



Therapeutic Role of Diagnostic Laparoscopy In Chronic Abdominal Pain.

KEYWORDS

B.D Dhaigude

Professor, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

Abhishek Bhushan

Resident, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

Abhishek Kumar Singh

Resident, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

Bahul Vakaria

Resident, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

Prithviraj Patil

Resident, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

Shilpi Shree

Resident, Dept of General Surgery,
Dr DY Patil Medical College ,
Pimpri, Pune 411018.

ABSTRACT Background : Chronic abdominal pain is a significant clinical problem that often leads to laparotomies. Early Laparoscopy is safe and useful in establishing the diagnosis in suspected cases resulting in avoiding expensive, time consuming and sometimes fruitless investigations and allowing early treatment so the purpose of the study was to evaluate the therapeutic role of Diagnostic laparoscopy in cases of chronic abdominal pain. Methodology : Patients age group between 18 – 65 year with history of abdominal pain for 3 months or more & patients of recurrent abdominal pain with previous history of abdominal operation done were included in the study. Laproscopic procedure was done using standard scientific procedure. The statistical analysis was done using parametric and nonparametric test. Result : In our study thirty seven patients underwent appendicectomy, twelve patients underwent 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.

INTRODUCTION

Abdominal pain is a common presentation in the outpatient setting and poses a challenge to diagnose. These difficult patients are frequently seen by many physicians and have to undergo myriad amount of tests without identifying the etiology of pain. Surgical consultation often occurs late after other modalities have failed to provide resolution of the symptoms.

Chronic abdominal pain is a significant clinical problem that often leads to laparotomies. The generally accepted definition of the chronic abdominal pain is three or more bouts of pain severe enough to affect activities over a period of not less than three months.¹

Abdominal pain is a common complaint in the emergency department (ED), comprising approximately 5% of total visits. Although not typically serious, abdominal pain often presents many difficult situations for the clinician. Some of the most challenging patients to evaluate are women of reproductive age and elderly individuals. Although there are general diagnostic and clinical principles that apply to the evaluation of all patients, these two groups deserve extra attention because of the broad differential diagnosis and potential for serious complications.²

The clinical features of abdominal disease are vague and non-specific. The usual laboratory investigations and barium studies are often not helpful. Early Laparoscopy is safe and useful in establishing the diagnosis of peritoneal TB in suspected cases resulting in avoiding expensive, time consuming and sometimes fruitless investigations and allowing early treatment.³

Laparoscopy developed as a science at the turn of the century, and many scientists assisted in the evolution of this technique. However, it was many years before the multiple trocar system was developed that allowed internal organs to be moved and biopsies to be obtained. This has led to the development of numerous indications for elective diagnostic laparoscopy.⁴

In other circumstances, such as the assessment of oncology cases, this modality is superior to conventional radiology because biopsy specimens can be obtained. If the procedure is correctly performed, the diagnostic yield is extremely high and the morbidity and mortality are low. The role of this important technique should not be underestimated by today's practicing surgeon.⁴ When laparoscopy is applied only for diagnosis it can prevent unnecessary abdominal explorations in 13-18% of patients.^(3, 4) In our study we are evaluating the therapeutic role of Diagnostic laparoscopy in cases of chronic abdominal pain

MATERIALS AND METHODS

This was a prospective type of study conducted in Dr. D.Y. Patil Medical College and Research Centre, Pimpri, Pune during the period of July 2013 to September 2015. Institute Ethics Committee clearance had been obtained before the start of study. Written and informed consent of patients was obtained before starting the treatment. Case report forms and data were maintained for each patient. Patients age group between 18 – 65 year with history of abdominal pain for 3 months or more were included in the study. Patients of recurrent abdominal pain with previous history of abdominal operation done were also included. Patient with acute abdomen pain and emergencies, age below 18 years and above 65 years with immune compromised sta-

tus, on immunosuppressive therapy and steroids & pregnant patients were excluded from the study.

