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Role of Ultrasonography and Laparoscopy in Chronic Pelvic Pain

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Abstract: The study was proposed to evaluate chronic pelvic pain by ultrasonography and laparoscopy as chronic pelvic pain is a common gynecologic complaint that accounts for significant morbidity. The study was conducted in 350 women attending gynecology outpatient department with complaint of chronic pelvic pain. All selected cases were subjected to ultrasonography followed by laparoscopy. Mostly cases (61.4%) were of 20-30 year of age. Mostly cases were parous and presented within 6-12 months of onset of pelvic pain. Vaginal discharge was the most common associated complaint (22.9%). 65.4% cases had normal findings on ultrasonography. Laparoscopy diagnosed 80% cases and the most common diagnosis was pelvic inflammatory disease. Ultrasonography is simple and non-invasive approach to diagnose the cause of chronic pelvic pain as compared laparoscopy is more definitive approach and intervention can be planned in the same sitting.
Keywords: Chronic pelvic pain, ultrasonography, laparoscopy.

INTRODUCTION

Chronic pelvic pain is intermittent or continuous pain in the lower abdomen or pelvis for at least six months in duration, not occurring exclusively during menstruation or intercourse and not associated with pregnancy [1]. Chronic pelvic pain is a common gynecologic complaint affecting about 26% of women [2].

Etiology of chronic pelvic pain is multifactorial, so multidisciplinary approach is needed for diagnosis and management.

It is often difficult to come to a conclusion on the basis of history and clinical examination of patient and often ultrasonography and diagnostic laparoscopy is required. Laparoscopy is a useful tool for the diagnosis and treatment of conditions associated with chronic pelvic pain.

MATERIALS AND METHODS

This prospective study was carried out in Department of Obstetrics and Gynecology, Zenana Hospital, SMS Medical College, Jaipur during the period from March 2016 to September 2017. A total of 350 cases were included in this study. Non-pregnant women of reproductive age group with complaint of chronic pelvic pain of >6 months duration giving consent were included. Patients on laparoscopy, if found to have any non-gynecologic (gastrointestinal or urinary system) cause for pain, were excluded. A written informed consent was taken from each patient. The research protocol was approved by the Institutional Ethics Committee.

After applying inclusion and exclusion criteria for each patient detailed history taken regarding site, duration, location of pain with characteristics of pain, associated alleviating factors and associated symptoms, radiation of pain and severity.

All women underwent a general physical and systemic examination followed by per speculum, per vaginal and bimanual pelvic examination to rule out other causes of chronic pelvic pain. Routine investigations were done like-complete blood count, ESR, urine routine and microscopic examination. Mantoux test, urine pregnancy test, urine culture and sensitivity, X-Ray KUB region, stool examination, pap smear and high vaginal swab or end cervical swab test were done whenever needed. Chest X- ray and ECG get done before pre-anesthetic check-up.

Depending on the diagnosis which was concluded with the clinical examination, the patient was given a course of usual treatment for pelvic

inflammatory disease as recommended by Centre for Disease Control and on follow-up if the patient had no relief or on clinical evaluation no cause could be established for pain than the cases were first subjected to USG examination where thorough examination of uterus, ovaries, adnexa and pouch of Douglas was done. The cases were further subjected to laparoscopic examination. On laparoscopy, assessment was done regarding size, shape, mobility, morphology of pelvic organs, any adhesions (if present-flimsy/dense), evidence of endometriosis, pouch of Douglas. The clinical history, examination and ultrasound findings were compared with diagnostic laparoscopy and subjected to statistical analysis. Simultaneously biopsies were taken from suspected lesions/ endometrial biopsy/ peritoneal fluid aspirate were sent for histopathology/ TB-PCR/ AFB culture/ ADA testing accordingly as per need.

All cases were managed accordingly. Interventional like adhesiolysis, cyst aspiration were performed simultaneously or medical treatment plan like GnRH agonist therapy or ATT decided.

STATISTICAL ANALYSIS

A total of 350 cases were included in the study. Comparison of variables done using Chi-square test. Data were analyzed using IBM SPSS statistical software version 21.0 Armonk, NY: IBM Corp. and *p values* <0.05 were considered as significant.

OBSERVATIONS AND DISCUSSION

Majority of cases in this study were in the age group of 20-30 year. Similar findings were obtained by M Redecha[3] Shripad Hebber *et al*.[4] Rawat *et al*. [5] Gangwal H *et al*.[6] and Bhatia P *et al*.[7].

In this study majority of cases (51.4%) were found to be in middle socioeconomic group. Similar observations were made by Rawat *et al*. [5]. Bhatia P *et al*. [7] also observed highest incidence (58.18%) in middle socioeconomic group.

Table-1: Distribution of cases according to Parity

Parity	No. of cases (n)	Percentage (%)
Unmarried	20	5.7
P0	45	12.9
A1	25	7.2
P1	95	27.1
P2	110	31.4
≥P3	55	15.7

In present study mostly cases were parous Para 2. Similarly Bhatia P *et al* [7] and Bajracharya J *et al* [8] also found highest incidence of chronic pelvic pain in Para 2 (41.81%) and (43.75%) respectively.

