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Original Research Article

Diagnostic and therapeutic role of laparoscopy in chronic abdominal pain: a retrospective study in a rural tertiary care teaching hospital

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ABSTRACT

Background: Abdominal pain was the third most common complaint of individuals often recurrent and needs immediate care. The ability of the method to access and inspect the entire abdominal cavity and retro-peritoneum without harming the structures of it places laparoscopy as the procedure of choice in the diagnosis of abdominal pain.
Methods: The study is a retrospective study conducted in Tagore Medical College and Hospital, Chennai during the period of 1st January 2013 to 31st December 2017. Patients of age above 18 years with history of abdominal pain for 6 months or more were included in the study. Basic investigations were also done for the patient. Based on the clinical examinations, patients were subjected to diagnostic laparoscopy. All cases were done as elective surgeries.
Results: A total of 48 patients were found in the record, in which the diagnosis remained uncertain despite of all important investigations. The majority of the patients 19 (40%) were in the age group of 21-40 years followed by 17 (36%) in 41-65 years. The duration of pain ranged between 6 months to 1 years. On laparoscopic examination, majority of patients (46%) were diagnosed with chronic appendicitis.
Conclusions: Laparoscopy is not only safe, but also quick and effective investigation tool for chronic abdominal pain.

Keywords: Appendicectomy, Biopsy, Chronic abdominal pain, Chronic appendicitis, Diagnostic laparoscopy

INTRODUCTION

Abdominal pain was the third most common complaint of individuals often recurrent and needs immediate care.[1] Chronic abdominal pain is defined as recurrent abdominal pain on and off for more than three months duration.[2] Numerous diagnostics studies are done for the patients with chronic abdominal pain.[3] However, most of the cases the pain remains undiagnosed.[4] Such undiagnosed pain often referred as unexplained chronic abdominal pain (UCAP).[5]

Presently, the laparoscopy stands as the important method of visualising the entire peritoneal cavity in surgical practice.[5,6] The ability of the method to access and inspect the entire abdominal cavity and retro-peritoneum without harming the structures of it places laparoscopy as the procedure of choice in the diagnosis of abdominal pain.[7-9]

The laparoscopic surgery provides rapid recovery.[10] The rapid recovery and return to normal activity that follows laparoscopic surgery is an added incentive for the surgeons to adopt more laparoscopic techniques.[11]

METHODS

The study is a retrospective study conducted in Tagore Medical College and Hospital, Chennai during the period of 1st January 2013 to 31st December 2017. Patients of age above 18 years with history of abdominal pain for 6 months or more were included in the study. Patients of

recurrent abdominal pain with previous history of abdominal operation done were not included. Patient with acute abdomen pain and emergencies, age below 18 years and above 65 years, patients with immune compromised status, on immunosuppressive therapy and steroids were excluded from the study.

A detailed history of patients was obtained and was followed by thorough clinical examination. The findings were recorded in the proforma. Basic investigations were also done for the patient. Based on the clinical examinations, patients were subjected to diagnostic laparoscopy.

All cases were done as elective surgeries. All procedures were done under general anaesthesia. All patients had a bladder catheterized prior to anaesthesia. Pneumoperitoneum with Veress needle at the rate of 1-2 L/min was created so that end point of intra-abdominal pressure did not exceed 12-14mmHg, 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, gynaecological 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. The10mm umbilical wounds were closed in one layer with absorbable sutures and skin closure done with nonabsorbable suture.

Wounds were checked for infection on 3rd day in all patients and dressings were done. Patients were discharged based on the 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. The radiological investigation was done if needed.

RESULTS

A total of 48 patients were found in the record, in which the diagnosis remained uncertain despite of all important investigations. The majority of the patients 19 (40%) were in the age group of 21-40 years followed by 17 (36%) in 41-65 years (Table 1). There were 15 males and 33 female patients in the study.

Table 1: Study participants.

Age	Male	Female	Total
18 to 20	4 (50%)	4 (50%)	8 (16%)
21 to 40	7 (37%)	12 (63%)	19 (40%)
41 to 65	2 (12%)	15 (88%)	17 (36%)
Above 65	2 (50%)	2 (50%)	4 (8%)
Total	15 (31%)	33 (69%)	48 (100%)

The duration of pain ranged between 6 months to 1 years. The duration of pain (Table 2) of 8 months was common (37.5%). Majority of patients (Table 3) had the complaint of umbilicus pain (56%) followed by the pain in right lower quadrant (23%). Further majority of patients (Table 4) suffered from intermittent pain (89.5%) and only 10.5% patients complained continuous pain. About 50% of patients did not have any associated symptoms (Table 5). Majority of the patients either complained nausea or loss of appetite.

