ORIGINAL ARTICLE GENERAL SURGERY

Journal of Contemporary Medicine and Dentistry
www.jcmad.com

ISSN [P-2347-4513]
ISSN [O-2349-0799]
Year: 2021, Volume: 9
Issue: 3, p:72 – 76

Attribution-NonCommercial 4.0 International (CC BY-NC 4.0)

Efficacy of Diagnostic Laparoscopy in The Management Chronic Abdominal Pain

N Subrahmaneswara Babu
Assistant Professor, Department of General Surgery, Prathima Institute of Medical Sciences, Naganoor, Karimnagar, Telangana State, India

Abstract

Background: *Chronic abdominal pain is often presenting a diagnostic challenge because of a large number of cases presented with this problem. Diagnostic laparoscopy is a minimally invasive procedure that could be used to diagnose chronic abdominal pain. The current aimed to analyze the diagnostic and therapeutic value of laparoscopy in the management of chronic abdominal pain.* ***Methods:*** *The consecutive patients presented to the department of General surgery were selected based on the inclusion and exclusion criteria. A detailed history, clinical features, biochemical, radiological, endoscopic investigations were done. All necessary pre-operative investigations were carried out and patients were evaluated for fitness for anesthesia. Patients were kept nil by mouth for 12 hours before surgery. The diagnostic laparoscopy was performed under general anesthesia.* ***Results:*** *51.42% of cases were having a history of abdominal pain duration between 3 – 12 months, 28.57% had a history between 12 – 18 months and 20% had a history of abdominal pain between 18 – 36 months. Most of the patients in our study of n=18(51.43%) patients presented with periumbilical region pain followed by lower abdominal pain in n=8(22.86%) and the pain in the upper abdomen were found in n=6(17.14%) cases and diffuse pain was found in n=3(8.57%).* ***Conclusion:*** *The diagnostic and therapeutic efficacy of laparoscopy is good in the management of patients with chronic abdominal pain in whom the conventional methods of investigations have failed to elicit the cause of pain. It appears to be a safe, quick, and effective modality of investigation. The ability to offer treatment simultaneously is the most important beneficial aspect of this procedure.*

Keywords*: Chronic abdominal pain, Diagnostic Laparoscopy, Minimally Invasive, Abdominal Tuberculosis, Laparoscopic adhesiolysis.*

Address for correspondence: Dr. N Subrahmaneswara Babu, Assistant Professor, Department of General Surgery, Prathima Institute of Medical Sciences, Naganoor, Karimnagar, Telangana State, India. Email: drramana73@gmail.com

Date of Acceptance: 12/10/2021

Introduction

Patients with chronic abdominal pain are difficult to manage because diagnosis remains elusive many times. Potentially it can be unrewarding for both the patient and the treating physician. Chronic abdominal pain is a common complaint. [1] It leads to evident suffering and disability, both physically and psychologically. Chronic abdominal pain is associated with poor quality of life. [2] Studies conducted with large community samples or hospital populations have shown that chronic abdominal pain is a pervasive problem. Most patients in this group would have already undergone many diagnostic procedures. More than 40% of the patients presenting with chronic abdominal pain have no specific etiological diagnosis at the end of their diagnostic workup. [3-6] The commonly employed diagnostic procedures for chronic abdominal pain include upper and lower gastrointestinal endoscopies, computerized

tomography, and screening for undetected carcinoma. When the limits of reasonable noninvasive 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. Diagnostic laparoscopy is an important intermediate option between refusing to explore a patient's abdomen and performing a laparotomy. [7] Diagnostic laparoscopy can be done under direct vision with simple equipment as it does not require a video camera or the electronic gadgetry associated with laparoscopic surgery. With advances in optics, laparoscopy allows perfect visual examination of the peritoneal cavity and further makes the possible histological diagnosis of target biopsy under vision [1]. 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. To achieve a high rate of positive diagnosis from laparoscopy requires much more than correct technique, it requires a thorough background of surgery, sound clinical acumen as also knowledge and awareness of abdominal pathology. [8] In many cases, it prevents unnecessary/negative laparotomy. The rapid recovery and return to normal activity that follow diagnostic laparoscopic surgery provide an extra incentive for the surgeon to adopt more laparoscopic techniques. With this background, we in the current study tried to evaluate the efficacy of diagnostic laparoscopy in identifying the etiology of undiagnosed chronic abdominal pain.

