

DETECTION OF THE ETIOLOGY OF CPP: ROLE OF DIAGNOSTIC LAPAROSCOPY

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Abstract

Background: When Chronic Pelvic Pain (CPP) has not been detected, laparoscopy is a crucial diagnostic technique because to its accessibility and safety. It is a simple and basic technique that doesn't involve major abdominal surgery to determine whether pelvic pathology is present or absent. The objective is to Comparing laparoscopy's diagnostic efficacy with that of imaging modalities and clinical pelvic examination was the aim of this study. **Materials and Methods:** The Department of Obstetrics and Gynecology at the Jagannath Gupta Institute of Medical Science and Hospital (JIMSH), located in Budge Budge, West Bengal, India, was the site of this prospective experiment. The study was conducted from June 2022 to June 2023. Sixty cases of CPP among gynecological outpatients (OPD) with CPP were investigated. After thorough examination, assessment, investigation, and ultrasound, the patients had a laparoscopy. **Result:** The mean age of the patients diagnosed with CPP was 32.90 ± 9.93 years, and their parity was 1.94 ± 1.56 . The duration of the pain was 3.9 years on average (range: 6 months to 8 years). Adhesions (45 percent), endometriosis (19 percent), and pelvic obstruction syndrome (22 percent) were often discovered during laparoscopy; only 11 percent of patients had a normal pelvis. The gold standard was laparoscopic findings, which were compared with ultrasonographic and pelvic examination results. For the clinical examination and ultrasound, the sensitivity values were 4.0% and 9.2%, respectively. **Conclusion:** Many etiologies of CPP that are impervious to clinical approaches and ultrasonography can be effectively identified by laparoscopy. This upholds laparoscopy's status as the gold standard for assessing this condition.

INTRODUCTION

It is believed that 15–24% of the general population suffers from chronic pelvic pain (CPP). Numerous variables, including gastrointestinal, urological, musculoskeletal, psychological, and gynecological ones, might play a role in its development. Because CPP is so complex, a number of imaging procedures and tests, along with a lengthy and frustrating diagnostic process involving numerous healthcare specialists, are sometimes necessary to make a diagnosis. It is still unclear what causes CPP in its entirety.

Diagnostic laparoscopy, often known as minimally invasive or keyhole surgery, has been a useful tool in the assessment of CPP. During the surgery, a tiny incision in the abdominal wall was used to introduce a thin, flexible tube called a laparoscope, which was fitted with a camera. Through direct sight of the pelvic organs and tissues, this approach helps the surgeon to identify any abnormalities that can be uncomfortable for the patient. More than 40% of gynecological diagnostic laparoscopies and 12% of

all hysterectomies are justified by it.^[1] Ten percent of all referrals to gynecologists are related to it. Thus, the goal of this research was to evaluate how well laparoscopy performed in terms of diagnosis compared to other imaging modalities and clinical pelvic exams.

MATERIALS AND METHODS

The Department of Obstetrics and Gynecology at the Jagannath Gupta Institute of Medical Science and Hospital (JIMSH), located in Budge Budge, West Bengal, India, was the site of this prospective experiment. The study was conducted from June 2022 to June 2023. This research comprised sixty cases of CPP that patients who had taken pain medication without any relief from it brought to the gynecological outpatient clinic. The preoperative evaluation included a complete patient history, a clinical examination, ultrasound, and investigations. Cases with definite non-gynecological etiologies, such as musculoskeletal diseases, uropathy, or enterocolitis, were not included in the research. For

every patient, a diagnostic laparoscopy was done in order to identify the specific reason of persistent pelvic inflammation.

Statistical Analysis: For every continuous variable, the means and standard deviations were employed. Frequencies and percentages were used to depict the categorical data. Using unpaired t tests, categorical variables were compared between the two groups. A substantial p-value was used to define statistical significance.

RESULTS

The mean age of the patients diagnosed with CPP was 32.90 ± 9.93 years, and their parity was 1.94 ± 1.56 . The duration of the pain was 3.9 years on average (range: 6 months to 8 years). Adhesions (45 percent), endometriosis (19 percent), and pelvic obstruction syndrome (22 percent) were often discovered during laparoscopy; only 11 percent of patients had a normal pelvis. The gold standard was laparoscopic findings, which were compared with ultrasonographic and pelvic examination results. For the clinical examination and ultrasound, the sensitivity values were 4.0% and 9.2%, respectively.

The age group of 20 to 40 years old makes up the largest percentage of patients. The average age of patients diagnosed with persistent pelvic pain was 32.90 ± 9.93 years, and their parity ranged from 0 to 1.94 ± 1.56 . The duration of the pain was 3.9 years on average (range: 6 months to 8 years). Of the patients in this research, 45% (27/60) had finished the tenth grade; 32% (19/60) had completed education above the level of matriculation; and 23% (14/60) were illiterate. Of the sixty patients, forty-seven (27 of sixty) were discovered to be from rural regions, while thirty-three (32) were from metropolitan areas. Following dyspareunia (55%; 33/60), sleep disturbance (41%; 25/60), vaginal discharge (27%; 16/60), and vaginal hemorrhage (7%; 4/60) as associated symptoms, dysmenorrhea was found in 62% of patients (38/60).

Ninety percent (54/60) of the patients had no abnormalities found by a bimanual examination, whereas five percent (5/60) exhibited hypersensitive fibers but no palpable mass. In both fornices, 4% (2/60) of the patients reported feeling full. Of the sixty patients who underwent CPP examinations, ninety percent (45%) had hemoglobin levels higher than 10 g/dL.

