



RESEARCH ARTICLE

STUDY TO EVALUATE THE ROLE OF LAPAROSCOPY IN CHRONIC ABDOMINAL PAIN

\*<sup>1</sup>Prakash Rathod, <sup>2</sup>Nishikant Gujar, <sup>3</sup>Ishwar Hosmani and <sup>4</sup>Sachin D. M.

<sup>1</sup>Department of General Surgery, ESIC Medical College, Gulbarga

<sup>2</sup>Department of General Surgery, Al-Ameen Medical College, Bijapur

<sup>3</sup>Department of General Surgery, Karnataka Institute of Medical Sciences, Hubli

<sup>4</sup>Department of General Surgery, Al-Ameen Medical College, Bijapur

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ABSTRACT

**Background:** Patients with chronic abdominal pain can undergo numerous diagnostic tests with little change in their pain. This study was under taken to assess the efficacy of performing diagnostic and therapeutic laparoscopy in patients with chronic abdominal pain for longer than 3 months

**Methods:** All patients undergoing laparoscopy for chronic abdominal pain were included in the study from Nov. 2008 to Oct. 2009. The patient's demographic data, duration of pain, diagnostic studies, intraoperative findings, interventions and follow-up were determined.

**Results:** A total of 25 patients (19 women and 6 men) with an average age of 34.64yrs underwent diagnostic laparoscopy for the evaluation and treatment of chronic abdominal pain. Average duration of pain was 32.96 weeks. 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.

**Conclusion:** laparoscopy has a diagnostic and therapeutic role in patients with chronic pain abdomen.

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INTRODUCTION

Chronic abdominal pain is difficult complaint and a common disorder in both general practice and hospital<sup>1</sup>. Is a most challenging and demanding condition to treat across the whole age spectrum<sup>2</sup>. Although patient with this type of pain may have undergone numerous diagnostic works up, including surgery, their pain remains challenge to all known diagnostic and treatment methods<sup>1</sup>. Studies conducted with large community sample or hospital populations imply chronic abdominal pain is a pervasive problem. Abdominal pain was the 3<sup>rd</sup> most common complaints of individuals enrolled in large health maintain organizations<sup>3</sup>. In chronic abdominal pain more than 40% of the patients have no specific etiological diagnosis made at the end of diagnostic work up called as unexplained chronic abdominal pain (UCAP)<sup>4</sup>. UCAP is associated with poor quality of life<sup>5</sup> and significant level of depression symptoms<sup>6</sup>. Many organic and functional diseases can cause abdominal pain. The most common organic condition includes intestinal adhesions, biliary causes, appendicular causes, while functional causes includes irritable bowel syndrome, functional dyspepsia and various motility disorders.<sup>2</sup> Diagnostic laparoscopy is now accepted as the preferred primary approach to many disease process<sup>7</sup>. With the use of laparoscopy we can directly visualize the abdominal

cavity, provide adequate material for histopathological assessment and in good hands is an excellent therapeutic tool with cosmetic acceptable scar<sup>8</sup>. However the role of laparoscopy in chronic abdominal pain is still debated by some authors<sup>1</sup>. Even review of literature shows various outcome of diagnostic laparoscopy to support its use in recurrent vague abdominal pain. In some studies more than 90% accuracy has been reported<sup>9,10</sup>. Some studies could not achieve this high rate of authenticity<sup>4,11</sup> and minimal local data is available and is not proved exactly if at all it is helpful<sup>8</sup>. So this study was conducted to evaluate the role of laparoscopy in chronic abdominal pain.

MATERIALS AND METHODS

This case series was carried out in the department of general surgery, Karnataka institute of medical sciences Hubli. Twenty five patients with h/o chronic abdominal pain more than 3 months who were admitted in surgical wards between Nov 2008 to Oct 2009 were included. They were subjected to diagnostic laparoscopy after taking history and clinical examinations, relevant blood investigation, x-ray abdomen and ultrasound were performed. A proforma was used to record the socio demographic data of the patients along with the clinical findings, investigation, laparoscopic findings, diagnosis and complications. Outcome measures included diagnosis made and diagnostic accuracy of laparoscopy. Data was analyzed by SPSS Version 15. Descriptive statistics like frequency, percentage, mean etc. were calculated.

