscarriages group.

Conclusion: Hysteroscopic evaluation of the uterine cavity is highly beneficial for women with recurrent pregnancy loss. Hysteroscopy should be recommended as one of the most essential investigative procedures for women with recurrent pregnancy loss even after two consecutive miscarriages.

Key Words: Hysteroscopy, uterine defects, recurrent pregnancy loss.

Introduction

Recurrent pregnancy loss has traditionally been defined as three consecutive, unexplained terminations of pregnancy before the completion of 20 weeks of gestation or the expulsion of a fetus weighing 500 g. There is a trend towards liberalizing this criterion to include women presenting with only two miscarriages **(Li et al., 2002).**

Anatomic uterine defects appear to predispose women to reproductive difficulties, including first- and second-trimester pregnancy losses, higher rates of preterm labor and abnormal fetal presentation. These anatomic abnormalities can be classified as congenital, including mullerian and diethylstilbestrol-related abnormalities, or acquired, such as intrauterine adhesions or leiomyomata **(Propst and Hill, 2000).** Congenital or acquired uterine defects remain important considerations in the investigation of recurrent pregnancy loss. When repeated first or second trimester losses, preterm delivery, or abnormal fetal presentations are documented, the suspicion of a structural uterine abnormality should be high **(Patton, 1994).**

Recurrent pregnancy loss is traditionally investigated after three or more consecutive pregnancy losses. Although there is a trend to start investigation after two miscarriages, data are not available to date to justify this approach. (Weiss etal., 2005). Investigative procedures for recurrent pregnancy loss include parental karyotyping, hysteroscopy, testing for maternal endocrinology disease, acquired and genetic thrombophilia, the presence of antiphospholipid antibodies and karyotyping of products of conception. While all of these tests are costly, hysteroscopy is now done with local anesthesia or even without anesthesia as office procedure. So the purpose of this study was to determine the prevalence of uterine defects (congenital and acquired) in patients with two consecutive miscarriages or more as a one of the investigative procedure.

Material and methods:

This is a prospective observational study which was done in the Department of OB/GYN, Sohag University Hospital during the period from March 2005 to October 2006. After study approval from the ethical committee of the Department, 92 women with history of two or more consecutive miscarriages (Fifty two patients with two consecutive miscarriages and 40 with three or more consecutive miscarriages) were recruited in the study. An informed consent was signed by every patient before participation in the study.

All women were subjected to complete history taking, physical examination and some investigations such as complete blood count, sedimentation rate, urine analysis, paternal kryotyping was done in a private clinic (Genecoma clinic in Sohag city), pelvic ultrasound examination, serum antiphospholipid antibodies assay and midluteal serum progesterone.

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The selection criteria of the recruited cases were normal paternal kryotyping, normal values for complete blood count, sedimentation rate, urine analysis, lupus anticoagulant, anticardiolipin antibodies, progesterone, and pelvic ultrasound. Then all women were scheduled for hysteroscopy under local or general anesthesia in the postmenstrual period. During hysteroscopic evaluation of the cavity, all suspicious lesions were biopsied using biopsy forceps. The operative hysteroscopic findings were recorded and categorized as being normal, having congenital or acquired uterine defects. Acquired pathological abnormality included endometrial adhesions, fibroids which distort the intrauterine cavity and endometrial polyps or polypoid endometrium. When Mullerian anomalies were found, the diagnosis was confirmed with laparoscopy. All data were collected and statistically analysed. Student's t-test was used for statistical comparison between variables and P value of < 0.05 was considered significant.

Results

Table I. shows patients characteristics of the study group. There was no clinical significant difference between the two groups as regard age of the patients, number of first and second trimester abortion, prior deliveries and previous surgical evacuation.

The overall hysteroscopic findings among women with recurrent pregnancy loss were 32(34.7%) versus 62(67.3%) with no pathological abnormality. Congenital and acquired uterine defects were found in 13(14.1%) and 19(20.6%) of patients of the study groups, respectively. Septate uterus was the most common congenital anomaly and represented about 5(5.4 %) among patients of the study groups. However, intrauterine adhesion was the most common acquired uterine defect and represented about 11(11.9%) among patients of the study groups (Table II).

The congenital and acquired anomalies were slightly more in the two consecutive miscarriages group 8 (15.3%) and 11 (21.1%), respectively than the three or more miscarriages group 5 (12.5%) and 8 (20%), respectively however, this difference was not statistically significant. The only two patients having both a congenital and acquired anomalies were in the three or more miscarriages group (Table III).

Table I: Patients characteristics of the study groups.

