

A STUDY OF DIAGNOSTIC LAPAROSCOPY IN CHRONIC ABDOMINAL PAINRamesh Lingala¹¹Assistant Professor, Department of General Surgery, Gandhi Medical College and Hospital, Secunderabad, Telangana.**ABSTRACT****BACKGROUND**

Chronic abdominal pains are amongst the abdominal conditions most difficult to manage. Chronic abdominal pain is a difficult complaint.¹ Most patients in this group would have already undergone many diagnostic procedures. Clearly, diagnostic laparoscopy is an important intermediate option between refusing to explore a patient's abdomen and performing a laparotomy.

MATERIALS AND METHODS

This is a prospective study, done on patients admitted in General Surgery in Gandhi Hospital between August 2013 to September 2015.

RESULTS

Our study of 84 patients with chronic pain abdomen showed a peak incidence of chronic pain abdomen in the third decade with female preponderance. Around 48 (57.14%) of patients in our study had undergone a previous surgery. The next most common finding at laparoscopy in our study was a normal study (13%). Recurrent appendicitis was our per operative diagnosis in 11.9% of our patients.

CONCLUSION

Diagnostic laparoscopy has a high diagnostic and therapeutic efficacy. Not only does laparoscopy point to a diagnosis, it has the added advantage that therapeutic intervention can be done at the same sitting in most cases thus avoiding another hospitalization or another exploration of the abdomen.

KEYWORDS

Diagnostic laparoscopy, chronic abdominal pain.

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BACKGROUND

Chronic abdominal pains are amongst the abdominal conditions most difficult to manage. Potentially it can be unrewarding for both the patient and the treating physician. Chronic abdominal pain is a difficult complaint.¹ It leads to evident suffering and disability, both physically and psychologically. Chronic abdominal pain is associated with poor quality of life.²

When the limits of reasonable non-invasive testing are reached in an individual patient's illness, which is likely to occur without the extensive testing practiced today, the surgeon is often consulted. A high chance of a non-therapeutic abdominal exploration naturally results.

Clearly diagnostic laparoscopy is an important intermediate option between refusing to explore a patient's abdomen and performing a laparotomy. With advances in optics, laparoscopy allows perfect visual examination of the peritoneal cavity and further makes possible histological

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diagnosis of target biopsy under vision. Laparoscopy is as much a surgical procedure as an exploratory laparotomy, often just as informative, and to the trained surgeon affords a better view of the entire peritoneal cavity than the usual exploratory laparotomy.

Aims and Objectives

To study the role of diagnostic laparoscopy in patients with chronic pain abdomen and its correlation with clinical and radiological data.

MATERIALS AND METHODS

This is a prospective study, done on 84 patients admitted to the surgical wards of the Department of General Surgery in Gandhi Hospital, Secunderabad. The study group consisted of patients presented with pain abdomen of 3 months duration or more between August 2012 to September 2014.

A detailed history was taken from each of the patient as per the proforma designed before the commencement of the study. The clinical examination findings were also recorded in the proforma. The results were then tabulated. The recorded data included particulars of the patient, duration of illness, site of abdominal pain, other associated symptoms such as vomiting or fever or white discharge per vagina, past history of surgical explorations, comorbid conditions, investigations. Subsequently the intra operative findings, therapeutic/ diagnostic intervention done, correlation of the

intra operative findings with the histopathology report, complications during the intra and post-operative period and the relief from the pain were recorded and analysed.

Inclusion Criteria

1. All cases of undiagnosed (by conventional methods and investigations such as detailed history, clinical examination, blood counts, urine examination, USG abdomen, Plain x ray abdomen) chronic abdominal pain >3 months duration of both sex.
2. All cases of undiagnosed chronic abdominal pain in patients >14 years of age.
3. Cases of clinically diagnosed chronic abdominal pain of >3 months duration not responding to the treatment given.

Exclusion Criteria

1. All cases of undiagnosed chronic abdominal pain <3 months duration of both sex.
2. All cases of undiagnosed chronic abdominal pain in patients <14 years of age.

RESULTS

Age Distribution

Our study of 84 patients with chronic pain abdomen showed a peak incidence of chronic pain abdomen in the third decade. The youngest patient in our study was 16 years and the oldest patient being 62 years. The mean age of presentation was 34 years.

Sex Distribution

Our study of 84 patients showed a female preponderance to chronic pain abdomen (65%).

Duration of Pain

52.38% of the patients in our study gave a history of pain abdomen of duration between 18 to 36 months.

Location of Pain

The majority of the patients in our study of 84 patients presented with periumbilical region pain. It was followed closely by diffuse pain abdomen.

