



**ROLE OF DIAGNOSTIC LAPAROSCOPY IN EVALUATION OF FEMALE INFERTILITY**

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**ABSTRACT** Background-Use of diagnostic laparoscopy in infertility has been a focus of attention in recent years and demonstrated to be very effective method in evaluating these cases .The main objective of the study was to detect the diagnostic efficacy of laparoscopy in uterine, pelvic and ovarian pathologies.  
 Methods –This retrospective study includes 30 infertile women and After thorough gynecological examination necessary investigations were made and written informed consent was taken before laparoscopy .The patient were kept fasting for 12 hours before surgery and procedure was conducted under general anesthesia .

**KEYWORDS** :Infertility, Laparoscopy , Primary and secondary infertility

**INTRODUCTION**

Infertility is defined as failure to conceive during one year of unprotected frequent intercourse(16). Leading cause of tubal disease, ovulatory disorders , uterine or cervical factors, endometriosis (17,18). A laparoscopy is thin fiber optic telescope that is inserted into the abdomen usually through the belly button .CO2 gases placed into the abdomen prior to inserting the laproscope.Generally,laproscopy should be reserved for couples who have already completed a more basic infertility evaluation including assessing for ovulation,ovarian reserve,ultrasound and hysterosalpingogram for the female and semen analysis for men.Laproscopy can help physician to diagnosed many gynecological problems including endometriosis, uterine fibroids and other structural abnormalities, ovarian cyst,adhesion.Laproscopy is used worldwide to investigate infertility. It provides direct visualization of pelvic organs, ovarian and tubal status .Laproscopy is performed under general anesthesia.

**METHODS**

This retrospective study includes 30 infertile women After thorough gynecological examination necessary investigations were made and written informed consent was taken before laparoscopy .The patient were kept fasting for after 10pm a day before surgery .The Diagnostic Laparoscopy conducted under general anesthesia with endotracheal intubation and were maintained on gas oxygen and halothane.Pneumoperitonium was created using carbon dioxide through veress needle inserted through lower border of umbilicus . The cannula is removed and laproscope was introduced .The pelvic organs are 1st inspected by manipulating uterus ,tubes,ovaries,pouch of Douglas are visualized for any pathology .Chromopertubation was done to check the patency of tubes by injecting dilute methylene blue through the intrauterine cannula.

All the women who failed to conceive after 12 months of regular intercourse were included in study were included in the study . Couples who had not lived together for at least 12 month, those with male factor infertility, Patients with absolute or relative contraindication for laparoscopy, were excluded from the study. A complete hormonal profile including FSH, LH, prolactin, progesterone, testosterone, TSH, and abdominal ultrasound was done. Thirty infertile women underwent laparoscopy for infertility.

**RESULTS**

**Distribution by age**

- 80% between the ages of 21-30 years.
- Primary infertility: 23

- Secondary infertility: 7

AGE (yrs)	PRIMARY INFERTILITY(23)		SECONDARY INFERTILITY(7)	
	Number	Percentage	Number	Percentage
21-25	6	26%	1	14.2%
26-30	14	61%	3	42.8%
30-35	2	8.7%	2	28.6%
>35	1	4.3%	1	14.2%

Distribution as per duration of marriage

Majority (43.5%) of the patients of primary infertility have presented between 1-3 years of marriage

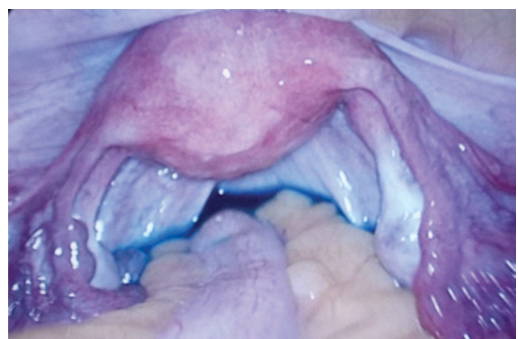
Whereas, Majority (57.1%) of the patients of secondary infertility have presented after 6 years of marriage

Duration of marriage	Primary Infertility(23)		Secondary infertility(7)	
	Number	Percentage	Number	Percentage
1-3 yrs	10	43.4%	1	14.2%
4-6 yrs	7	30.4%	2	28.5%
>6 yrs	6	26.1%	4	57.1%

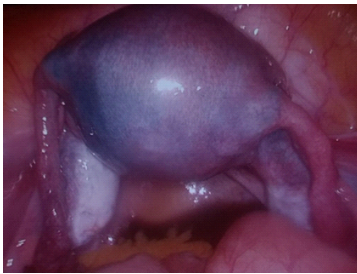
Distribution as per whether explained/unexplained infertility

		PERCENTAGE
Number of explained infertility	21	70%
Number of unexplained infertility	9	30%
Total number of cases	30	

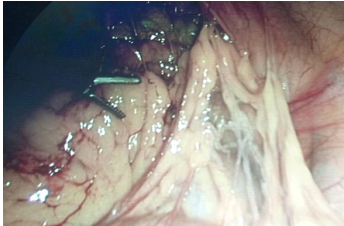
Normal Finding with bilateral free spill



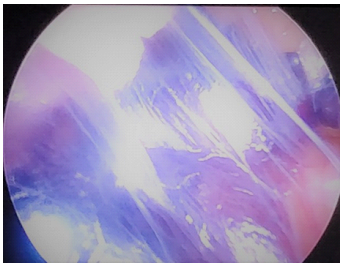
Bilateral tubal blockade with extravasation of dye



