

Study of role of hysterolaparoscopy in women with infertility

Anshuman V Khobragade¹, Anurag A Sonawane^{2*}, Shrinivas N Gadappa³, Sanjay B Pagare⁴

^{1,2,3,4}Department Of Obstetrics & Gynecology, Government Medical College and Hospital, Aurangabad, Maharashtra, INDIA.

Email: anurag0344@gmail.com

Abstract

Background: Laparoscopy and Hysteroscopy can provide valuable information in the evaluation of patients with infertility. These are very useful to identify pelvic adhesions, endometriosis, uterine fibroid, ovarian pathologies and other factor that are may be the sole or combine cause of infertility. The ability to see and manipulate uterus, fallopian tubes and ovaries, visualizing uterine cavity and its pathology has made hysterolaparoscopy an essential tool for evaluation of infertility. Present study was aimed to study role of hysterolaparoscopy in women with infertility at a tertiary care center. **Methods:** Prospective observational study conducted at a tertiary care hospital on 42 patients of infertility. **Results:** In our study, total 42 patients of infertility comprising 29 patients of primary infertility and 13 patients of secondary infertility. Out of 42 patients with infertility, no pathology found in 13 patients, 8 had PCOS, 6 patients had endometriosis. Fibroid, Ovarian cyst and genital Koch's was found in 2 patient each while uterine anomaly and genital Koch's was finding in 1 patient each. On chromopertubation, 4 patient had tubal block. chronic PID was noted in 3 patients. In 73% of patient with obvious cause of infertility, operative intervention was done and could not be done in 23%. **Conclusion:** Both laparoscopy and hysteroscopy combined together is a valuable technique for complete assessment of female factors of infertility especially in asymptomatic patient and should be used early in the diagnostic work up.

Keywords: Hysterolaparoscopy, primary infertility, secondary infertility

*Address for Correspondence:

Dr Anurag A Sonawane, Department of Obstetrics & Gynecology, Government Medical College and Hospital, Aurangabad, Maharashtra, INDIA.

Email: anurag0344@gmail.com

Received Date: 17/11/2019 Revised Date: 12/12/2019 Accepted Date: 27/01/2020

DOI: <https://doi.org/10.26611/10121412>

Access this article online	
Quick Response Code:	Website: www.medpulse.in
	Accessed Date: 02 April 2020

INTRODUCTION

WHO defines infertility as failure to achieve clinical pregnancy after 1 year or more of regular unprotected intercourse.¹ Female factor contributes majority (50-60%) followed by male factor (30-40%) and combined (10%). Clinically, the majority of pelvic pathologies have been difficult to determine based on routine pelvic examination. Laparoscopy and Hysteroscopy can provide

valuable information in the evaluation of patients with acute and chronic pelvic disease. In the evaluation of infertility, it is very useful to identify pelvic adhesions, endometriosis, uterine fibroid, adnexal mass and other factor that are may be the sole or combine cause of infertility. The ability to see and manipulate uterus, fallopian tubes and ovaries during laparoscopy has made laparoscopy an essential tool for evaluation of infertility. Similarly, ability to visualize uterine cavity and its pathology has made hysteroscopy an equally important. Chromopertubation during laparoscopy is considered as an excellent tool for evaluation of tubal patency.² In addition, hysterolaparoscopic guided biopsy, therapeutic procedures such as ovarian drilling, adhesiolysis, myomectomy, tubal cannulation, septal resection can be done in same sitting. Due to all this Advantages, Hysterolaparoscopy has become gold standard procedure for diagnosis and treatment of infertility in women. These diagnostic procedures are Minimally Invasive and can provide concurrent treatment with faster post-operative

How to cite this article: Anshuman V Khobragade, Anurag A Sonawane, Shrinivas N Gadappa, Sanjay B Pagare. Study of role of hysterolaparoscopy in women with infertility. *MedPulse International Journal of Gynaecology*. April 2020; 14(1): 08-11.
<http://medpulse.in/Gynaecology/index.php>

recovery. Hence, we evaluated role of Hysterolaparoscopy in the diagnosis and management of women with infertility.

METHODS

This is a prospective observational study, in women with infertility done at Government Medical College, Aurangabad, from January 2018 to December 2018. 42 patients were included in the study as per inclusion and exclusion criteria.

Inclusion Criteria -

1. Patient with primary or secondary infertility
2. Willing to participate in study

Exclusion Criteria -

1. Patient with major medical disorder like cardiovascular, respiratory or immune disorders.
2. Patients with acute infectious disorder like acute PID or active TB.
3. Patient whose husband have abnormal semen parameters.
4. Patient unfit for surgery.

