

Combined Efficacy of Hysteroscopy & Laparoscopy and Laparoscopy alone in Females Presenting with Recurrent Pregnancy Loss

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ABSTRACT

Background: Recurrent pregnancy loss (RPL) has a major effect on couples psychological as well as social status. There is data from few studies which shows that hysteroscopy, laparoscopy and sono-hysterography are accurate diagnostic procedures which help us in the evaluation of the structural anomalies of the uterus as these contribute to RPL.

Aim: To find the percentage of patients with abnormal findings being diagnosed by combined hysteroscopy and laparoscopy alone in cases of RPL

Methods: This cross-sectional study was conducted in the Department of Obstetrics & Gynecology Sir Ganga Ram Hospital, Lahore for a period of 6 months from February 2014 to August 2014 150 females meeting the inclusion criteria were enrolled. Laparoscopy and hysteroscopy was performed one after another on the same visit under general anesthesia to avoid repeated anesthesia exposure. The patients had step Trendelenburg position where the knees were slightly flexed. Data was analyzed by using SPSS v.21.

Results: The mean age of patients was 29.21 ± 4.26 years in our study group. In this study, abnormal findings were diagnosed in 64 (42.7%) patients by combined hysteroscopy and laparoscopy while in 82 (54.7%) patients by laparoscopy alone. The difference in both techniques was significant (p -value= 0.03).

Conclusion: We concluded that the percentage of patients with abnormal findings being diagnosed by combined hysteroscopy are significantly different when compared to laparoscopy alone in cases of RPL. However, our results should be considered as primary in absence of some other local trials.

Keywords: Recurrent pregnancy loss, combined hysteroscopy and laparoscopy alone, abnormal findings

INTRODUCTION

Recurrent pregnancy loss is defined as the loss of three or more consecutive pregnancies, it tends to affect 1% of couples trying to conceive worldwide. It is roughly estimated that among the second-trimester pregnancies 1-2% miscarry before 24 weeks of gestation.¹ Recurrent pregnancy loss (RPL) has a major effect on psychological as well as social status of couples. 1 to 3% of women experience RPL worldwide according to the latest reports².

Developed countries have replaced hysteroscopy for curettage in the diagnosis of RPL. The advantage of this method is the direct visualization of any problem and simultaneous intervention.³ In managing women with RPL due to septate uterus hysteroscopy is considered as the most effective, safe and highly accurate procedure. Hysteroscopy is gaining a lot of popularity as a procedure used to deal with multiple gynecological and obstetrical conditions⁴.

Hysteroscopy and laparoscopy are diagnosing and treating various types of infertility including uterine and tubal factor infertility as well as ovarian factor infertility. They have, thus, a significant role in diagnosis and treatment of female infertility along with RPL.^{5,5} Laparoscopy and hysteroscopy allow physicians to diagnose and correct many gynecologic disorders on an outpatient basis. Patient recovery time is significantly less than the recovery time from abdominal surgery which involves a larger incision⁶.

According to one study results of combined laparoscopy and hysteroscopy in diagnosing are more satisfactory as compared to hysteroscopy alone. They concluded that abnormal findings on combined hysteroscopy-laparoscopy was found in 38 cases i.e. 47% and abnormal findings on laparoscopy alone was observed in 47 cases i.e. 59%.

So the rationale of this study is to assess the combined efficacy between hysteroscopy and laparoscopy for assessment of cause of recurrent pregnancy loss as compared to laparoscopy alone. Hysteroscopy and laparoscopy can be done easily and are cheap methods. But usually, to rule out the cause of RPL, often females have to undergo some surgical procedure for evaluation of intrauterine and ovarian or pelvic pathology. However, in most of the cases, nothing can be ruled out. In literature, only one study was available which studies both these methods to assess whether there is any benefit to perform both procedures simultaneously to see if there is any abnormality in uterus of ovaries or in pelvic region which cause RPL. We may conduct this study on large sample size to get more trustworthy and valid results. Secondly, one point is that combination helps us to diagnose anatomic pathologies via hysteroscopy and acquired disease as adhesions/endometriosis on laparoscopy. So, diagnostic yield would be increased.

MATERIAL & METHODS

This cross-sectional study was conducted in the Department of Obstetrics & Gynecology, Sir Ganga Ram Hospital, Lahore during a period of 6 months i.e., February

Received on 24-08-2020

Accepted on 14-12-2020

2014 to August 2014. The calculated sample size was 150 cases with 95% confidence level, 8% margin of error and taking expected percentage of patients with abnormal findings on considered hystero-laparoscopy i.e., 47%⁷ (least among both) in cases with RPL.

Sample technique: non-probability consecutive sampling.

Inclusion criteria: Pregnant females age 20-40 years and parity with RPL (if female lost 2 consecutive pregnancies (at gestation 13 to 20 weeks).

Exclusion criteria: Multiple pregnancies, females with chronic medical conditions like hypertension, diabetes, diagnosed case of deranged RFTs, or deranged LFTs, asthma, Severe anemia.

