

Spectrum of Gynaecological Laparoscopic Surgeries in Rural India: A Retrospective Study

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Abstract

Background: Today, laparoscopy is one of the most common surgical procedures performed by gynaecologists because of being safe and minimally invasive. Short hospital stay, reduced morbidity, quick mobilization and comfortable postoperative period are main advantages of the laparoscopic technique. **Aim:** 1. to study incidence of laparoscopic surgeries out of total major Gynaec surgeries in rural india. 2. To study varieties of laparoscopic surgeries in rural set-up. 3. To study various indications of Laparoscopic surgeries. **Material and Methods:** The present Retrospective Observational study was conducted in the OBGYN Dept, CCM MC, Kachandur, Durg (Chhattisgarh) in 810 women between January 2014 to June 2018 (54 months). After inserting camera through primary port, quick evaluation of whole abdominal cavity was undertaken by rotating 300 camera through 360 degrees to rule out any adherence of bowel and decision made for inserting secondary 5 mm ports through small incisions under direct vision. **Results:** Out of total 4128 major gynaecological surgeries 810 patients underwent gynaec laparoscopic surgeries i.e. 19.62%. Out of total 810 surgeries, maximum 570 (70.37%) cases were of Operative & 240 (29.63%) cases were of Diagnostic Laparoscopy. Out of total 58 cases of Diagnostic Laparoscopic only

maximum 48 (82.75%) cases were of Chronic Pelvic Pain & Chronic PID. Out of total 570 cases of Operative Laparoscopy maximum 247 (43.33%) cases were of TLH followed by Lap Cystectomy (16.67%), LTT (08.42%), Lap Myomectomy (06.31%), Ectopic Pregnancy (06.14%), Lap Adhesiolysis (05.09%), Lap TO Mass Removal (03.68%), LAVH (3.51%), Lap Sacrocolpopexy (02.46%) Lap Resection of Adenomyoma (01.75%), Lap Wertheims Hysterectomy (00.88%) & minimum both of 3 cases (00.53%) were of Embedded CuT Removaol and Vaginoplasty by Davydov's Technique. **Conclusion:** It is very important to understand that in our rural set-up minimal access laparoscopic surgeries are not only feasible but very safe, effective, short hospital stay & not so costly as a both diagnostic and operative tool.

Keywords: Laparoscopy; Ports; Diagnostic; Operative.

Introduction

Today, laparoscopy is one of the most common surgical procedures performed by gynaecologists and it is considered as a revolution because of being safe and minimally invasive [1].

It brought various benefits, such as better and quicker post-operative recovery, a lesser need

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for pain relievers, a shorter duration for the surgical procedure and early hospital discharge [2,3].

Laparoscopic surgery offers distinct advantages in dealing with many common gynaecological problems which require surgical intervention. Short hospital stay, reduced morbidity, quick mobilization and comfortable postoperative period are main advantages of the laparoscopic technique [4].

Now the procedure has become the gold standard for many organ systems with some of the most common being reproductive (particularly gynecological). Significant improvements in surgical training, as well as developments of instruments, imaging, and surgical techniques, have made laparoscopic surgery safe and feasible across different medical fields [5].

We tried by this study to promote the laparoscopic surgeries even in rural or other low set up areas of india as a gold standard techniques for various indications with good & quick post op recovery.

Aim & objectives

1. To study incidence of laparoscopic surgeries out of total major Gynaec surgeries in rural india.
2. To study varieties of laparoscopic surgeries in rural set-up.
3. To study various indications of Laparoscopic surgeries.

Material & methods

The present Retrospective Observational study was conducted in the Department of Obstetrics and Gynecology, CCM Medical College and Hospital, Kachandur, Durg (Chhattisgarh) in 810 total women (10-65 years) underwent various diagnostic and operative laparoscopic surgeries between January 2014 to June 2018 (54 months).

After taking history, women were examined by per abdomen, per speculum & pervaginal examination followed by various blood tests and Ultrasonography test (CT Scan sometimes) were

done to make diagnosis. Each & every woman was admitted & planned for elective or emergency laparoscopic surgeries. Ethical clearance for this study has been taken.

Case records of patients were reviewed critically by retrieving information from ward registers, clinical notes and theater records. During study period total number of major gynecological operations performed was also obtained from all OT register. All data was assessed and analyzed using simple percentages.