History of Previous Abdominal Surgeries

Around 48 (57.14%) of patients in our study had undergone a previous surgery compared to 36 (42.86%) of them without any history of abdominal surgeries.

Findings at Laparoscopy and Intervention Done

In our study of 84 patients, the most common finding was post-operative adhesions, in 51.1% of patients. Most of the patients in this group were females and had a past history of abdominal surgery, tubectomy in most cases. Adhesiolysis was done in all these patients. The next most common finding at laparoscopy in our study was a normal study (13%). These patients were just observed and followed up. Recurrent appendicitis was our per operative diagnosis in 11.9% of our patients.

The appendices felt firm to palpate per operatively. Appendectomy was done in such patients. Subsequent histopathological examination confirmed our diagnosis in most of these cases. HPE turned out to be chronic inflammation in the appendix and hence included in this group for statistical analysis.

4 patients have undergone laparoscopic cholecystectomy. HPE confirmed their findings in this group of patients. 2 patients were diagnosed with carcinoma per operatively. One of them being Carcinoma pancreas and the other had peritoneal deposits whose biopsy turned out to be Adenocarcinoma. Mesenteric lymph node biopsy was done in 1 patient.

Diagnosis of tubercular strictures was made in 8 patients. These patients Underwent resection and anastomosis of the long segment stricture and stricturoplasty for another short segment stricture by open method. Post operatively, and was started on anti-tubercular drugs and the patient followed up. Histopathological examination confirmed tuberculosis.

No mortality was encountered in our study group.

Duration of Hospital Stay

Post-operative hospital stay ranged from 2 to 10 days with a mean duration of stay of 4.5 days.

Follow Up

During the follow up period, all patients were re-evaluated for pain. The patients were reviewed at one month and three months post operatively. 5 patients were lost to follow up at the three-month time frame.

DISCUSSION

Chronic abdominal pain is a common problem dealt not only by the general surgeon but by all practicing physicians. Even after extensive non-invasive work up of such patients, the exact cause of pain abdomen is seldom known.

The aim of our study is to study the efficiency of diagnostic laparoscopy as an investigative and therapeutic modality in the diagnosis and management of patients with chronic pain abdomen.

Diagnostic laparoscopy makes it possible for the surgeon to directly visualize the contents of the abdominal cavity better than any other investigative modality. The study confirmed that in this difficult patient group, laparoscopy could safely identify abnormal findings and can improve the outcome in a majority of the cases.

In this prospective study 84 patients were considered who were admitted in the surgical wards of Gandhi Hospital Secunderabad, between August 2012 and September 2014. All patients had pain abdomen lasting for more than a period of three months.

Age and Sex Incidence

There were 29 males and 55 female patients in the study. The age group of patients in this study ranged from 16 to 62 years with the average age being 34 years. Male: Female ratio was 1:1.9

In a study involving 39 patients by Klingensmith et al,³ the majority were women (85%). The average age in their study was 39 years (Range 21-75 years).

In a study by Thanaponsathron et al⁴ of 27.5 patients with chronic right lower quadrant pain; the average age was 27.5 years.

In a study by Raymond et al⁵ for utility of laparoscopy in chronic abdominal pain involving 70 patients, the average age was 42 years.

In a study by Gouda M El-Labban and Emad N. Hokkam⁶ involving 30 patients, the average age of presentation was 36 years.

All the above studies show that the female sex was more commonly afflicted by chronic pain abdomen and the average age at presentation in our study is comparable with the aforementioned studies.

Pain Duration

In our study, the duration of pain ranged between 3 months to 3 years.

In a study by Raymond et al⁵ of 70 patients, the duration of pain ranged between 3 months to 5 years.

In a study by Gouda M El- Labban and Emad N. Hokkam⁶ involving 30 patients, the duration of pain ranged from 3 to 15 months.

Prior Surgery

In our study of 84 patients, 48 patients had previous history of abdominal surgery.

In a study by Klingensmith et al³ involving 34 patients, most of the patients had previous history of abdominal surgery.

In a study by Gouda M El- Labban and Emad N Hokkam 10 involving 30 patients, 17 had a previous history of abdominal surgery.

In a study by Kinnaresh Ashwin Kumar Baria⁷ involving 50 patients, 11 of them had a past history of abdominal surgery.

Laparoscopic Diagnosis

In our study comprising 84 patients, laparoscopy identified pathology in 73 patients (87%). No abnormality was found in the remaining 11 patients (13%) who were just observed without any intervention.

Post-operative Adhesions

51.1% of the patients in our series were found to have intestinal adhesions secondary to a prior abdominal surgery, mostly tubectomy. Some patients had a past history of appendectomy (in 7), cholecystectomy (in 2), hysterectomy (in 4) and one patient had a prior history of laparotomy for hollow viscous perforation. Adhesiolysis was done as a therapeutic procedure.