A detailed history of each patient was obtained starting with history of presenting symptoms and co-existing comorbid conditions like, DM, HTN and TB was ruled out. A thorough general physical examination was done to rule out presence of pallor, icterus and cachexia. All cases were done as elective surgeries. All procedures were done under General anaesthesia.:

All cases were done under General anaesthesia .Inj. Cetofaxime 1gm iv during induction of anaesthesia given to all patients. Cleaning and painting was done by 10% povidine iodine solution in all patients. Draping was done using sterile linen drapes. All patients was catheterised and Ryle's tube were inserted.

Pneumoperitoneum with Veress needle at the rate of 5-6 L/min was created so that end point of intra abdominal pressure did not exceed 12-14 mmHg, 10mm umbilical trocar and two 5mm lateral trocars were inserted. The laparoscopy was started by a diagnostic inspection of liver, gallbladder, and anterior surface of stomach, large bowel, small bowel, appendix, gynecological organs and peritoneal surfaces. After laparoscopy, 5mm trocars were removed under visual control, the air was released from intra-abdominal space and 10mm trocar was removed. All 5mm and 10mm umbilical wounds were closed in one layer with absorbable sutures and skin closure done with non-absorbable suture.

Wounds were checked for infection on 3rd day in all patients and dressings were done. Patients were discharged as per response to the procedure with suture removed on 7th day. Patients were followed up after one month and three months and detail history and thorough clinical examination were done for assessment of any abdominal pain and radiological investigation were done as needed. The statistical analysis was done using parametric and non-parametric test. The findings were narrated by presenting the pattern graphically.

OBSERVATION AND RESULTS

Table 1: Therapeutic role of Diagnostic Laparoscopy in the study group

DL finding	No of cases	Procedure
Appendicular pathology	17	Appendicectomy
Meckels Diverticulum	1	Ressection & Anastomosis
Adhesions and bands	12	Adhesiolysis
Tubo ovarian Pathology	PCOD 5	Conservative
Salpingitis	3	Conservative
GB Pathologies	6	Cholecystectomy
Abdominal TB	6	AKT
Mesentric Lymphadenitis and Tubercles	2	Biopsy
Abdominal Mass	Ileocaecal TB 1	Ileo ascending anastomosis
	CA Caecum 2	Right Hemicolectomy (open)
Normal	20	Appendicectomy
Total	75	100.0

In our study thirty seven patients underwent appendicectomy, twelve patients underwent adhesiolysis, and cholecystectomy was done for six patients while performing DL.

DISCUSSION

Chronic abdominal pain is among the most challenging and demanding conditions to treat across the whole age spectrum. Potentially it can be unrewarding for both the patients and the medical team. Abdominal pain is third most common pain complaint of individuals enrolled in a large health organisation.⁶ Diagnostic laparoscopy makes it possible for the surgeon to visualize surface anatomy of intra-abdominal organs with greater details better than any other imaging modalities.^{7,8}

The subjective benefit of laparoscopy for both the operating surgeons and the patient is the definitive answer that if no serious pathology is found intra abdominally, the placebo effect of laparoscopy may explain at least partly the patient pain relief.⁸

All patients included in this prospective study had chronic abdominal pain and they were subjected to laparoscopy evaluation after exclusion of all organic causes of the pain by radiographic and laboratory test. Our study confirmed that in this study group, laparoscopy could safely identify abnormal findings and can improve the outcome of majority of the cases.

There were seven cases who were converted to open surgery. One was case of Meckel Diverticulum and other three cases were turned to open for palliative surgeries for neoplastic mass and rest three due to excessive bands. This was correlating well with various studies ^{9,10,11}

In our study there were 38 males (50.6%) and 37 females (49.3%). But in most of the studies it was seen that female were complaining more of pain abdomen than males.