Almost all diagnostic and operative laparoscopies were performed under general anesthesia except some cases under spinal anaesthesia. Patients were put in modified Trendelenburg position and pneumoperitoneum was created with carbon dioxide (CO₂) insufflator 12-15 mmHg via Veress needle followed by sub, intra & supra umbilical incision for 5 mm or 10 mm primary port.

After inserting camera through primary port, quick evaluation of whole abdominal cavity was undertaken by rotating 30° camera through 360 degrees to rule out any adherence of bowel and decision made for inserting secondary 5 mm ports through small incisions under direct vision and trans-illumination, lateral to deep inferior epigastric vessels. Diagnostic procedures were immediately converted to operative procedures if required after taking proper consent. Peritoneal cavity was lavaged and intra peritoneal drain was placed only if indicated.

Instruments and laparoscope were removed under direct vision. Patients who underwent diagnostic laparoscopic procedures were discharged after 2 days and patients with operative procedures were discharged after 5 days except some special cases. Follow up of all pts were done after 1 week of surgery till needed.

Results

Table 1 shows total 4128 major gynaecological surgeries were performed during study period & out of these 810 patients underwent gynaec laparoscopic surgeries i.e. 19.62%.

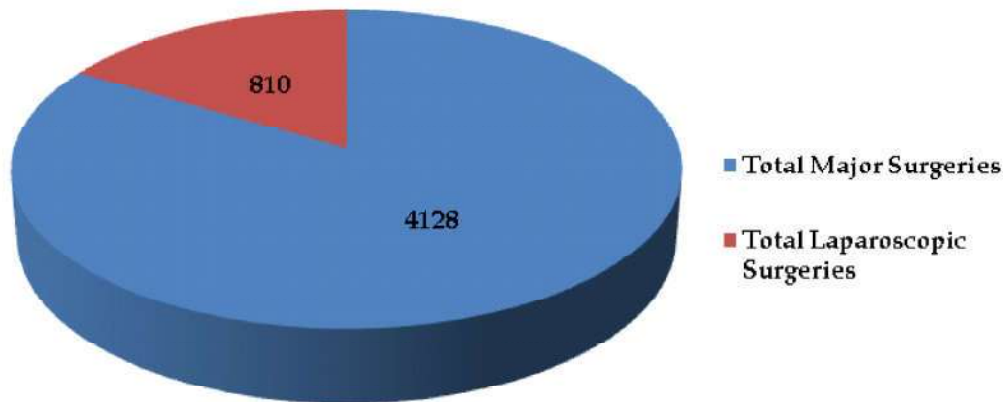
Table 1: Showing Incidence of Laparoscopic Surgeries

Total Major Surgeries During Study Period	Total Laparoscopic Surgeries	% age
4128	810	19.62%

Table 2 shows out of total 810 laparoscopic surgeries, maximum 570 (70.37%) cases were of Operative Laparoscopic Surgery & 240 (29.63%) cases were of Diagnostic Laparoscopic/ Hystero Laparoscopic Surgery.

Table 3 shows Out of total 810 patients underwent laparoscopic surgeries maximum 316

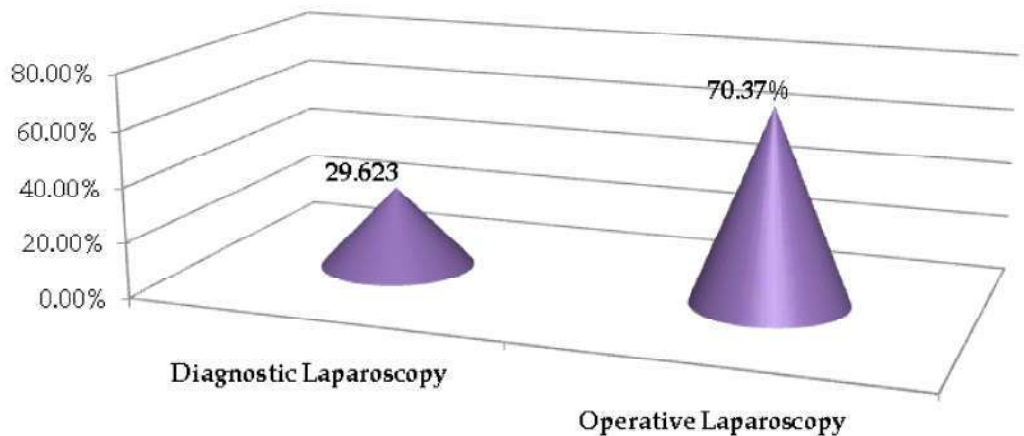
(39.01%) patients were in the age group 21 - 30 years followed by 232 patients (28.64%) were in the 31-40 years, 202 patients (24.93%) were in the 41-50 years, 30 patients (03.70%) were in the <20 years, 27 patients (03.33%) were in the 51-60 years age group & minimum 03 patients (0.37%) were in the 31-40 years age group.



