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Role of diagnostic laparoscopy in chronic abdominal conditions with uncertain diagnosis

T. Uma Maheswara Rao*

Department of Surgery, Konaseema Institute of Medical Sciences and Research Foundation, Amalapuram, Andhra Pradesh, India

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***Correspondence:**
Dr. T. Uma Maheswara Rao,
E-mail: tumrao18@gmail.com

ABSTRACT

Background: The aim of the study is to evaluate the benefits of diagnostic laparoscopy in cases of chronic abdominal conditions with uncertain diagnosis; this study was conducted that it might obviate the need for imaging techniques in establishing the final diagnosis of these conditions.
Methods: This study was conducted in 150 patients in Department of Surgery with uncertain diagnosis after five weeks of onset of symptoms was patients who had history of abdominal pain for 3 months or more, if physical examination and diagnostic tests are unrevealing, previous history of abdominal operation. Laparoscopy was performed after completion of all the necessary hematological, biochemical, radiological, and ascetic fluid analysis, gastrointestinal endoscopic and imaging techniques, and Mantoux test.
Results: This study was done in 150 patients who had chronic abdominal pain showed peak incidence in 3rd decade and the age group of 18-25 had the highest percentage of 30%. Males were 52 and females were 98. Duration of pain in laparoscopy was the highest in 15-25 weeks. Lower abdomen had more number of cases i.e 100. Findings during laparoscopy were highest in appendicitis.
Conclusions: Laparoscopy is considered an effective therapeutic and used in diagnosis of management of patients with abdominal pain.

Keywords: Chronic abdominal conditions, Laparoscopy, Therapeutic laparoscopy

INTRODUCTION

In the twentieth century, laparoscopy offers a simple, rapid, and safe method to evaluate and diagnose intra-abdominal diseases. Medical science is constantly thriving to peep into dark places of the body and to achieve such techniques that would bring perfection to diagnosis, since the days of Hippocrates. In making definite and reliable diagnosis of abdominal disorders over the past two decades, has firmly established it in the armamentarium of a general surgeon to perform this procedure safely lies the success of laparoscopy.[1] General surgeons are still reluctant to use this method of diagnosis as often as they can despite of all these. In the developing world, diagnostic and therapeutic laparoscopy has its most important application. Access to imaging devices like ultrasound, CT scan, magnetic resonance imaging (MRI) or Doppler is present in less than 20% of the population in the developing world. In the minimally invasive exploration of selected patients with chronic abdominal disorders, whose diagnosis remains uncertain, despite exploring the requisite laboratory and imaging investigations like ultrasonography, CT scan, laparoscopy can be proved to be an important tool.[2] Chronic abdominal conditions are associated with poor quality of life and significant levels of depressive symptoms. About

the prevalence, social burden, and suffering associated with chronic abdominal conditions, much is known. Laparoscopy is still an invasive procedure and is known to be noninvasive technology in diagnosis has reached such sophistication.[3] It must always follow careful clinical examination and its greatest value is in addition to other diagnostic aids. The aim of the study is to evaluate the benefits of diagnostic laparoscopy in cases of chronic abdominal conditions with uncertain diagnosis; this study was conducted on 150 subjects that it might obviate the need for imaging techniques in establishing the final diagnosis of these conditions.

METHODS

This study was conducted in 150 patients in Department of Surgery in Rangaraya Medical College Kakinadawith uncertain diagnosis after five weeks of onset of symptoms.

Inclusion criteria

Patients who had history of abdominal pain for 3 months or more, if physical examination and diagnostic tests are unrevealing, previous history of abdominal operation.

Exclusion criteria

Age under 18 years, pregnant women, oncological patients, coagulation defects, critical illness, medically unfit for surgery, severe/decompensated cardiopulmonary failure, acute myocardial infarction, bacterial peritonitis, abdominal wall infection, severe coagulopathy, large ventral hernia, diaphragmatic hernia, patient unfit for general anaesthesia. Laparoscopy was performed after completion of all the necessary hematological, biochemical, radiological, and ascitic fluid analysis, gastrointestinal endoscopic and imaging techniques, and Mantoux test (when indicated), in any chronic abdominal condition in which the cause was unknown. Therapeutic intervention was performed depending on the underlying pathology with open laparotomy or laparoscopic techniques.

A positive diagnostic benefit was defined as a definite diagnosis made on the basis of laparoscopic findings, for the purpose of this study. The findings of laparoscopy were compared with those of imaging techniques. The data was presented by descriptive statistics. For statistical purposes, the Chi-square test, t-test, and Levene's test were applied.

RESULTS

This study was done in 150 patients who had chronic abdominal pain showed peak incidence in 3rd decade.

26-40 years age group is mostly affected, and females are most common age group approached for laparoscopy.

Table 1: Age distribution, sex distribution.

Age group (years)	Number of cases	Percentage
18-25	45	30
26-40	35	23.3
41-50	30	20
51-60	20	13.3
61-70	20	13.3
Sex		
Male	52	34.6
Female	98	65.3

Table 2: Duration of pain in laparoscopy, location of pain.

Duration (weeks)	Number of cases	Percentage
15-25	80	53.3
25-45	10	6.66
45-65	10	6.66
65-85	10	6.66
85-100	40	26.6
Location		
Upper abdomen	20	13.3
Lower abdomen	100	66.6
Diffuse abdomen	30	20
History of operation		
Present	35	23.4
Absent	115	76.6

Table 3: Findings at laparoscopy and treatment adopted.