Materials and Methods

This study was done in the Department of General Surgery, Prathima Institute of Medical Sciences, Naganoor, Karimnagar, Telangana State, India. Institutional Ethical committee permission was obtained for the study. Written consent was obtained from all the participants of the study after explaining the nature of the study and its expected outcomes in the local language.

Inclusion criteria

1. All cases of chronic abdominal pain which remain undiagnosed by conventional methods and investigations
2. chronic abdominal pain >3 months or more
3. male and females
4. Aged more than 15 years**.**

Exclusion criteria

1. Diagnosed oncological conditions
2. Pregnant females
3. Patients with critical illnesses unfit for surgery
4. Patients with blunt or penetrating abdominal trauma
5. Psychiatric patients

The consecutive patients presented to the department of General surgery were selected based on the inclusion and exclusion criteria. A detailed history, clinical features, biochemical, radiological, endoscopic investigations were done. All necessary pre-operative investigations were carried out and patients were evaluated for fitness for anesthesia. Patients were kept nil by mouth for 12 hours before surgery. The diagnostic laparoscopy was performed under general anesthesia. The initial port placement was umbilical, by the open technique. In cases with scars and previous history of surgery, initial port placement was done at Palmer's point, by open technique. Additional ports were inserted as required. The abdominal cavity was carefully inspecting for any starting from the liver, the gall bladder, anterior surface of the stomach, large intestine, the entire length of small intestine with particular emphasis on appendix and terminal ileum, anterior surfaces of the retroperitoneal organs, uterus, fallopian tubes and ovaries, and peritoneal surface. Adhesions between the bowel loops or to the anterior abdominal wall were also looked for. The surgical procedure carried out were depending on the intraoperative findings and as per indications which ranged from the biopsy from suspicious lesions to adhesiolysis to appendectomy. Umbilical ports were closed using absorbable port closure suture materials at the end of the procedure and the rest of the port incisions were closed with non-absorbable sutures. The final diagnosis was established after the reports of biopsy, fluid analysis for cytology and microscopy, and histopathology examination. Following the procedure, patients received appropriate treatment, based on the findings of the laparoscopy. Patients were

examined in the post-operative period and following discharge was followed up for a period of three months and symptoms were noted. Any complications relating to the diagnostic laparoscopy were also noted. All the available data was uploaded on an MS Excel spreadsheet and analyzed by SPSS version 19 for descriptive statistics mean and standard deviations were used.

Results

Our study of n=35 patients with chronic pain abdomen showed a peak incidence of chronic pain abdomen in the third decade. The youngest patient in our study was 19 years and the oldest patient was 57 years. The mean age of presentation was 32.5 ± 8.5 years depicted in table 1. Out of the n=12(34.29% were male cases and n=23(65.71%) were females. The male to female ratio was approximately 1:2.

Table 1: Demographic profile of the cases in the study

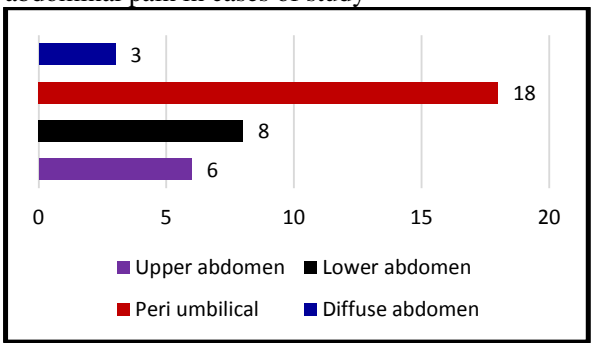
Age in years	Frequency	Percentage (%)
15 – 20	5	14.28
21 – 30	12	34.28
31 – 40	11	31.42
41 – 50	5	14.28
51 – 60	2	5.71
Total	35	100

Out of n=35 cases, 51.42% of cases were having a history of abdominal pain duration between 3 – 12 months, 28.57% had a history between 12 – 18 months and 20% had a history of abdominal pain between 18 – 36 months shown in table 2. Most of the patients in our study of n=18(51.43%) patients presented with periumbilical region pain followed by lower abdominal pain in n=8(22.86%) and the pain in the upper abdomen were found in n=6(17.14%) cases and diffuse pain was found in n=3(8.57%) given in figure 1.

