

Evaluation of diagnostic laparoscopy in chronic abdominal pain in Tertiary Care Hospital

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Abstract

Introduction: Chronic abdominal pain is nightmare for patients and challenge for physician, surgeon and gynecologist. More than 40% patients remain undiagnosed after thorough physical, pathological and radiological investigations. Chronic abdominal pain leads to depressive symptoms and alter quality of life of patient. Chronic abdominal pain can be organic or functional. Organic causes are adhesions, appendicitis, pelvic inflammatory disease, tuberculosis. Functional causes are irritable bowel disease, motility disorders. With application of laparoscopic procedure many of such cases are diagnosed and at same time help in therapeutic intervention in selected cases. It is safe, minimal invasive technique. **Objective:** The main objective of the study is finding out cause of chronic abdominal pain, role of therapeutic intervention and outcome and safety of diagnostic laparoscopy. **Material and Methods:** Selected 50 patients were undergone diagnostic laparoscopy. All patients were operated in BJMC Ahmedabad between September 2010 to June 2012 in department of surgery, B. J. Medical College and Civil Hospital, Ahmedabad, Gujarat. (INDIA). Operative, postoperative and follow up data were collected and evaluated. **Result:** Definitive diagnosis was made in 42 out of 50 cases. Positive outcome inform of symptoms and pain came in 35 out of 50 cases at the end of six month follow up. There was no mortality or major morbidity in my study. Diagnostic laparoscopy is safe, effective and minimal invasive method for chronic abdominal pain.

Key Word: laparoscopy, chronic abdominal pain.

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INTRODUCTION

Chronic abdominal pain is a nightmare for patient and challenge for physician, surgeon and gynaecologist.¹ Patient with chronic abdominal pain are usually undergone numerous clinopathological and radiological diagnostic workups, but many times no definite diagnosis is done and symptoms persists. More than 40% patients have no obvious etiology at the end of diagnostic workup. Chronic abdominal pain leads to psychological symptoms

and worsen the quality of life.^{1, 2, 3} Chronic abdominal pain may be organic or functional. Organic causes are adhesions, appendicular pathology, biliary disease, abdominal tuberculosis and pelvic inflammatory diseases.^{4, 5} Functional causes are irritable bowel syndrome, functional dyspepsia and motility disorder.^{4, 6, 7} With the introduction of diagnostic laparoscopy more cases of chronic abdominal pain diagnosed and managed.^{8, 9, 10, 11, 12} It is safe, less invasive and effective tool in diagnosis of chronic abdominal pain (in which other diagnostic tools were failed to establish definitive etiology) and allow appropriate intervention at the same time in selected patients.⁹ Adhesion is the major cause of chronic abdominal pain in patients who have prior abdominal surgery.^{5, 12}

OBJECTIVE

1. To study causes of chronic abdominal pain which can be find out during diagnostic laparoscopy.
2. To study role of diagnostic laparoscopy as a therapeutic laparoscopy in chronic abdominal pain.
3. To study out-come of diagnostic laparoscopy.

MATERIAL AND METHOD

This is the randomized prospective descriptive study of 50 cases of chronic abdominal pain from September 2010 to June 2012 in department of surgery, B. J. Medical College and Civil Hospital, Ahmedabad, Gujarat. (INDIA). In our study we define chronic abdominal pain as a continuous or intermittent abdominal pain or discomfort lasts for at least 3 months despite intake of analgesic. We have random selection of patients who have no clear etiology after physical, laboratory and radiological evaluation. Patients who diagnosed during this evaluation excluded from study. Known patient of chronic abdominal pain presented with acute abdominal pain excluded from study. Psychiatric Patient excluded from study. Selected patients have age between 16 years - 60 years. All patients in which diagnostic laparoscopy converted to open surgery excluded from study. All patients have complete pre-operative evaluation by history, general physical examination and abdominal examination to find out organic disease of alimentary tract. Associated significant symptoms and past history of abdominal surgery mentioned. All routine pre-operative investigations were performed. In selected patient CECT abdomen, UGI scopy, Barium enema and Barium meal follow through done. These investigations give no conclusion about diagnosis than diagnostic laparoscopy performed. Data was collected in a predesigned Performa. All laparoscopic procedure were performed by consultant surgeons and having sufficient skill and experience. On the basis of laparoscopic finding causes of chronic abdominal pain were analyzed and further management done. Postoperatively the patients were followed for pain after 1 month, 3 month and 6 month. Positive out-come includes disappearance of pain and less pain while negative out-come includes no change in pain and worsening of pain. Visual analog score were used for assessment of pain. This score has minimal 0 and maximum 10 values. Pre-procedure and post procedure visual analog score were compared. A difference of one or less than one in pre and post procedure visual analog score is counted as no change in pain intensity. Positive and negative difference of 2 or more than 2 counted as less pain and worse pain respectively. Post procedure visual analog score 0 indicates no pain or disappearance of pain.