Chronic appendicitis is a very common pathology missed by normal radiological investigations such as ultrasound and sometimes even on CT scan. The advantage of laparoscopy in this condition is that they can be provide therapy in the same setting. In our study complete or partial relieved was obtained in 80.3%. This finding is similar to studies done by Prafull Arya & Gaur.¹² .Records of chronic abdominal pain undergoing appendectomy were reviewed. 92% of patients had abnormal histological findings and the 95% of patients had resolution of pain. Raymond et al ¹⁴ reported improvement of pain in 74% of patients with chronic right lower abdominal pain. Similar values were also obtained in the study.¹⁵

In our study 37 (49.33%) patients who underwent appendectomy for chronic abdominal pain had resolution of pain. In our study 20 (26.66%) patients who did not have any pathological findings on laparoscopy but were proceeded with appendectomy. Sixteen of these patients had resolution of pain after procedure. This result correlates well with Shailesh Soni et al.¹³

In our study, twelve patients (16%) had undergone previous abdominal surgery and not surprisingly adhesions were found in all cases. The overall outcome in this series was positive i.e most of the patient found significant relief from the chronic pain post operatively and on review.¹⁷ But Luciano et al ¹⁸ have found laparoscopic adhesiolysis effective and associated it with a lesser extent of adhesion recurrence while Prushik et al. have found that open adhesiolysis

sis is more beneficial in minimizing adhesion reformation.¹⁹

In our study, another important finding was of abdominal tuberculosis. While doing DL of six patients we found thickened bowel loops with ascites. Ascitic fluid was aspirated and sent for ZN Staining and they turned out to be positive for TB. Patients were started on AKT. There were two cases in which mesenteric lymphadenitis were present. Biopsy were taken and sent for histopathology. They also turned out to be positive for TB. In our study, common finding in abdominal tuberculosis are peritoneal or visceral tubercles, varying from 2 mm to 5mm. Ascites and small bowel adhesions were also seen. Hence they were also started on AKT. One case was confirmed to have ileo caecal tuberculosis on laparoscopy and we proceeded with converting to open surgery (ileo ascending anastomosis). Post operatively patient started on AKT.

Early laparoscopy also has the benefit that a number of therapeutic options are also available. In this study, diagnostic laparoscopy became therapeutic in six patients who had thickened gall bladder wall with some peri GB collections for which cholecystectomy was done. Postoperatively they were sent for histopathological examination. Four of them turned out to be acalculous cholecystitis. There were two cases in which report was suggestive of malignant GB. They were started on chemotherapy. This finding is similar to a study done by Kinnareesh et al.²⁰

Ovarian cysts can be drained and treated with immediate relief of symptoms. Purulent fluid collections secondary to PID or diverticulitis can be drained. Early recognition of PID enables early treatment that is important if complications such as infertility are to be minimized. There were eight cases in our study who had chronic pelvic pain. On DL five cases were suggestive of PCOD and three cases showed salpingitis and conservative management was advised. Similar findings were present in the studies of Vikas Lal et al²¹ and Nilesh Tulaskaretal.¹¹

One patient had incidental finding of Meckels diverticulum for which resection and anastomosis was done. It was converted to the open surgery.

In our study 70(93.3%) patients who underwent diagnostic laparoscopy had resolution of pain on follow up. Various studies^{20,21} had resolution of pain in 95%, 94%, 80% cases respectively. These findings corroborated well with our study.

Conclusion

Diagnostic Laparoscopy is helpful in confirming a diagnosis made on clinical grounds and radiological evaluation. It reduces patient suffering by establishing definitive diagnosis and thus early initiation of definitive treatment. The advantage of diagnostic laparoscopy over non-invasive methods is the ability to perform therapeutic procedure at the same time in case of chronic abdominal pain. Diagnostic Laparoscopy is specifically important in females of reproductive age group with pain abdomen to confirm or refute pelvic pathology. Diagnostic Laparoscopy is safe, cosmetically better and having less morbidity and mortality. In our study, 93% of cases had resolution of pain after diagnostic laparoscopy.

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