Table 2: Duration of pain in the patients.

Duration of pain in months	Number of patients (N=48)
6	2 (4%)
7	10 (21%)
8	18 (37.5%)
9	10 (21%)
10	6 (12.5%)
11	1 (2%)
12	1 (2%)

Table 3: Area of abdominal pain in the patients.

Area of pain	Male	Female	Total
Umbilicus	8 (30%)	19 (70%)	27 (56%)
Right lower quadrant	3 (27%)	8 (73%)	11 (23%)
left lower quadrant	2 (40%)	3 (60%)	5 (11%)
Right upper quadrant	2 (67%)	1 (33%)	3 (6%)
Left upper quadrant	1 (50%)	1 (50%)	2 (4%)

Table 4: Type of pain in patients.

Type of pain	Number of patients (N=48)
Intermittent	43 (89.5%)
Continuous	5 (10.5%)

Table 5: Associated symptoms in the patients.

Associated symptoms	Number of patients (N=48)
No symptom	24 (50%)
Nausea	10 (21%)
Loss of appetite	10 (21%)
Fever	4 (8%)
Vomiting	2 (4%)
constipation	2 (4%)
Loss of weight	4 (8%)

On laparoscopic examination, majority of patients (46%) were diagnosed with chronic appendicitis (Table 6).

All these patients were subjected to Appendicectomy. Subsequent histopathological examination confirmed our diagnosis. 2 (4%) patients undergone cholecystectomy and HPE confirmed the findings in this group of patients. 4 (8%) patients undergone ovarian cystectomy (Table 7).

Table 6: Types of diagnosis made by laparoscopy.

Laparoscopic diagnosis	Number of patients (N=48)
Chronic appendicitis	22 (46%)
Abdominal tuberculosis	6 (12.5%)
Chronic cholecystitis	2 (4%)
Ovarian cyst	4 (8%)
endometriosis	8 (16%)
Mesenteric lymphadenitis	2 (4%)
Colonic malignancy	1 (2%)
Adhesion	1 (2%)
Normal study	2 (4%)

Table 7: Types of laparoscopic surgeries made in the patients.

Laparoscopic management	Number of patients (N=48)
Appendicectomy	22 (46%)
Biopsy	9 (19%)
Cholecystectomy	2 (4%)
Ovarian cystectomy	4 (8%)
Adhesiolysis	1 (2%)

One of the patient had adhesions between the fallopian tube and the lateral abdominal wall and undergone adhesiolysis. The abdominal tuberculosis and endometriosis patients were treated medically.

In the present study about 75% of patients relieved from the pain on the first month of follow up and about 85% patients relieved from the pain on the third month of follow up (Table 8).

Table 8: Therapeutic efficacy of laparoscopy.

Pain	1st month	3rd month
Resolution	36 (75%)	41 (85%)
Persistent	12 (25%)	7 (15%)

DISCUSSION

Chronic abdominal pain is not only a common problem of the general surgeon but for all practicing physicians.[12] Even after thorough investigations of such patients, the exact cause of pain abdomen is seldom known.[13] Thus, in the present study, an attempt has been done to study the efficacy of diagnostic laparoscopy as an investigative tool in the diagnosis and management of patients with chronic pain abdomen.

The diagnostic laparoscopy gives the surgeon to visualize the contents of abdominal cavity, thus can identify the abnormalities that has led to the abdominal pain.[14] The study confirmed that the laparoscopy could safely identify abnormal and undiagnosed findings. In the present study, the female patients are more than the male patients which confirms the findings of many other studies.[15] One of the main objectives of the study is to evaluate the role of laparoscopy as a major diagnostic tool in patients presenting a chronic abdominal condition, with uncertain diagnosis. The diagnosis rate was 96% with only 2 patients showed normal findings. Majority of the patients were diagnosed for chronic appendicitis (46%) which is in accordance with many such studies.[16] Thus, majority of the patients underwent the appendicectomy.

CONCLUSION

Laparoscopy is not only safe, but also quick and effective investigation tool for chronic abdominal pain. It has the ability to find a cause for the abdominal pain and thus excludes further investigations. Not only does laparoscopy helps in 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.

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