Graph 1: Shows Incidence of Laparoscopic Surgeries

Table 2: Types of Laparoscopic Surgery

S. No.	Types	Number	% age
1	Diagnostic Laparoscopic + HysteroLaparoscopic Surgery	58+182 (240)	29.63%
2	Operative Laparoscopic Surgery	570	70.37%



Graph 2: Shows Types of Laparoscopic Surgery

Table 3: Age Distribution of Patients (N= 810)

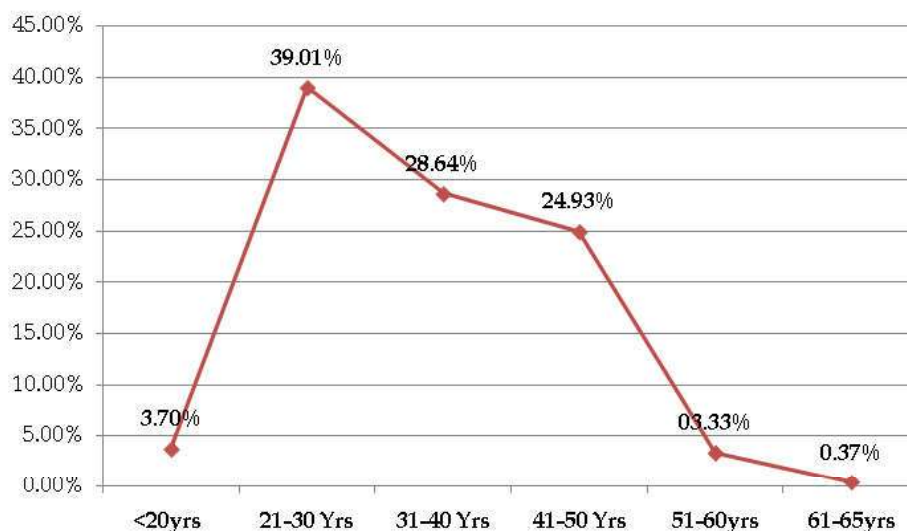
Types of Laparoscopy	<20 Yrs	21-30 Yrs	31-40 Yrs	41-50 Yrs	51-60 Yrs	61-65 Yrs
Diagnostic + Operative	30 (03.70%)	316 (39.01%)	232 (28.64%)	202 (24.93%)	27 (03.33%)	03 (0.37%)

Table 4 Shows out of total 58 cases of Diagnostic Laparoscopic only maximum 30 (51.72%) cases were of Chronic Pelvic Pain followed by Chronic PID (31.03%), Primary Amenorrhoea with imperforate hymen / MRKH Syndrome (10.34%) & minimum both 2 cases (03.44%) were of Lap guided Enterocele Repair and Uterine Perforation (following D & C & S/E)

Table 5 Shows out of total 182 cases of Diagnostic Hysteroscopy maximum 102 (57.16%) cases were of Primary Infertility followed by Secondary

Infertility 40 cases (22.00%) means total 142 cases (78% of infertility). Followed by AUB with Chronic Pelvic Pain (15.38%), AUB with Chronic PID (02.75%), Secondary Amenorrhoea (01.65%), Asherman Syndrome (01.65%) & minimum 1 case (00.54%) was of Chronic Pelvic Pain with RPL.