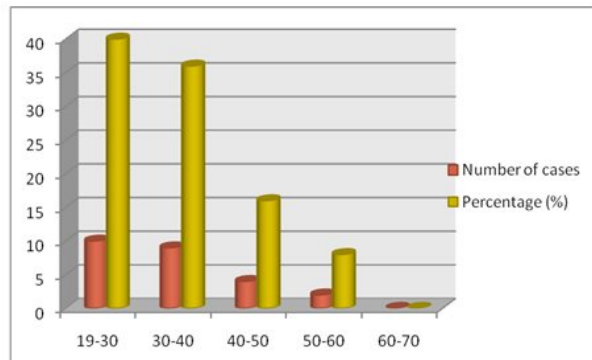
\*Corresponding author: Prakash Rathod,  
Department of General Surgery, ESIC Medical College, Gulbarga

## RESULTS

### Age distribution

**Table 1. Age distribution of patients with chronic abdominal pain**

Age group (yrs)	Number of cases	Percentage (%)
19-30	10	40
30-40	09	36
40-50	04	16
50-60	02	08
60-70	00	00
Total	25	100



**Fig. 1. Graph showing age distribution**

This study of 25 cases of chronic abdominal pain showed peak incidence in 3<sup>rd</sup> decade. In our study youngest patient was 19yrs and oldest was 60yrs. The mean age of presentation was 34.64.

### Sex Distribution

This study of 25 cases of chronic abdominal pain showed peak incidence in female 76% (19 cases) and 24% (6 cases) in male.

### Duration of pain

The peak incidence of duration of pain was between 12 to 30 weeks.

The average duration of pain was 32.96 weeks.

### Location of pain

**Table 2. Location of pain**

Location	No. of cases	Percentage (%)
Upper abdomen	02	8
Lower abdomen	13	52
Diffuse abdomen	10	40

The above table depicting the present study shows most of the patients presented with lower abdominal pain (52%), diffuse abdominal pain (40%) and eight percent with upper abdominal pain.

### Previous history of abdominal operation

This study showed 8 patients (32%) with chronic abdominal pain had previous history of abdominal operation. All of them

are with history of tubectomy, none of them had intra abdominal adhesion.

**Table 3. Findings at laparoscopy and treatment adopted**

Operative findings	Treatment	Number of cases	Percentage (%)
Tuberculosis	Cat 1 ATT	09	36
Appendicitis	Appendectomy	08	32
Fimbrial cyst	B/L cyst excision	01	4
Cirrhosis of liver	Symptomatic	01	4
Ovarian cyst	Aspiration	01	4
Acalculous cholecystitis	Cholecystectomy	01	4
Normal study	Observation	04	16

From the above table it is evident that most common findings were abdominal tuberculosis (36%) which was found in 9 cases. All patients proven with omental biopsy, then treated with CAT 1 anti-tubercular drugs. The second common cause was appendicitis which was found in 8 (32%) cases. At laparoscopy no abdominal and pelvic abnormality was noted except that appendix appeared abnormal. These abnormalities some were thickened and adherent to adjacent structure. Some curved and felt rigid. HPE s/o chronic appendicitis. One patient had B/L fimbrial cyst, laparoscopy was converted to open. Fimbrial cyst excision with right oophorectomy done. One patient had ovarian cyst, laparoscopy aspiration done. One patient had cirrhosis of liver, managed conservatively. One patient had thickened gall bladder wall, laparoscopic cholecystectomy done. In four patients no abnormality was found and kept on observation.

### Diagnostic Accuracy

In 21 patients with chronic abdominal pain pathological findings on laparoscopy were present, giving a diagnostic accuracy of 84%. In 4 patients (16%) no abnormal findings were present.

### Follow up

Patients were followed up at regular intervals of one month. Two patients were lost from follow up. Subjective assessment of pain was done by asking patients, what occurred to their pain, resolution or no change in pain. Our study had limitation of shorter follow up ranging from 3-9 months.

### Outcome

**Table 4. Effect of laparoscopic intervention on chronic abdominal pain**

Outcome	No. of cases	Percentage (%)
Resolution of pain	19	82.6
No change in pain	4	17.4
Total	23	100

Out of 23 cases who came for regular follow up, 19 patient had resolution of pain (82.6%), 4 patients (17.4%) had no change in pain.