Table-2: Distribution of cases according to duration of Pelvic Pain

Duration of Pelvic Pain	No. of cases (n)	Percentage (%)
6-12 months	120	34.3
12-18 months	85	24.3
18-24 months	80	22.8
>2yr	65	18.6

Present study shows that highest no. of cases presented within 6-12 months of onset of chronic pelvic pain. This is comparable to the finding observed by Bhatia P *et al* [7]. Similar observations were made by Rawat *et al*. [5]

Table-3: Distribution of cases according to Associated Complaints with Pelvic Pain

Associated complaints	No. of cases (n)	Percentage (%)
Vaginal discharge	80	22.9
Backache	65	18.6
Menstrual abnormality	45	12.9
Dysmenorrhea	50	14.3
Dyspareunia	20	5.7
Infertility	50	14.28

In present study most common associated complaint was vaginal discharge in 22.9% of cases, similar observation were made by Bhatia *et al.* [7] where associated vaginal discharge was present in 20.00% cases. Associated infertility was present in 50 cases (14.28%), which is comparable to 16% cases of associated infertility in a study by Kamliya Gouri Shankar *et al*.[9].

In present study 62.9% cases had normal per vaginal findings, which is comparable to 72.72% cases of Bhatia P *et al.* [7]. In a study by Gangwal H *et al*.[6] out of 100 cases 57 cases had normal findings on clinical examination.

Table-4: Laparoscopic findings in chronic pelvic pain

Diagnosis	No. of Cases (n)	Percentage (%)
Normal	70	20
PID	93	26.6
Endometriosis	65	18.6
Adhesions	45	12.9
Ovarian cyst	20	5.7
GTB	20	5.7
TO mass	15	4.4
Residual ovary syndrome	04	1.1
Chronic ectopic	04	1.1
Pelvic congestion syndrome	04	1.1
Hydrosalpinx	05	1.4
Mullerian anomalies MRKH/ Unicornuate uterus/ Non communicating functional rudimentary horn of uterus	05	1.4
Total	350	100

In our study 20% cases had normal findings on laparoscopy. This is comparable to a study by Kamliya Gouri Shankar *et al.* [9] and Bajracharya J *et al.* [8].

In our study endometriosis was present in 18.6% cases, which is similar to study group of Bhatia P *et al.* [7]. In other study the prevalence of endometriosis that was detected in laparoscopy is 20.4 to 22.3% [10]. In our study adhesions were present in 12.9% cases, which is comparable to a study of 100 women with chronic pelvic pain by Gangwal H *et al*.[6] In present study ovarian cyst was present in 5.7% cases, that is comparable to 6% cases of Rawat *et al.* [5].

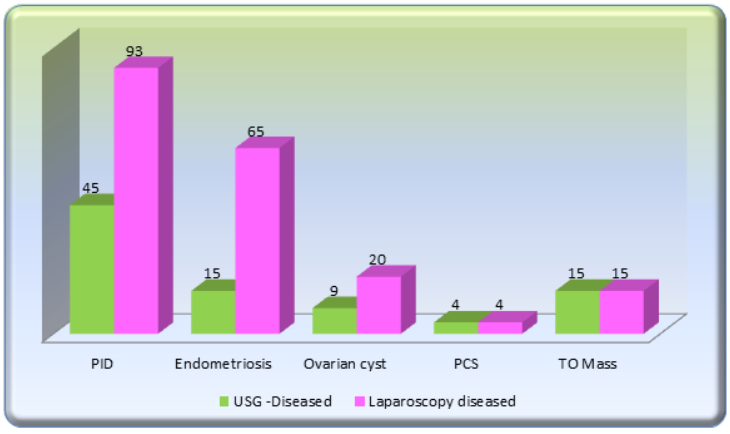

Fig-1: Comparison of some findings on Laparoscopic v/s USG findings

Table-5: Laparoscopic findings in cases with normal USG findings

	No. of cases (n)	Percentage (%)
USG findings Normal	229	100
Laparoscopic diagnosis		
Normal	70	30.6
PID	48	21.0
Endometriosis	50	21.8
Adhesions	29	12.7
GTB	20	8.7
Ovarian cyst	11	4.8
Chronic Ectopic Pregnancy	01	0.4

In present study USG didn't pick up the abnormality in 159/350 (45.4%) cases which is comparable to study by Gangwal H *et al*. [6] and Bhatia P *et al*. [7] where it was 46% (46/100) and 34.54% (19/55) respectively.

Table-6: Laparoscopic findings v/s USG findings

Findings	Diseased	Normal
USG	121	229
Laparoscopy	280	70

$X^2 = 147.59$; $p = < 0.05$

This suggests that Laparoscopic examination is superior to Ultrasonography to diagnose the cause of Chronic Pelvic pain.

Comparison of laparoscopy with ultrasonography in previous studies:-

Study	Positive cases on Ultrasonography	Positive cases on Laparoscopy
Kamliya Gouri Shankar *et al*. [9]	61/100	74/100
Rawat *et al*. [5]	75/100	87/100
Gangwal H *et al*. [6]	23/100	69/100
Bhatia P *et al*. [7]	22/55	41/55
Present study	121/350	280/350

Above table also suggests that Laparoscopic examination is superior to Ultrasonography to diagnose the cause of Chronic Pelvic pain.

CONCLUSION

To conclude, I would like to say that ultrasonography is simple, cost effective, easily available and non-invasive approach to diagnose the cause of chronic pelvic pain. Those having normal findings on ultrasonography should be given usual treatment for pelvic inflammatory disease as recommended by Centre for Disease Control and Prevention and subjected to laparoscopy if not relieved and intervention should also be planned in the same sitting if required.

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