Table 6 Shows out of total 570 cases of Operative Laparoscopic Surgery maximum 247 (43.33%) cases were of TLH followed by Lap Cystectomy (16.67%), LTT (08.42%), Lap Myomectomy (06.31%), Ectopic Pregnancy (06.14%), Lap Adhesiolysis (05.09%),



Graph 3: Shows Age Distribution of Patients

Table 4: Various Indications for Diagnostic Laparoscopy only

S. No.	Indications	Number of Surgeries (N= 58)	% age
1	Chronic Pelvic Pain	30	51.72%
2	Chronic PID	18	31.03%
3	Primary Amenorrhoea with imperforate hymen/ MRKH Syndrome	6	10.34%
4	Lap guided Enterocele Repair	2	03.44%
5	Uterine Perforation (following D & C & S/E)	2	03.44%
	Total	58	100%

Table 5: Various Indications for Diagnostic Hystero-Laparoscopy

S. No.	Indications	Number of Surgeries (N= 182)	%age
1	Primary Infertility	102	57.16%
2	Secondary Infertility	40	22.00%
3	AUB with Chronic Pelvic Pain	28	15.38%
4	AUB with Chronic PID	5	02.75%
5	Secondary Amenorrhoea	3	01.65%
6	Asherman Syndrome	3	01.65%
7	Chronic Pelvic Pain with RPL	1	00.54%
	Total	182	100%

Lap TO Mass Removal (03.68%), LAVH (3.51%), Lap Sacrocolpopexy (02.46%), Lap Resection of Adenomyoma (01.75%), Lap Wertheims Hysterectomy (00.88%) & minimum both of 3 cases (00.53%) were of Embedded Cut Removal and Vaginoplasty by Davydov's Technique.

Table 7 Shows various indications of operative laparoscopy in detail.

Discussion

Incidence of Laparoscopic Surgeries

In our study total 4128 major gynaecological surgeries were performed during study period & out of these 810 patients underwent gynaecological laparoscopic surgeries i.e. 19.62%

Table 6: Showing Varieties of Operative Laparoscopic Surgeries

S. No	Types of Operative Laparoscopic Surgeries	No of Surgeries (N=570)	% age
1	TLH	247	43.33%
2	LAVH	20	03.51%
3	Lap Myomectomy	36	06.31%
4	Lap Cystectomy	95	16.67%
5	Ectopic Pregnancy (Ruptured & Intact)	35	06.14%
6	Lap Wertheims Hysterectomy	05	00.88%
7	Lap Sacrocolpopexy	14	02.46%
8	Lap TO Mass Removal	21	03.68%
9	Lap Adhesiolysis	29	05.09%
10	LTT	48	08.42%
11	Lap Resection of Adenomyoma	10	01.75%
12	Chronic PID	4	00.72%
13	Embedded CuT Removal	3	00.53%
14	Vaginoplasty by Davydov's Technique	3	00.53%
	Total		100%

Table 7: Various Indications of Operative Laparoscopy (N=570)

S. No.	Indications	Number	% age	
1.	TLH (43.33%)	AUB-L	85	14.91%
		AUB-A	34	05.96%
		AUB-M	28	04.91%
		AUB-O	25	04.39%
		AUB-P	15	02.63%
		AUB-N	8	01.40%
		AUB- C	2	0.35%
		CIN II/CIN III	16	02.81%
		Chronic PID	6	01.53%
		CPP with Chronic Cervicitis	5	0.88%
		PMB	7	01.23%
		Complex TO Mass	8	01.40%
		Grade IV Endometriosis	4	0.70%
		AUB with I Prolapse	4	0.70%
2.	LAVH (03.51%)	AUB-L	9	01.58%
		AUB-A	4	0.70%
		AUB - N with PID	3	0.53%
		AUB - O with TO Mass	4	0.70%
3.	Ectopic Pregnancy (06.14%)	Ruptured	22	03.86%
		Intact	13	02.28%
4.	Ovarian Masses (16.67%)	Simple Ovarian cyst/ Hemorrhagic Cyst	52	09.12%
		Endometriotic cyst	22	03.86%
		Dermoid cyst	10	01.75%
		Paraovarian cyst	11	01.93%

	Total Major Surgeries During Study Period	Total Laparoscopic Surgeries	% age
Present Study (2018 - New Data)	4128	810	19.62%

This is the new data we have explored because as such no gynaec laparoscopy studies have obtained the data like our study.

Types of Laparoscopic Surgery

In our study out of total 810 laparoscopic surgeries, maximum 570 (70.37%) cases were of Operative Laparoscopic Surgery & 240 (29.63%) cases were of Diagnostic Laparoscopy/ HysteroLaparoscopy.