Table 2: Duration of pain before laparoscopy

Duration of pain (months)	*Frequency*	*Percentage (%)*
3-12	18	51.42
12-18	10	28.57
18-36	07	20.00
>36	00	00.00
Total	35	100.0

Figure 1: Showing the location of chronic abdominal pain in cases of study



The average length of the operative time was 60.0 minutes and no patients required conversion to an open method. The duration of postoperative stay in the hospital ranged from 4 – 8 days with a mean duration of 4.5 ± 1.5 days. N=31(88.57%) of patients in our study has no history of previous surgery compared to n=4 (11.43%) of them with a history of previous abdominal surgeries. In our study of n=35 patients, the most common finding was recurrent appendicitis in 51.43% of patients. Most of the patients in this group were females. Recurrent appendectomy was done in all these patients. The next most common finding at laparoscopy in our study was post-operative adhesions and normal study 14.28. Adhesiolysis was done in all these patients with adhesions. Cholecystitis was found in 8.57% of cases and cholecystectomy was done cyst aspiration was done in one case of hemorrhagic ovarian cyst. All the case samples were sent to histopathology for confirmation of the findings. Subsequent histopathological examination confirmed our diagnosis in all these cases depicted in table 3.

Table 3: Findings at laparoscopy and intervention done

Diagnosis	*Procedure*	*No. of Patients*	*Percentage (%)*
Recurrent appendicitis	Appendectomy	18	51.43
Postoperative adhesions	Adhesiolysis	5	14.28
Chronic cholecystitis	Cholecystectomy	3	8.57
Ovarian Cyst	Aspiration	1	2.86
Normal study	Observation	8	22.85

There were no postoperative complications in cases except n=3 cases which showed signs of surgical site infection which was adequately

managed by appropriate antibiotic administration and alternate day wound dressings. No mortality was encountered in our study group. During the follow-up period all the patients were re-evaluated for recurrence of pain at the end of one month and three months no significant persistence of pain or worsening of pain was found in the cases of this study.

Discussion

Chronic abdominal pain is a common problem dealt with not only by the General Surgeon but by all practicing physicians. Even after extensive non-invasive workup of such patients, the exact cause of pain abdomen is seldom known. The aim current was to study the efficacy 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. In this study, we found the mean age of presentation was 32.5 ± 8.5 years. Out of the n=12(34.29%) were male cases and n=23 (65.71%) were females. The male to female ratio was approximately 1:2. Klingensmith et al., [9] in a similar study found female preponderance with 85% of the cases being females and the mean age was 39.0 years. GM Labban et al., [10] found the mean age of presentation to be 36 years and more commonly involving females. The results of the current study are in concordance with the observations of these studies. In this study, abdominal pain duration was between 3 – 12 months, 28.57% cases, duration of 12 – 18 months in 28.57% cases, and 20% had a history of abdominal pain between 18 – 36 months. GM Labban et al, [10] found the range of pain duration between 3 months to 15 months in their study. N=4 (11.43%) of our cases had a history of previous abdominal surgeries. K Ashwin et al., [11] in their study found 22% of cases with a history of previous abdominal surgery. In the current study n=27(77.14%) cases were identified with abnormalities and n=8(22.85%) cases were normal observations. N=5(14.28%) of our cases were found with post-operative adhesions and adhesiolysis was performed in all these cases. These adhesions were due to prior abdominal surgeries. Lavonius M et al., [11] in their study of laparoscopy for chronic abdominal pain in n=46 patients reported postoperative adhesions in 63% of cases. In a study by Klingensmith et al., [9] involving n=34 patients, 56% of them underwent adhesiolysis. V Shayani et al., 42 involving n=18 cases, laparoscopic adhesiolysis resulted in a 77.8% cure rate from chronic abdominal pain. Dunker S et al., [12] laparoscopic adhesiolysis resulted in a positive outcome in more than 50% of patients. In our study n=8(22.85%) patients in our study did not have any pathology detected per operatively. Salky B A et al., [13] involving n=265 patients, normal laparoscopic findings were recorded in 24%. K Ashwin et al., [10] involving n=50 patients, 10% of them had no identifiable cause detected after the laparoscopic examination. In a study by V Velpen et al., [14] 23% of patients with uncertain diagnosis at the end of the procedure was reported. In a study by Klingensmith et al., [9] involving n=34 patients, 26% of patients needed no operative intervention other than laparoscopic exploration. Onders R et al., [15] involving n=70 patients, no abnormality was detected in 14.2 % of cases.