Several laparoscopic discoveries were found in the same patient. The endometriosis patient also developed adhesions. Dense adhesions were the most commonly detected finding during laparoscopy, accounting for 42% (25/60) of all observations. Twenty percent (12/60) of the women had adhesions between the omentum and various pelvic organs, ten percent (6/60) had adhesions between the uterus and the uterovesical pouch, eight percent (5/60) had adhesions between the uterus and the pouch of Douglas, and twenty percent (12/60) had adhesions

between the fallopian tubes and the lateral pelvic wall.

For these individuals, laparoscopic cautery and scissors were used to conduct adhesiolysis. At the follow-up after three months, every patient reported being completely pain-free. Out of sixty patients who complained of persistent pelvic pain, one patient had many endometriosis-related symptoms.

Of the patients, 19% (11/60) had endometriotic features. A laparoscopic biopsy and histological analysis verified these findings. In 15% (9/60) of the patients, powder burn patches were seen, 6% (4/60) of the Douglas pouch had yellow/brown colored fluid, and 9% (5/60) of the cases had chocolate cysts in the ovaries.

Of the patients, 22% (13/60) had symptoms that were in line with pelvic congestion syndrome. These individuals received progesterone for a period of three months. Eight patients were pain-free and no longer needed therapy after a six-month follow-up. Two patients were lost to follow-up.

One patient, who had previously had a laparotomy, presented with omental drag syndrome. Four percent (2/60) of the patients had hydrosalpinx, while four percent (2/60) had hemorrhagic and multilocular cysts. The fallopian tubes of one patient were adorned. Following a biopsy, the lesions were examined histopathologically and using polymerase chain reaction; the findings showed the presence of acid-fast bacilli. In 4% (2/60) of the patients, ovarian prolapse syndrome was noted; these patients also had adhesions related to the disorder. Another patient's laparoscopy found uterine congestion and a third-degree retroversion.

Eighty-six percent of the patients reported pain alleviation during the three-month follow-up. Two patients with chronic discomfort at the apex of the urethra were sent to a urologist for treatment; interstitial cystitis was found in both. One patient's depression did not go away after laparoscopy. The lack of a conclusive diagnosis for CPP led to the patient's referral to the psychiatric division. In 46 out of 60 instances, the clinical results were determined to be perfectly normal, and in 46 out of 60 cases, the ultrasonography did not reveal any abnormalities. Conversely, laparoscopy showed that only 7 out of 60 instances had no favorable results.

DISCUSSION

CPP affects women often and has significant consequences. Patients with persistent pelvic pain who visited the gynecologist were given enormous doses of antibiotics and painkillers, yet their condition often got worse. Patients who had a negative reaction to medical therapy were the study's participants.^[2]

In 42% of the cases we looked at, adhesion was the most common result, which is in line with other research' findings.^[3,4] Of the patients, pelvic obstruction syndrome affected 22% (13/60). 19% of

patients had endometriosis, a substantial result when compared to the 20.4% and 16% of patients described by Yilmaz et al. and Origo et al., respectively.^[3,4] Many writers have reported that endometriosis can only be detected by laparoscopy and can only be treated simultaneously with adhesiolysis, electrocoagulation, and laser ablation.^[5-7]

The results of the pelvic exam and ultrasonography were compared to the laparoscopic findings as a standard. Comparing the results of pelvic examination and laparoscopy, it was found that only four patients (8%) had abnormalities found by pelvic examination verified by laparoscopy. Six patients (12%) had abnormalities found by pelvic examination. When the outcomes of laparoscopy and ultrasonography were compared, one out of every two patients had a laparoscopic confirmation. Thus, in determining the etiology of CPP, pelvic examination showed a sensitivity of 9.2%, specificity of 44.9%, positive predictive value of 70.8%, and negative predictive value of 7.4%. As opposed to this, ultrasonography demonstrated a 3% sensitivity, 82% specificity, 62% positive predictive value, and 5.65% negative predictive value. The tiny sample size of this study might be one reason for its low sensitivity.

In 21 percent of instances, no obvious pathology was found during laparoscopy; in contrast, examinations by Panisch et al., Martire et al., and Gubbels et al.^[5,7-9] found it in 26 percent and 30 percent of cases, respectively.

Laparoscopic assessment of CPP is, in fact, better to any therapeutic approach, according to a number of studies.^[10-12] Laparoscopic pain mapping under local anesthesia and sedation has surfaced as a potentially beneficial discovery in recent times, with the aim of improving the diagnostic accuracy of laparoscopy in CPP.^[13,14]

According to a number of findings, pelvic discomfort may have a psychological cause and be treatable with psychotherapy.^[12-16] However, the present investigation demonstrates that CPP is often associated with pelvic disease and requires laparoscopy before it can be attributed to a psychological cause. Laparoscopy has shown to be a highly effective tool in pinpointing the exact cause of CPP and in treating patients accordingly, as it allows for the direct sight of pelvic disease and allows for biopsy when needed. Consequently, laparoscopy ought to be considered an essential operation in the care of patients with CPP; nevertheless, a bigger research might be necessary because the sample size is too small to draw findings that are statistically significant.

CONCLUSION

CPP patients find it much harder to go about their everyday life. An accurate and timely diagnosis is

essential for effective therapy and symptom relief. Diagnostic laparoscopy is a crucial component of CPP evaluation since it allows medical professionals to identify and locate the source of discomfort. Whether the pain originates in the muscles and joints, neurological system, gastrointestinal tract, or urinary tract, laparoscopy provides vital information that might influence the patient's treatment options and outcomes.

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