Dense Omental Adhesions



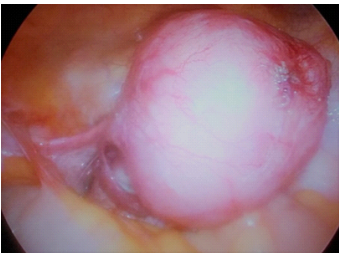
Flimsy adhesions



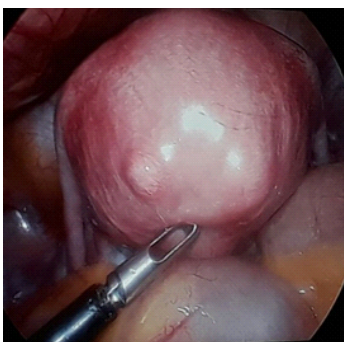
Fits Hugh Curtis Syndrome (Perihepatic adhesions)



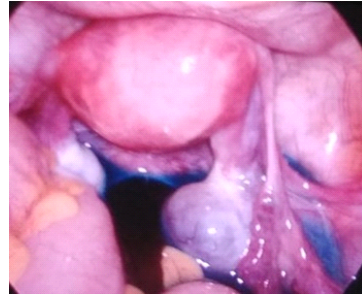
FIBROID UTERUS



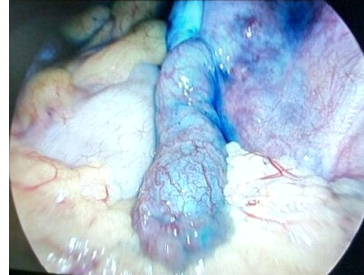
MULTIPLE SEEDLING FIBROID



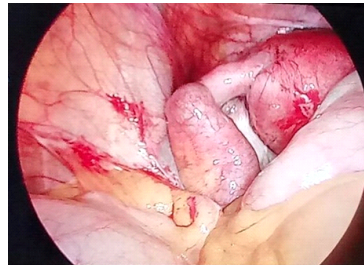
BULKY RIGHT OVARY WITH FREE SPILL ON RIGHT SIDE



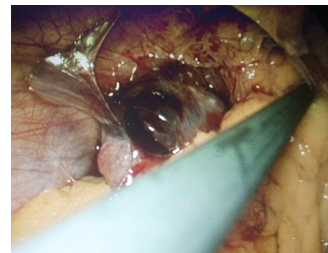
HYDROSALPINX



Left terminal hydrosalpinx with lead pipe appearance of Left fallopian tube



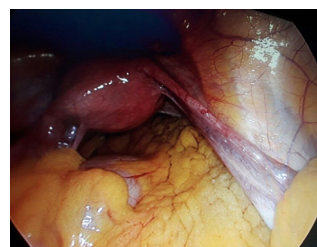
LEFT CHOCOLATE CYST WITH ADHESIONS



TUBERCLES OF FALLOPIAN TUBES



RIGHT STREEK OVARY



## UTERINE DIDEPHIS

**DISCUSSION**

Infertility is a worldwide problem affecting 8-12% couple (50-80 million) during their reproductive lives.<sup>9</sup> According to WHO overall prevalence of primary infertility in India to be between 3.9-16.8%.<sup>10</sup> The female factors contribute most (i.e. 40-55%) in the etiologies of infertility followed by male factors (30-40%), both partners (10%) and unexplained (10%). Diagnostic laparoscopy is considered as an essential and valuable step of the infertility evaluation. It allows visualizing tubal patency and integrity, endometriosis and pelvic adhesions.<sup>12</sup> In our study a total of 30 infertile women were included. The mean age at presentation was 26.5 years in primary infertility and 30 years in secondary infertility group i.e. just beyond the maximum fertile period of life. This was consistent with the observations of Sholapurkar et al.<sup>13</sup> According to Kanal Sharma's study maximum cases of infertility are in the age group of 21-25 years followed by 35% of cases of infertility in the age group of 26-30 years.<sup>14</sup> Maximum number of patients presented with less than 1-3 years of primary infertility while 4 (57.1%) patients out of 7 had duration of more than 6 years of secondary infertility. The study by Waseem et al found the same to be 3.4 years and 6.1 years respectively. Tubal blockage and ovarian pathology was found to be the most common cause of infertility followed by pelvic adhesions. Cystic ovaries, endometriosis, chocolate cyst, adhesion, or endometriotic implants were also seen. These findings were similar to the study conducted in Thailand by Sinawat et al.<sup>16</sup> The diagnostic laparoscopy should be considered early in symptomatic patients during infertility workup.<sup>16</sup> In this study, normal pelvic findings and patent tubes on laparoscope was found in 39.1% cases of primary infertility and in 28.6% cases in secondary infertility.

Among ovulatory disorders polycystic ovarian disease was the commonest endocrine disorder associated with anovulation. Endometriosis may lead to female infertility, The clinical signs and symptoms (dysmenorrhea, dyspareunia, abnormal uterine bleeding, chronic pelvic pain and/or pelvic mass, utero-sacral ligament nodularity) are not reliable enough to justify diagnosis and treatment. Current thinking dictates visual and/or microscopic confirmation through laparoscope before diagnosing or treating a patient for endometriosis.<sup>18</sup>

**CONCLUSION**

Diagnostic laparoscopy helps in identifying the hidden etiology of infertility so that a therapeutic intervention can be initiated, by avoiding unnecessary empiric medical treatment for ovulation induction. In some patients, diagnostic laparoscopy alters treatment plans, including earlier utilization of assisted reproductive technology. Thus, diagnostic laparoscopy can be safely used earlier in the evaluation of infertile females.

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