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Evaluation of Efficacy of Laparoscopy in Patients with Chronic Abdominal Pain

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Abstract

Background: Laparoscopy has been found to have significant diagnostic and therapeutic role in patients with chronic abdominal pain. The main advantage of laparoscopic evaluation is to detect the presence or absence of intra- abdominal organic lesion. **Objective:** This study was aimed to Evaluate of Efficacy of Laparoscopy in Patients with Chronic Abdominal Pain. **Methods:** This clinical study was conducted in the Department of Surgery, Sir Salimullah Medical College & Mitford Hospital, Dhaka, Bangladesh during the period from September 1998 to September 2000. A total of 40 patients aged between 10-70 years of both sex with laparoscopy in chronic and relapsing abdominal pain. All the patients included in this study based on selection criteria and compiled in a protocol approved earlier. After the routine diagnostic work up and failing to reach a conclusive diagnosis, all the patients were subjected to diagnostic laparoscopy. Based on the findings therapeutic extension of the laparoscopy done to complete some standard procedure like laparoscopic appendicectomy or harvesting tissue samples for histopathological or other examination. Statistical analysis of the results was obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS-22). **Results:** Highest number of patients was in 5th, 6th 7th decade and above. Comparatively older age groups are more involved in this study. Male diagnostic laparoscopy is a bit in higher (52.5%) than female groups (47.5%). Out of 8 patients 3 patients (7.5%) suffers from diabetes mellitus, 1 patient (2.5%) suffers from pulmonary T.B. 2 patients (5%) suffer from hypertension, 1 patient (2.5%) suffers from bronchial Asthma and 1 patient is a known case of hypothyroid. The patient who suffers from T.B. gave positive history of taking anti tuberculous drug. Majority of the patients having upper abdominal manifestations. **Conclusion:** Diagnostic laparoscopy is a better, cost-effective, and efficient method of establishing the diagnosis in patients with chronic abdominal pain.

Keywords: Adhesiolysis, Appendectomy, Chronic abdominal pain, Diagnostic laparoscopy.

INTRODUCTION

Laparoscopy allows surgeons to visualize and treat many abdominal conditions that could not be diagnosed otherwise. We therefore conducted this study to evaluate the efficacy of diagnostic laparoscopy in patients with chronic abdominal pain.[1]The most common organic disorders include intestinal adhesions, biliary causes, and appendicular causes, while functional disorders include irritable bowel disease, functional dyspepsia, and various motility disorders.[2,3,4,5] In spite of strong diagnostic workups, most of the patients with chronic abdominal pain did not have specific diagnosis at the end. Many

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patients remain undiagnosed even after excluding the common disorders by meticulous investigations, and pose a significant diagnostic challenge to the physician. Diagnosis of a disease is based on clinical evaluation and investigation. Patient with chronic abnormal pain where clinical evaluation is a major basis for diagnosis and with-it investigation is a support for confirmation of diagnosis. Chronic abdominal pain can be diagnostic challenge.[6] These difficult patients are frequently seen by many different physicians and are subjected to myriad of tests without identifying the etiology of pain.[7] Surgical consultation often occurs late after other modalities have failed to provide resolution of their symptoms. Chronic abdominal pain is a significant clinical problem that often leads to repeated laparotomies. Laparoscopy has been found to have significant diagnostic and therapeutic role in patients with chronic abdominal pain.

Objective

This study was aimed to Evaluate of Efficacy of Laparoscopy in Patients with Chronic Abdominal Pain.

MATERIALS & METHODS

This clinical study was conducted in the Department of Surgery, Sir Salimullah Medical College & Mitford Hospital, Dhaka, Bangladesh during the period from September 1998 to September 2000. A total of 40 patients aged between 10-70 years of both sex with laparoscopy in chronic and relapsing abdominal pain. All the patients included in this study based on selection criteria and compiled in a protocol approved earlier. After the routine diagnostic work up and failing to reach a conclusive diagnosis, all the patients were subjected to diagnostic laparoscopy. Based on the findings therapeutic extension of the laparoscopy done to complete some standard procedure like laparoscopic appendicectomy or harvesting tissue samples for histopathological or other examination. Statistical analysis of the results was obtained by using window-based computer software devised with Statistical Packages for Social Sciences (SPSS-22).

RESULTS

Age varies from 10-70 years and above. Highest number of patients was in 5th, 6th 7th decade and above. Comparatively older age groups are more involved in this study [Figure I]. Requirement of laparoscopic diagnosis in male & female groups are almost same. But in male diagnostic laparoscopy is a bit in higher (52.5%) than female groups (47.5%) [Table I]. (20%) patients out of 40 patients having medical problems. Out of 8 patients 3 patients (7.5%) suffers from diabetes mellitus, 1 patient (2.5%) suffers from pulmonary T.B. 2 patients (5%) suffer from hypertension, 1 patient (2.5%) suffers from bronchial Asthma and 1 patient is a known case of hypothyroid. The patient who suffers from T.B. gave positive history of taking anti tuberculous drug [Figure II].Majority of the patients having in the pain abdominal for 6 months 40% the second majority patients having pain duration is >2 years (27.5%). Smaller number of patients (pt-6, 15%) having short duration of symptom but they have got frequency relapse & remission. Out of 40 cases most common findings are ascities and hepatomegaly. Other findings mention in this table are comparatively lower. There are good number of cases having dual abnormalities according to the findings shown by sonologist. In this series upper abdominal pathology are highlighted in majority of the cases. In spite of that lower abdomen not escaped from the study [Figure IV]. Large number of patients i.e., 22 patients (55%) were