A complete clinical history and examination was carried out. All basic routine investigation including some required special hormonal investigation has been done. A baseline USG of every patient was done. With pre-op preparation, patients were posted electively for diagnostic and if required therapeutic hysterolaparoscopy procedure, under general anaesthesia. All findings and details were recorded. Standard post-op care was taken.

Statistical analysis

The data collected in this study was analysed by using descriptive statistics.

RESULTS

In our study, total 42 patients of infertility comprising 29 patients of primary infertility and 13 patients of secondary infertility have been studied. Hysterolaparoscopy used as diagnostic as well as therapeutic tool. In 13 (30.9%) patients, no abnormality was detected on Hysterolaparoscopy. Also tubes of these patients were patent. Total 8 (19%) patient had PCOS and 6 (14.3%) patient had endometriosis. Fibroid accounted total 2(2.7%) patient while ovarian cyst was finding in 2 patients. Intrauterine Adhesion, Uterine anomaly found in one patient each. Three patients found to be suffering from Chronic PID and 2 patient Genital Koch's. Total 4 patient had Tubal block on Chromopertubation.(Table 1) Out of 29 patients with primary infertility, no pathology found in 9 patients while 7 and 3 patients had PCOS and Endometriosis respectively. Fibroid, Ovarian cyst and chronic PID was found in 2 patient each while Uterine anomaly and genital Koch's was finding in 1 patient each. On Chromopertubation, 2 patient had tubal block. Out of 13 patients with secondary infertility, no pathology found in 4 patients while 1 and 3 patients had PCOS and Endometriosis respectively. Chronic PID was found in 2 patients while Uterine anomaly and genital Koch's was finding in 1 and 2 patient respectively. On Chromopertubation, 2 patient had tubal block.

Table 1: Hysterolaparoscopy Findings in women with Infertility

Finding	Primary Infertility (n=29) (%)	Secondary Infertility (n=13) (%)	Total (n=42) (%)
No Significant Finding	9 (31%)	4 (30.76%)	13 (30.95%)
PCOS	7 (24.13%)	1 (7.69%)	8 (19%)
Endometriosis	3 (10.34%)	3 (23.07%)	6 (14.28%)
Fibroid	2 (6.89%)	0 (0%)	2 (4.76%)
Tubal Block	2 (6.89%)	2 (15.38%)	4 (9.52%)
Ovarian Cyst	2 (6.89%)	0 (0%)	2 (4.76%)
Intrauterine Adhesion	0 (0%)	1 (7.69%)	1 (2.38%)
Uterine Anomaly	1 (3.44%)	0 (0%)	1 (2.38%)
Genital Koch's	1 (3.44%)	1 (7.69%)	2 (4.76%)
Chronic PID	2 (6.89%)	1 (7.69%)	3 (7.14%)

During Hysterolaparoscopy, 13 patient had no significant finding but 29 patient had significant finding out of which, therapeutic intervention was done in 21 patients. Ovarian drilling was done in all case of PCOS i.e. 8 Patients. In cases of Endometriosis, all cases 6 have been operated either by Adhesiolysis or puncture and aspiration of chocolate cyst. Myomectomy done in 1 out of 2 cases of Fibroid uterus. Tubal cannulation was done in 3 out of 4 cases of patient with tubal block. In both case of ovarian cyst, cystectomy done. Intrauterine Adhesiolysis done in one case of Intrauterine Adhesion. No operative intervention done in case of uterine anomaly, genital Koch's and Chronic PID patient. (Table 2)

Table 2: Therapeutic Intervention during diagnostic Hysterolaparoscopy

Finding	Patients	Interventions done	Interventions not done
No Significant Finding	13	0 (0%)	13 (100%)
PCOS	8	8 (100%)	0 (0%)
Endometriosis	6	6 (100%)	0 (0%)
Fibroid	2	1 (0%)	1 (100%)
Tubal Block	4	3 (75%)	1 (25%)
Ovarian Cyst	2	2 (100%)	0 (0%)
Intrauterine Adhesion	1	1 (100%)	0 (0%)
Uterine Anomaly	1	0 (0%)	1 (100%)
Genital Koch's	2	0 (%)	2 (100%)
Chronic PID	3	0 (0%)	3 (100%)
Total	42	21 (50%)	21 (50%)