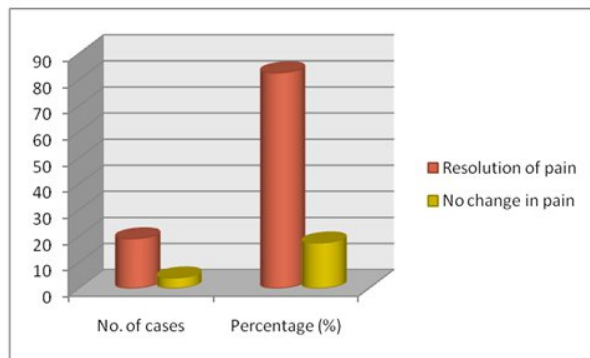


Fig. 2. Graph showing effect of laparoscopic intervention

## DISCUSSION

Chronic abdominal pain is a common problem, dealt with by a variety of medical specialists. Even after an extensive work up in some patients, no pathological condition is found by non-invasive investigation and the pain is often attributed to unsubstantiated diagnosis. Diagnostic laparoscopy makes it possible for the surgeon to visualize surface anatomy of intra-abdominal organs with greater details better than any other imaging modality. This study of 25 cases of chronic abdominal pain showed peak incidence in 3<sup>rd</sup> decade. In our study youngest patient was 19yrs and oldest was 60yrs. The mean age of presentation was 34.64. While study conducted by Baria et al <sup>1</sup> shows age range from 13 to 55 years and study by Abhay Kumar et al showed mean age of patients was 34.42 <sup>2</sup>. This study of 25 cases of chronic abdominal pain showed peak incidence in female 76% (19 cases) and 24% (6 cases) in male. Most of the other study shows female preponderance <sup>1,2</sup>. This study shows most of the patients presented with lower abdominal pain (52%), diffuse abdominal pain (40%) and eight percent with upper abdominal pain. While study conducted by Baria et al <sup>1</sup> showed that right lower quadrant and left lower quadrant of abdomen was 52% , right upper quadrant and left upper quadrant of abdomen showed 8% and periumbilical pain is about 40%.

This study showed 8 patients (32%) with chronic abdominal pain had previous history of abdominal operation. All of them are with history of tubectomy, none of them had intra abdominal adhesion. While Baria et al <sup>1</sup> study showed 22% of the patients had h/o previous abdominal surgery. In our study, most common findings were abdominal tuberculosis. In study by P K. Arya and Gaur<sup>12</sup> most common findings was intestinal and peritoneal tuberculosis. This correlates with our study. Second common cause was appendicitis. Our study again correlates with Prafull Arya and Gaur<sup>12</sup>. Abdominal tuberculosis is a common disease in India, as was seen in present study. Laparoscopy has a great deal to offer an early diagnosis of abdominal tuberculosis and treatment <sup>12</sup>. Krishnan P et al <sup>13</sup>, 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%). Rai S and Thomas M <sup>14</sup>, reported abdominal tuberculosis in 23(92%) patients of the 25 patients in whom laparoscopy was performed. In our study,

common finding in abdominal tuberculosis are peritoneal or visceral tubercles, varying from 2 mm to 1cm. Ascites and small bowel adhesions also seen. For the tubercular peritonitis laparoscopy is of special practical benefit in under privileged area where high end investigations are not available. Our study reported improvement or resolution of symptoms in patients with abdominal tuberculosis in 88.9%.

## Diagnostic Accuracy

In 21 patients with chronic abdominal pain pathological findings on laparoscopy were present, giving a diagnostic accuracy of 84%.

Table 5. Comparison of diagnostic efficiency of laparoscopy in various studies

Study	Diagnosis (%)	No. of cases
Raymond P. et al <sup>15</sup>	85.7	70
Karl miller et al <sup>16</sup>	89.8	59
Present study	84	25

## Conclusion

This study showed that laparoscopy is an effective approach in the management of patients with chronic abdominal pain. Advantages of diagnostic laparoscopy are that it is safe, efficacious and therapeutic procedure can be performed at same time. Nevertheless, patient selection and appropriate operative technique are essential for rewarding outcome.

## Author Contribution

Study conception and design: Prakash Rathod

Supervision: Ishwar Hosmani

Drafting of Manuscript and critical revision: Nishikant Gujar.

Acquisition of data: Sachin DM.

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