Lavonius M, et al⁸ in their study of laparoscopy for chronic abdominal pain in 46 patients reported post-operative adhesions in 63% of cases.

In a study by Klingensmith et al³ involving 34 patients, 56% of them underwent adhesiolysis.

In a study by Vafa Shayani et al⁹ involving 18 cases, laparoscopic Adhesiolysis resulted in a 77.8% cure rate from chronic abdominal pain.

In a study by Dunker S, et al¹⁰ laparoscopic adhesiolysis resulted in a positive outcome in more than 50% of patients.

Normal Study

13% of patients in our study did not have any pathology detected per operatively.

In a study by Salky BA et al¹¹ involving 265 patients, normal laparoscopic findings were recorded in 24%.

Histopathological examination confirmed the diagnosis in 4 of them. One of the specimens was reported normal. This is still justifiable because it makes the diagnosis of appendicitis less likely if the patient complains of similar pain in the future.

Laparoscopy is a useful technique for the diagnosis and treatment of abdominal pain even if the appendix is normal on inspection.¹²

In a study by Onders RP and Mittendorf EA⁷ involving 70 patients, appendiceal pathology was detected in 7.14% of cases.

In a study by Kinnaresh Ashwin Kumar Baria⁷ involving 50 patients, 10% of them had no identifiable cause detected after laparoscopic examination.

In a study by Vander Velpen et al¹³ a 23% of patients with uncertain diagnosis at the end of the procedure was reported.

In a study by Klingensmith et al³ involving 34 patients, 26% of patients needed no operative intervention other than laparoscopic exploration.

In a study by Onders RP and Mittendorf EA⁵ involving 70 patients, no abnormality was detected in 14.2 % of cases.

Recurrent Appendicitis

10(11.9%) of patients in our study were diagnosed to have recurrent appendicitis. Histopathological examination confirmed the diagnosis in 9 of them. One of the specimens was reported normal. This is still justifiable because it makes the diagnosis of appendicitis less likely if the patient complains of similar pain in the future.

Laparoscopy is a useful technique for the diagnosis and treatment of abdominal pain even if the appendix is normal on inspection.¹²

In a study by Onders RP and Mittendorf EA⁵ involving 70 patients, appendiceal pathology was detected in 7.14% of cases. The present study findings correlate well with other published studies.

Diagnostic Efficacy of Laparoscopy

Study	No. of Patients	Diagnosis Achieved (%)
Raymond P et al ⁵	70	85.7
Karl Miller et al ¹⁴	59	89.8
Klingensmith et al ³	34	65
Schrenk P et al ¹⁵	92	87
Kinnaresh Ashwin Kumar Baria ⁷		90
Andreollo et al ¹⁶	168	86.3
Salky BA et al ¹¹	265	76
Gouda M El- Labban and Emad N ⁶	30	83.3
Present study	84	84.52

Table 1. Diagnostic Efficacy of Diagnostic Laparoscopy

The present study findings correlate well with other published studies.

Therapeutic Efficacy of Diagnostic Laparoscopy

Study	No. of Patients	Efficacy (%)
Kinnaresh Ashwin Kumar Baria ⁷	50	94
Klingensmith et al ³	34	73
Vafa Shayani et al ⁹	18	77.8
On ders RP et al ⁵	70	70
Miller K et al ¹⁴	59	89.3
Chao K et al ¹⁷	41	78
Paajnen et al ¹⁸	35	>70
Present study	84	71.20

Table 2. Therapeutic Efficiency

Therapeutic efficacy here denotes the percentage of patients who reported a positive outcome (no pain or decrease in pain) at the time of follow up.

The efficacy of diagnostic laparoscopy achieved in the present study compares well with other previous studies.

CONCLUSION

Laparoscopy has an effective diagnostic accuracy and therapeutic efficacy in the management of patients who present to us with chronic abdominal pain, especially in whom conventional methods of investigations have failed to elicit a cause for the pain.

Laparoscopy is safe, quick and effective modality of investigation for chronic abdominal pain.

Diagnostic laparoscopy has a high diagnostic and therapeutic efficacy. Ability to pin point a cause for the abdominal pain or exclude a more major cause for pain not only avoids further investigations but also plays a significant role in alleviating the fears in the minds of the patients.

Not only does laparoscopy point to a diagnosis, it has the added advantage that therapeutic intervention can be done at the same sitting in most cases thus avoiding another hospitalization or another exploration of the abdomen.

Laparoscopy prevents unnecessary laparotomy in a significant number of cases. Diagnostic laparoscopy has a definitive role in the management of patients with chronic pain abdomen and should be an important investigative tool in the armamentarium of all practicing surgeons.

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