Conclusion

The diagnostic and therapeutic efficacy of laparoscopy is good in the management of patients with chronic abdominal pain in whom the conventional methods of investigations have failed to elicit the cause of pain. It appears to be a safe, quick, and effective modality of investigation. The ability to offer treatment simultaneously is the most important beneficial aspect of this procedure.

***Conflict of Interest*: None**
***Source of support*: Nil**
***Ethical Permission*: Obtained**

References

1. American Academy of Paediatrics Subcommittee on Chronic Abdominal Pain. Chronic Abdominal Pain in children, Pediatrics 2005: 115:812-15.
2. Ferrell BR. The impact of pain on quality of life: A decade of research. Nurs Clin North Am. 1995; 30:609–24.

3. Camilleri M. Management of patients with chronic abdominal pain in clinical practice. Neuro gastroenterology Motil. 2006; 18:499–506.
4. Paajanen, Hannu, Julkunen, Kristiina, Waris, Heidi, Laparoscopy in Chronic Abdominal Pain: A Prospective Nonrandomized Long-term Follow-up Study. Journal of Clinical Gastroenterology 2005; 39(2):110-114.
5. Townsend CO, Sletten CD, Bruce BK, Rome JD, Luedtke CA, Hodgson JE. Physical and emotional functioning of adult patients with chronic abdominal pain: Comparison with patients with chronic back pain. J Pain. 2005; 6:5–83.
6. McGarrity TJ, Peters DJ, Thompson C, McGarrity SJ. The outcome of patients with chronic abdominal pain referred to a chronic pain clinic. Am J Gastroenterol. 2000; 95:1812–16.
7. C. Palanivelu. Art of laparoscopic surgery. Textbook and atlas, Chapter 12. Diagnostic Laparoscopy Indication, tuberculosis, and adhesiolysis. Jaypee publishers, 1st edition, Vol I. 2005; pp. 152-177.
8. Tehemton E Udwadia, Laparoscopic surgeries in developing countries, Jaypee brothers, 1997.
9. Klingensmith ME, Soybel DI, Brooks DC. Laparoscopy for chronic abdominal pain. Surg Endosc 1996; 10(11): 1085-87.
10. Kinnaresh Ashwin Kumar Baria role of laparoscopy in diagnosis and management of chronic Abdominal pain. Indian J Sci Res 2013; 4(1): 65-68.
11. Lavonius M, et al: Laparoscopy for chronic abdominal Pain. Surg Laparosc & endosc: 1999; 9: 42-44.
12. Dunker MS, Bemelman WA, Vijn A, et al. Long-term outcomes and quality of life after laparoscopic adhesiolysis for chronic abdominal pain. J Am Assoc Gynecol Laparosc 2004; 11:36-41.
13. Salky BA, Edye MB. The role of laparoscopy in the diagnosis and treatment of abdominal pain syndromes. Surg Endosc 1998; 12(7):911-14.
14. G C Vander Velpen, S M Shimi, A Cuschieri, Diagnostic yield, and management benefit of laparoscopy: a prospective audit, Gut 1994; 35: 1617-21.
15. Raymond P, Onders, Elizabeth A, Mittendorf. Utility of laparoscopy in chronic abdominal pain. Surg 2003; 134(4): 549-54.