Operative findings	Treatment	Number of cases	Percentage
Appendicitis	Appendectomy	80	53.3
Fimbrial cyst	B/L cyst excision	10	6.66
Liver cirrhosis	Symptomatic	10	6.66
Ovarian cyst	Aspiration	10	6.66
Acalculus cholecystitis	Cholecystomy	20	13.3
Tuberculosis	Cat 1 ATT	10	6.66
Normal study	Observation	10	6.66

Appendicitis is most common diagnosis in laparoscopy surgeries.

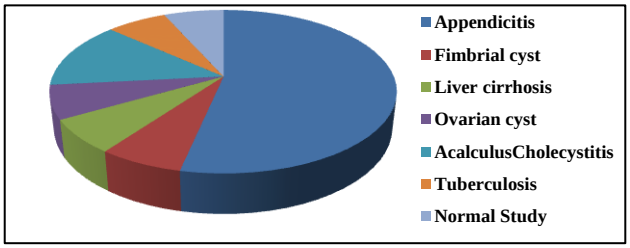

Figure 1: Distribution of subjects according to final diagnosis.

Appendicitis most common age group effected.

DISCUSSION

Many studies have been reported diagnostic laparoscopy in chronic abdominal conditions. Lal V et al conducted a study which was undertaken to assess the efficacy of performing diagnostic and therapeutic laparoscopy in patients with chronic abdominal pain for longer than 12 weeks.[4]

All patients undergoing laparoscopy for chronic abdominal pain were included in the study for a period of 1 year. The patient's demographic data, length of time with pain, diagnostic studies, intraoperative findings, interventions and follow-up were determined. The results were that a total of 25 patients (19 women and 6 men) with an average age of 34.64 years underwent diagnostic laparoscopy for the evaluation and treatment of chronic abdominal pain.

The average length of time with pain was 32.96 weeks (range12-96). 2 cases required conversion to an open procedure and no complications occurred. Findings included abdominal Koch's in 9, appendicitis in 8, cholecystitis in 1, cirrhosis in 1; ovarian cyst in 1, bilateral fimbrial cyst in 1 and 4 patients had no obvious pathology. 82.6% of patients had pain relief at the time of follow up. It concluded that laparoscopy has a diagnostic and therapeutic role in patients with chronic pain abdomen. Krishnan P et al reported that in patients suspected to have abdominal tuberculosis without evidence of extra abdominal disease, early laparoscopy may be useful to establish a histological diagnosis with acceptably low morbidity (8%).[5]

Thomas RSM, reported abdominal tuberculosis in 23 (92%) patients of the 25 patients in whom laparoscopy was performed.[6] Pajnen et al reported that laparoscopy alleviates the symptoms in more than 70% of patients.[4] This correlate well with our study and it should be considered if other diagnostic tests are negative. Dhaigude BD et al conducted a study on patients age group between 18-65 year with history of abdominal pain for 3 months or more and patients of recurrent abdominal pain with previous history of abdominal operation done were included in the study.[7] Laproscopic procedure was done using standard scientific procedure. The statically analysis was done using parametric and nonparametric test.

Result in our study thirty seven patients under went appendicectomy, twelve patients under went adhesiolysis, and cholecystectomy was done for six patients while performing DL. Conclusion In our study, 93% of cases had resolution of pain after diagnostic laparoscopy. It can be concluded that diagnostic laparoscopy is safe, cosmetically better and having less morbidity and mortality. Aslam M et al conducted a study to see the diagnostic role of laparoscopy in cases of abdominopelvic pathologies to avoid unnecessary laparotomies and to enlist the postoperative complications associated with laparoscopy.[8]

It was a descriptive case series. Forty patients with undiagnosed abdominopelvic pathologies were included in this study. Personal and preoperative clinical information of all the patients were entered into pre-designed proforma. Data were analyzed and all patients were fallowed-up for first week after operative to see the early postoperative complications. The results were out of 40, 15 were male and 25 were female between 15 to 75 years. The diagnosis was abdominal tuberculosis in 19 patients, acute appendicitis in 5 patients and pelvic inflammatory disease in 5 patients. It concluded that diagnostic laparoscopy reduces the chances of unnecessary laparotomy by exact diagnosis, reduces scar size, complication related to surgery, operative time, hospital stay, having lesser morbidity and mortality. Kumar A et al conducted a study in which chronic idiopathic pain syndromes are among the most challenging and demanding conditions to treat across the whole age spectrum.[9] Potentially it can be unrewarding for both the patients and the medical team. Patients with chronic abdominal pain (CAP) can undergo numerous diagnostic tests with failure to detect any structural or biochemical abnormality.[10]

This study was undertaken to assess the diagnostic and therapeutic role of laparoscopy in patients with unexplained chronic abdominal pain (UCAP). Diagnostic laparoscopy was performed for 100 patients with UCAP not diagnosed by usual clinical examination and investigations. The pain in all patients was of unclear etiology despite all the investigative procedures. All patients were subjected to laparoscopic evaluation for their conditions. The findings and outcomes of the laparoscopy were recorded and analyzed. The results were that UCAP is common in females (62%) than in males. The most frequent laparoscopic findings detected were abdominal adhesions (30%), followed by pelvic inflammatory disease (25%), abdominal tuberculosis (12%), chronic appendicitis (8%), mesenteric lymphadenitis (5%) and diverticulosis (2%). In 18% of cases no identifiable cause could be found. Follow after 2 months revealed pain relief in 84% irrespective of cause of pain.

CONCLUSION

Laparoscopy is considered an effective therapeutic and used in diagnosis of management of patients with abdominal pain. It concluded laparoscopy is an effective diagnostic and therapeutic modality in the management of patients with chronic abdominal pain.

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Ethical approval: The study was approved by the institutional ethics committee

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