OBSERVATION AND DISCUSSION

Table 1: Sex distribution of chronic abdominal pain

Sex	No	%
MALE	16	32
FEMALE	34	68
Total Patients	50	100

In our study out of 50 male patient were 16 (32%) and female patient were 34 (68%). Chronic abdominal pain is more common in female due to previous history of tubal ligation, caeserian, hysterectomy, prevalence of PID (pelvic inflammatory diseases), more psychological and emotional upset¹³. Psychological and emotional upset leads to functional chronic abdominal pain³.

Table 2: Causes of chronic abdominal pain diagnosed by diagnostic laparoscopy

No.of patient n=50	Laparoscopic diagnosis	Percentage %
23	ADHESIONS	46%
07	CHRONIC APPENDICITIS	14%
06	PID	12%
05	LYMPHADENOPATHY	10%
01	VENTRAL HERNIA	02%
08	NAD	16%

Most common cause of chronic abdominal pain is adhesions. Out of 50, 23 (46%) patients have adhesions^{5, 12}. Adhesions present between abdominal wall and bowel or other organ. In most of patients adhesions were secondary to previous abdominal surgery. Out of 23, 20 (87%) patients have past history of abdominal surgery. Out of 23, 3 (13%) patients have adhesions without previous surgery, may be due to chronic low grade inflammation. Out of 50, 1 patient has small ventral hernia with past history of surgery. Other causes apart from adhesions were chronic appendicitis 14%, pelvic inflammatory disease, 12%, mesenteric lymphadenopathy 10% and small ventral hernia 2%.¹⁰ Definitive diagnosis made in 84% cases (42/50) while no identifiable cause found in 16% cases (8/50). In similar study done by G M EL-Labban and E N Hokkam most common finding (63.3%) were adhesions followed by appendicular pathology (10%).¹²

Table 3: Diagnostic laparoscopy as a therapeutic or interventional procedure

NO.OF PATIENT n=50	LAP. DIAGNOSIS	THERAPEUTIC LAP. PROCEDURE	% OF LAP.PROCEDURE IN EACH GROUP
23	ADHESIONS	ADHESINOLYSIS	100%
07	CHRONIC APPENDICITIS	APPENDICECTOMY	100%
01	VENTRAL HERNIA	MESHPLASTY	100%
06	PID	-	00%
03	TUBERCULOSIS	-	00%
02	NON SPECIFIC LYMPHADENITIS	-	00%
08	NAD	APPENDICECTOMY	100%

Definitive therapeutic procedure performed at the time of diagnosis by diagnostic laparoscopy in 62% cases (31/50), Adhesiolysis 46% (23/50), Appendectomy for chronic appendicitis 14% (7/50), meshplasty for ventral hernia 2%, (1/50).^{9,12} In 6 cases of pelvic inflammatory disease and 5 cases of mesenteric lymphadenopathy fluid for cytology and lymph node biopsy taken respectively and no therapeutic procedure performed. Out of 5 cases of mesenteric lymphadenopathy, 3 patients have tuberculosis and 2 patients have non-specific lymphadenitis on histopathological examination. These patients treated conservatively by antibiotics and antitubercular treatment. All 6 cases of pelvic

inflammatory disease have inflammatory cells on fluid cytological examination. Out of 50, 8 patients (16%) have no positive finding in diagnostic laparoscopy. In these patients appendectomy have done. Low grade chronic inflammation of appendix gives appearance of normal appendix and to avoid confusion in diagnosis of chronic abdominal pain in future if pain continue or to rule out chronic appendicitis in future if pain continue, appendectomy performed if no positive finding in diagnostic laparoscopy. Out of these 8 patients, 2 patients have chronic appendicitis on histopathological examination and 6 patients have normal appendix.

Table 4: Out-come on follow up

OUT-COME (50)	AFTER 1 MONTH	AFTER 3 MONTHS	AFTER 6 MONTHS
	NO OF PATIENTS (50) / (%)	NO OF PATIENTS (50) / (%)	NO OF PATIENTS (50) / (%)
DISAPPEARANCE OF PAIN	31 / (62%)	31 / (62%)	31 / (62%)
LESS PAIN	09 / (18%)	05 / (10%)	04 / (08%)
PAIN UNCHANGED	07 / (14%)	09 / (18%)	10 / (20%)
PAIN WORSEN	03 / (06%)	05 / (10%)	05 / (10%)