Data Collection Procedure: after approval from local ethical committee an Informed consent was taken. Demographic information was also noted. 150 females meeting the inclusion criteria were enrolled from opd. Laparoscopy followed by hysteroscopy was performed in a single visit under general anesthesia to avoid repeated admissions and general anesthesia. The patients had step Trendelenburg position with the knee being slightly flexed. After entry of the trocar first primary and then secondary, carbon dioxide insufflation was done, the uterine contour was outlined and the abdomen and pelvis were inspected for any pathology. Laparoscopy findings were noted (there is endometriosis, fibroid, adenomyosis and pelvic inflammatory disease or polycystic ovaries). In order to carry out hysteroscopy, cervical dilation was done up to 6 or 10 mm using a Hegar dilators. Rigid hysteroscope for the hysteroscopy was applied, normal saline for uterine distension was used. The fundus of the uterus was inspected, and both tubal ostia were localized; then anterior and posterior walls of the uterus was investigated carefully. During hysteroscopy Septum division, adhesiolysis, resection of myomas and endometrial polyps was performed. Findings of combined hysteroscopy and laparoscopy was noted. On hysteroscopy submucosal fibroids, polyps, cervical incompetence, septate uterus. Presence of any one or more of the above mentioned were labeled as abnormal findings. All procedures were done by a single surgical team with assistance of researcher. All this information was collected on proforma.

RESULTS

In this study, the mean age of patients was 29.21±4.26years. Mean weight of the patients was 64.81±2.42kgs, height 5.49±0.42feet and mean BMI was 24.31±13.08kg/m². There were 120(80%) patients with parity 1-3 while 30(20%) had parity >3 (Table 1). In this study, abnormal findings were diagnosed in 64(42.7%) patients by combined hysteroscopy and laparoscopy while in 82(54.7%) patients by laparoscopy alone. The difference was significant (p-value= 0.03) (Table 2).

Table 1: Baseline characteristics of patients

No. of patients	150
Age (years)	29.21±4.26
Weight	64.81±2.42
Height	5.49±0.42
BMI	24.31±13.08
Parity	
1-3	120 (80%)
>3	30 (20%)

Table 2: Comparison of abnormal findings on both methods in cases of RPL

Abnormal findings	Combined hysteroscopy & laparoscopy	Laparoscopy alone
Yes	64 (42.7%)	82 (54.7%)
No	86 (57.3%)	68 (45.3%)
Total	150(100%)	150(100%)

P value= 0.03

DISCUSSION

Recurrent pregnancy loss (RPL) has a major impact on the psychological and social status of couples⁷⁻⁹. Data from some studies have shown that hysteroscopy, laparoscopy and sonohysterography are accurate diagnostic procedures in the evaluation of the structural anomalies causing RPL^{1,10-13}. In addition, combined hysteroscopy and laparoscopy have been suggested by some authors to be the gold standard, as it provides direct visualization, concurrent diagnosis and treatment this combination provide^{14,15}.

In our study, out of 150 cases, 98(65.33%) between 20-30 years while 52(34.67%) were between 31-40 years old, mean age was 29.21±4.26 years, percentage of patients with abnormal findings being diagnosed by combined hysteroscopy and laparoscopy alone in cases of RPL was recorded as 64(42.67%) in combined group while 82(54.67%) in laparoscopy alone group, the remaining 86(57.33%) in combined nad 68(45.33%) in alone group had no abnormal findings, p value was 0.03.

The results of our study were compared with a previous study which showed that laparoscopy and hysteroscopy combined have more satisfactory diagnostic results as compared with hysteroscopy alone¹⁶. They concluded that abnormal findings on combined hysteroscopy-laparoscopy was found in 38 cases i.e., 47% and abnormal findings on laparoscopy alone was observed in 47 cases i.e. 59%. These findings are in agreement with the above study.

Hysteroscopy and laparoscopy are OPD based methods and do not require special expertise and they can be done easily and are cheap methods¹⁷⁻¹⁹. But usually, to rule out the cause of RPL, often females have to undergo some surgical procedure for evaluation of intrauterine and ovarian or pelvic pathology^{20,21}. However, in most of the cases, nothing can be ruled out^{22,23,24}. We found only one study evaluated both of these methods to assess whether there is any benefit to perform both procedures simultaneously to see if there is any abnormality in uterus of ovaries or in pelvic region which cause RPL. Considering the results of this study on large sample size we found more trustworthy and valid results. Secondly, one point is that combination helps us to diagnose anatomic pathologies via hysteroscopy and acquired disease as adhesions/endometriosis on laparoscopy. So, diagnostic yield is found to be increased. As the previous data is scared and only one study is available, we are of the view that some other multicenter trials should be planned so that our results may be validated and considered for our local population.

CONCLUSION

We concluded that the percentage of patients with abnormal findings being diagnosed by combined

hysteroscopy are significantly different when compared to laparoscopy alone in cases of RPL. However, our results should be considered as primary in absence of some other local trials.

Conflict of interest: None

Acknowledgement: We wish to thank Dr Asma Yaseen for her guidance at every point.

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