DISCUSSION

Primary outcome of our study is the incidence of various factor causing infertility seen in Hysterolaparoscopy and treatment in same sitting at a tertiary care Centre. Incidence of primary infertility in our study was 69.05% and that of secondary infertility was 30.95% which was similar to study by Samipa J. Shah *et al.* and Nousheen. In their study, incidence of primary infertility in this study was 64% and that of secondary infertility was 36%.³ Incidence of unexplained primary infertility in our study was 31% which was similar to Samal A. *et al.* 29.69% but incidence of secondary infertility in our study was quite more (30%) than in same study (8.33%).⁴ Ovarian factor was responsible for 33.03% of patients with primary infertility and 7.69% with secondary infertility in our study which was similar to study conducted by Samalet *al.* with 26% and 10% incidence respectively. In our study, PCOS was single most important finding in patient with primary infertility contributing 24.13% of all patient with primary infertility. Another ovarian factor contributing was ovarian cyst whose incidence was 4.76%.⁴ Uterine factors that have been observed to contribute for infertility on Hysterolaparoscopy constitute fibroid, uterine anomaly and intrauterine adhesions. In our study, uterine factor was there in 10.44% patients of primary infertility which was comparable to study by Samalet *al.* where incidence found to be 13%. In our study uterine factor responsible for secondary infertility were considerably lower i.e. 7.69% than that in same study which was 16%.⁴ Tubal factors are one of the very important and common cause of infertility in Indian population. Tubal block may be isolated without any other detectable pathology but most of the time it is secondary to other underlying pelvic pathology. Isolated bilateral tubal block constituted 9.52% of total patients with infertility in our study which is almost similar to study conducted by Chimoteet *al.* where incidence was 14.2%. Pathologies that contribute to bilateral and unilateral tubal block include Endometriosis, Koch's, PID, adhesions etc. In our study,

total incidence of tubal block was 28.57% which was comparable to 22% found in study by Chimoteet *al.*⁵ Genital Koch's most commonly affects tubes. In our study, 6% patients with infertility found to have genital Koch's which is comparable to 4.76% found in study by Mali K. *et al.*⁶ Endometriosis was second most single common finding after PCOS in patient with infertility. In our study, incidence of endometriosis was 10.34% in patient with primary infertility and 23.07% in patient with secondary infertility which was comparable to study done by Parveen Sajida *et al.* with incidence of 8% and 22% respectively.⁷ In our study, only PID was found in 7.14% patient while same present of patient had fibroid with PID, so total incidence was 14.28% which was similar to 16% in study by Mali K. *et al.*⁶ Hysterolaparoscopy in infertility have another advantage that surgeon can operate in view of possible cause of infertility in most of the patient. In our study, 50% out of total patient and 73% with obvious cause of infertility undergone operative intervention to treat infertility. Operative intervention done during Hysterolaparoscopy was ovarian drilling, Adhesiolysis, myomectomy, ovarian cystectomy, tubal cannulation and intrauterine Adhesiolysis.

CONCLUSION

Hysterolaparoscopy if done with proper selection of cases and in experience hands can be considered as the most effective and safe tool for evaluation of infertility as well as treating operatively in same sitting. Hysterolaparoscopy by virtue of direct visualization, gives opportunity to diagnose disease which otherwise may not be seen in other modalities like USG.

PCOS and Endometriosis were the leading cause of infertility found on diagnostic laparoscopy which indicates a rising trend in this Generation of reproductive age group. In a Government tertiary care Centre like ours, where maximum patients belong to middle and lower socioeconomic group, Hysterolaparoscopic evaluation offers both diagnostic as well as therapeutic advantage.

REFERENCES

1. F. Zegers-Hochschild, D. Adamson, J. de Mouzon, O. Ishihara, R. Mansour, K. Nygren, E. Sullivan, and S. Vanderpoelh. ICMART and WHO, Fertility and Sterility Vol. 92, No. 5, November 2009
2. National Institute for Health and Clinical Excellence: Fertility: assessment and treatment for people with fertility problems. Nice clinical guideline 156 (2013)
3. Shah Samipa J, Shah Akshay C, Trivedi Yamini N. Study of combined laparoscopic and hysteroscopic findings in 100cases of infertility. Journal of medical sciences. 2014;3(2): 68-71.
4. Samal S, Agrawal S, Agrawal M. Role of laparoscopy in infertility in a rural set up hospital. Int J Reprod Contracept Obstet Gynecol. 2014; 3(1): 185-188.
5. Chimote A *et al...* Laparoscopy and hysteroscopy in patients of infertility in a rural set up, Int J Reprod Contracept Obstet Gynecol. 2015 Apr;4(2):322-328
6. Mali K, Mohanti S, To study the role of hysteroscopy and laparoscopy in the evaluation of infertility. Int J reprod Contracept Obstet Gynecol. 2016 Sept.;5(9); 3027-3031
7. Parveen Sajida, Khanam Majidah. Role of combined diagnostic laparoscopy and simultaneous diagnostic hysteroscopy for evaluation of female sub-fertility factors. Journal of Surgery Pakistan (International). 2010;15(1):44-46.

Source of Support: None Declared
Conflict of Interest: None Declared