Following studies are comparable with our study

S.No.	Diagnostic Laparoscopy	Operative Laparoscopy
Khatuja R et al. (2014) [6]	51.4%	48.6%
Attiya Begum et al. (2015) [1]	35%	65%
Present Study (2018)	29.63%	70.37%

Age Distribution of Patients

In our study out of total 810 patients underwent laparoscopic surgeries maximum 316 (39.01%) patients were in the age group 21 – 30 years followed by 232 patients (28.64%) were in the 31-40 years, 202 patients (24.93%) were in the 41 - 50 years. Means total 93% (316+232+202) cases in between 21-40 yrs age group followed by 30 patients (03.70%) were in the <20 years, 27 patients (03.33%) were in the 51-60 years age group & minimum 03 patients (0.37%) were in the 31-40 years age group.

Following studies are comparable with our study

S. No.	Max no of Cases (Years)	% age
Mariña Naveiro Fuentes et al. (2014) [7]	30 – 64	70%
Attiya Begum et al. (2015) [1]	20 – 39	93%
Present Study (2018)	21 – 40	93%

Various Indications for Diagnostic Laparoscopy only

In present study out of total 58 cases of Diagnostic Laparoscopic only maximum 48 (82.75%) cases were of Chronic Pelvic Pain & Chronic PID (51.72 + 31.03%) [8,9].

Various Indications for Diagnostic Hystero-Laparoscopy

out of total 182 cases of Diagnostic HysteroLaparoscopy maximum 102 (57.16%) cases were of Primary Infertility followed by Secondary Infertility 40 cases (22.00%) means total 142 cases (78% of infertility). Followed by AUB with Chronic Pelvic Pain (15.38%), AUB with Chronic PID (02.75%), Secondary Amenorrhoea (01.65%), Asherman Syndrome (01.65%) & minimum 1 case (00.54%) was of Chronic Pelvic Pain with RPL.

Following studies are comparable with our study

S. No.	Infertility (I & II)
Khatuja R et al. (2014) [6]	61.38%
Attiya Begum et al. (2015) [1]	87.5%
Raquel Togni et al. (2015) [10]	57%
Present Study (2018)	78%

Varieties of Operative Laparoscopic Surgeries

In our study out of total 570 cases of Operative Laparoscopic Surgery maximum 247 (43.33%) cases were of TLH followed by Lap Cystectomy (16.67%), LTT (08.42%), Lap Myomectomy (06.31%), Ectopic Pregnancy (06.14%), Lap Adhesiolysis (05.09%), Lap TO Mass Removal (03.68%), LAVH (3.51%), Lap Sacrocolpopexy (02.46%) Lap Resection of Adenomyoma (01.75%), Lap Wertheims Hysterectomy (00.88%) & minimum both 3 cases (00.53%) were of Embedded CuT Removaol and Vaginoplasty by Davydov's Technique.

Attiya Begum et al. (2015) [1] studies that out of total 89 Operative laparoscopies, ovarian masses formed a major group i.e. 43 (48.3%) followed by 31 (34.8%) patients of ectopic pregnancies, only 4 (4.5%) cases of LAVH % 11 cases others. But no TLH was done.

As such No other studies are available related to various indications of operative laparoscopy of gynaecology in detail.

Present study is not comparable with above mentioned study {Attiya Begum et al. (2015) [1]} because in our rural set-up maximum no of AUB cases were there that is why TLH were maximum followed by Lap Cystectomy (16.67%) & others.

Conclusion

To conclude our study it is very important to understand that in our rural set-up minimal access laparoscopic surgeries are not only feasible but very

safe, effective, short hospital stay & not so costly as a both diagnostic and operative tool. It is even Gold standard for many gynaecological diseases.

So our study is a new basic approach specially to cover rural area to diagnose & treat the variety of diseases in a proper manner by advanced & even difficult rare laprscopic surgeries.

Lack of education & communication about laparoscopic surgeries make it difficult to opt by women of rural area.

Recommendations

Being a Endoscopic (Laparoscopic) Surgeon it is our basic responsibility & duty to pay attention towards each and every woman of our society, state & nation to make her disease free from any gynaec disease by Recommending Advanced Technology like Laparoscopic Surgeries due to following reasons:

1. Camera projects the procedure onto a monitor that everyone can see surgery & team members can anticipate what is happening and preparation for the next steps.
2. Less pain than an open procedure
3. Faster recovery
4. Less Bleeding
5. Smaller incisions
6. Smaller external scarring
7. Less internal scarring
8. Less risk of infection
9. Gold standard for some diseases like PIDs, Chronic Pelvic Pain, Infertility etc.

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