	2 consecutive miscarriages (n = 52)	≥3 consecutive miscarriages (n = 40)	P.value
• Age (years)	24.8 ± 2.6	25 ± 2.4	NS
• Gravidity	3.20 ± 1.1	5.1 ± 1.9	<0.05
• No. of abortion	2 ±0	3.6 ± 1.4	<0.05
• first trimester abortion	38 (73.1%)	29 (72.5%)	NS
• second trimest abort	14(26.9%)	11(27.5%)	NS
• Prior deliveries	24(46%)	19(47.5%)	NS
• Surgical evacuation	18(34.6%)	15(37.5%)	NS

Values presented by mean ± SD or number and percentage.
NS = non-significant.

Table II: The overall hysteroscopic findings of the study group.

Hysteroscopic findings	N= 92 (%)
• No hysteroscopic abnormality	**62(67.3%)**
• Congenital anomaly	**13(14.1%)**
Arcuate uterus	4(4.3%)
Septate uterus	5(5.4%)
Bicornuate uterus	3(3.3%)
Unicornate uterus	1(1.1%)
• Acquired anomaly	**19 (20.6%)**
Intrauterine adhesion	11(11.9%)
Submucous fibroids	3(3.3%)
Endometrial polyp	2(2.2%)
Polypoid endometrium	3(3.3%)

- Two patients had both congenital and acquired anomalies.
- Values presented by number and percentage.

Table III. Hysteroscopic findings in recurrent abortion with two versus ≥3 consecutive abortion.

Anomaly	2 consecutive miscarriages (n = 52)	≥3 consecutive miscarriages (n = 40	P.value
• Congenital	8 (15.3%)	5 (12.5%)	NS
• Acquired	11 (21.1%)	8 (20%)	NS
• Mixed cong and acquired	0	2(5%)	

• Two patients had both a congenital and acquired anomalies in the ≥3 consecutive miscarriages group. NS = non-significant.

Discussion

Recurrent pregnancy loss has traditionally been defined as three consecutive spontaneous miscarriages. It has been suggested that this definition should be modified to two consecutive miscarriages as recurrence risks and subsequent outcome are similar for these two groups (Chauhan and Chauhan and moghissi, 2002). Anatomical uterine defects, including Mullerian anomalies, adhesions and fibroids, are frequently found in women with recurrent miscarriage whether of the first or second trimester (Propst and Hill, 2000).

In this current study, congenital and acquired anomalies were found in 13(14.1%) and 19(20.6%) of patients of the study groups, respectively. Septate uterus was the most common congenital anomaly and represented about 5(5.4 %) among patients of the study groups. This rate was nearly agreed with rates in the previous studies. Ventolini, et al., 2004 conducted a literature review through Medline on previous 18 studies. The search yielded Mullerian anomalies have been found in 8–10% of women with recurrent pregnancy loss and uterine septum was the most common anomaly. Also in other studies the reported rate of anomalies for patients with recurrent miscarriages varies from 6.3 to 67% (Valli et al., 2001 and Salim et al., 2003). Fiedler *et al*. (1993) performed post-abortion hysteroscopy in 147 patients and found intrauterine pathology in 38 (25.9%), mainly intrauterine adhesions. This was confirmed by

Römer (1994) with intrauterine adhesions in 18.8% after the first abortion and 47.6% after two or more abortions.

In this study, the hysteroscopic findings of patients with two consecutive miscarriages had 15.3% congenital anomalies and 21.1% acquired abnormalities and 53.6% without pathological findings on hysteroscopy. Patients with three or more miscarriages had 12.5% congenital anomalies and 20% acquired anomalies and 57.5% without pathological findings on hysteroscopy. There was no a significant difference between the two groups, suggesting that patients who have suffered two miscarriages have the same possibility of having intrauterine pathological abnormalities as those with three or more miscarriages and these findings agreed with the findings of Weiss etal., 2005 who concluded that there was no significant difference between the frequency of hysteroscopic findings in patients with two consecutive miscarriage and those with three or more miscarriages.

This study supports the option of performing a hysteroscopy after two miscarriages rather than waiting after three or more miscarriages since the likelihood of finding a congenital or acquired anomaly is the same as after three or more miscarriages and alleviate patient's stress from waiting to start the investigation later after three miscarriages and because uterine defects are the most treatable causes of recurrent pregnancy loss. More studies in the future should be done in this field to liberalize this option among gynecologists because the risks and subsequent outcome are similar for those with previous two or three miscarriages.

Conclusion: Hysteroscopic evaluation of the uterine cavity is highly beneficial for women with recurrent pregnancy loss. Hysteroscopy should be recommended as one of the most essential investigative procedures for women with recurrent pregnancy loss even after two consecutive miscarriages.

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