Out-come after 1 month according to diagnosis

TOTAL PATIENTS (50)	DISAPPEARANCE OF PAIN (31)	LESS PAIN (09)	PAIN UNCHANGED (07)	PAIN WORSEN (03)
ADHESIONS(23)	23	-	-	-
CHRONIC APPENDICITIS (07)	07	-	-	-
VENTRAL HERNIA (01)	01	-	-	-
PID (06)	-	05	01	-
LYMPHADENOPATHY (05)	-	04	01	-
NAD (08)	-	-	05	03

Out-come after 3 months according to diagnosis

TOTAL PATIENTS (50)	DISAPPEARANCE OF PAIN (31)	LESS PAIN (05)	PAIN UNCHANGED (09)	PAIN WORSEN (05)
ADHESIONS (23)	22	01	-	-
CHRONIC APPENDICITIS (07)	07	-	-	-
VENTEL HERNIA (01)	01	-	-	-
PID (06)	01	03	01	01
LYHMPHADENOPATHY (05)	-	01	02	02
NAD (08)	-	-	06	02

OUT-COME AFTER 6 MONTHS ACCORDING TO DIAGNOSIS

TOTAL PATIENTS (50)	DISAPPEARANCE OF PAIN (31)	LESS PAIN (04)	PAIN UNCHANGED (10)	PAIN WORSEN (05)
ADHESIONS (23)	22	01	-	-
CHRONIC APPENDICITIS (07)	07	-	-	-
VENTRAL HERNIA (01)	01	-	-	-
PID (06)	01	02	02	01
LYMPHADENOPATHY (05)	-	01	02	02
NAD (08)	-	-	06	02

On follow up, all patients of chronic appendicitis and ventral hernia have no pain after 1 month, 3 months and 6 months. Out of 23 cases of adhesions, all patients have no pain after 1 month, but after 3 months and 6 months 22 patients have no pain and 1 patient has less pain. Out of 6 cases of pelvic inflammatory disease, 5 have less pain and 1 has no change in pain after 1 month, after 3 months 1 has no pain, 3 have less pain, 1 has no change in pain and

1 has worse pain and after 6 months 1 has no pain, 2 have less pain, 2 have no change in pain and 1 has worse pain. Out of 5 cases of lymphadenopathy, 4 have less pain and 1 has no change in pain after 1 month but after 3 months and 6 months 1 has less pain, 2 have no change in pain, 2 have worse pain. Out of 8 undiagnosed cases, 5 have no change in pain and 3 have worse pain after 1 month, after 3 months and 6 months 6 have no change in pain and 2

have worsen pain. In similar study done by G M EL-Labban and E N Hokkam positive outcome of pain relief was found in (70%) of cases and negative in (30%) of cases are 12.

TABLE 5

OUT-COME	AFTER 1 MONTH	AFTER 3 MONTHS	AFTER 6 MONTHS
	NO.OF PATIENTS (50) / (%)	NO.OF PATIENTS (50) / (%)	NO.OF PATIENTS (50) / (%)
POSITIVE	40 / (80%)	36 / (72%)	35 / (70%)
NEGATIVE	10 / (20%)	14 / (28%)	15 / (30%)

ON FOLLOW UP

AFTER 1 MONTH: 40 patients (80%) have positive outcome, out of 40, 31 patients (62%) have no pain and 9 patients (18%) have less pain as compare to pre diagnostic procedure. 10 patients (20%) have negative out-come, out of 10, 7 patients (14%) have no change in pain and in 3 patients (6%) pain become worse. **AFTER 3 MONTHS:** 36 patients (72%) have positive out-come out of 36, 31 patients (62%) have no pain and 5 patients (10%) have less pain. 14 patients (28%) have negative out-come, out of 14, 9 patients (18%) have no change in pain and in 5 patients (10%) pain become worse. **AFTER 6 MONTHS:** 35 patients (70%) have positive out-come, out of 35, 31 patients (62%) have no pain and 4 patients (8%) have less pain. 15 patients (30%) have negative out-come, out of 15, 10 patients (20%) have no change in pain and in 5 patients (10%) pain become worse. After definitive diagnosis and management most of patients have no pain or less pain. Undiagnosed patients have no improvement because these patients might have some other undiagnosed conditions or functional etiology. Some patients have improvement initially but on later follow up these patients have unchanged or worse pain as compare to pre-procedure. This is because of irreversible damage due to disease or subsequently formation of adhesion or stricture. No major post-operative complication occurred. Post-operative hospital stay ranges from 2 days to 4 days.

CONCLUSION

The current study represent that diagnostic laparoscopy is effective, safe and minimal invasive tool in diagnosis and

management of chronic abdominal pain where other method failed. Common causes of chronic abdominal pain are adhesions due to previous surgery, chronic appendicitis, PID and tuberculosis. This is a sample study at one center and numbers of patients are limited so larger numbers of patients and multi center study required to come to definite conclusion.

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