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histopathologically proved as malignancy of different organ. Out of this gallbladder malignancy is the largest group. Next to malignancy intraabdominal tuberculosis is second in position (22.5%) [Table IV].Treatment given after diagnosis 22 patient (55%) were diagnosed malignancy of various intraabdominal organ. 1 patient out of 22 died on the 1st post-operative day. The remaining 21 patients (52.5%) were advised for consultation to oncologist for anticancer therapy. 9 patients (22.5%) were advised for anti-tubercular therapy. 2 out of 9, before administering anti T.B. drugs, they were appendicectomized as appendix were unhealthy on the laparoscopic view. These two appendices later histopathologically proved as granulomatous reaction and casection necrosis. Remaining 7 patients who were given anti T.B. drug, they also advised on the basis of tissue diagnosis [Table III].Several postoperative problems arise after laparoscopy. 28 patients were developed pain. 22 patients developed mild pain, 5 moderate pain, 1 severe pain. Pain was treated by narcotics & NSAIDs. Leakage of intraabdominal fluid in 3 cases only 2 develop mild & 1 moderate leakage. Actually, as patients had malignant problems and there is rapid accumulation of intraabdominal fluid. So fluid aspiration does not give much benefit [Figure V].

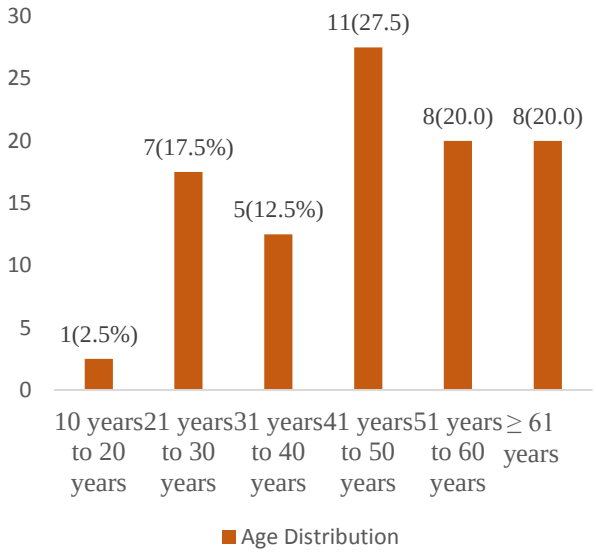

Figure I: Demonstrate and distribution of the study patients according to age (n=40)

Sex	n=40	%
Male	21	52.5
Female	19	47.5
Total	40	100.0

Table I: Demonstrate and distribution of the study patients according to sex (n=40)

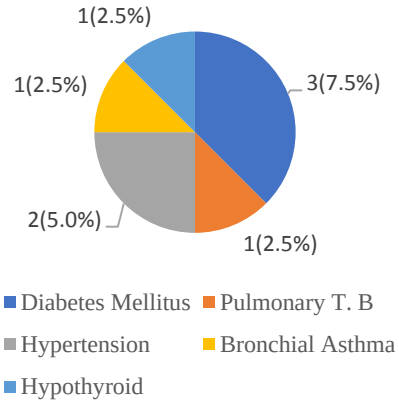

Figure II: Demonstrate and distribution of the study patients according to comorbidity (n=40)

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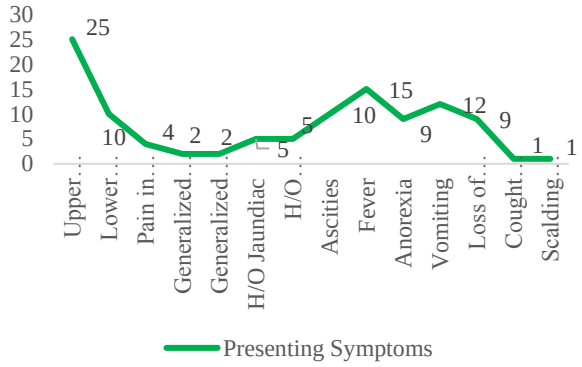

Figure III: Demonstrate and distribution of the study patients according to Presenting Symptoms (n=40)

Duration of Pain	n=40	%
<3 months	6	15
3 months- 6months	16	40
7 months – 1 year	3	7.5
1 year – 2 years	4	10
>2 years	1	27.5

Table II: Demonstrate and distribution of the study patients according to Duration of Pain (n=40)

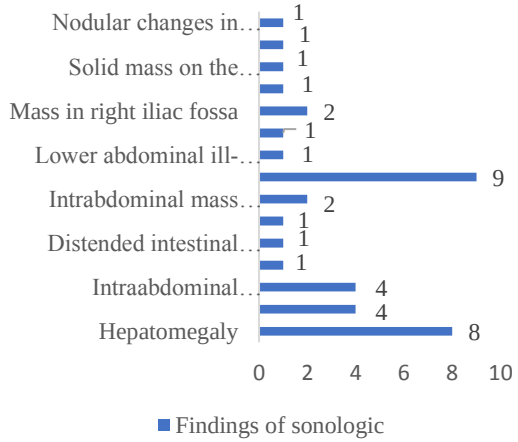

Figure IV: Demonstrate and distribution of the study patients according to findings of sonologic (n=40)

Disease and Treatment	n=40	%
Disease: Intraabdominal malignancy **Treatment:** Anticancer therapy	21	52.5
Disease: Liver abscess **Treatment:** Laparotomy followed by chemotherapy	1	2.5
Disease: Chronic liver disease **Treatment:** Medical treatment	1	2.5
Disease: Intestinal and intraabdominal tuberculosis **Treatment:** Anti tubercular treatment	7	17.5

Table III: Demonstrate and distribution of the study patients according to Diagnosis (n=40)

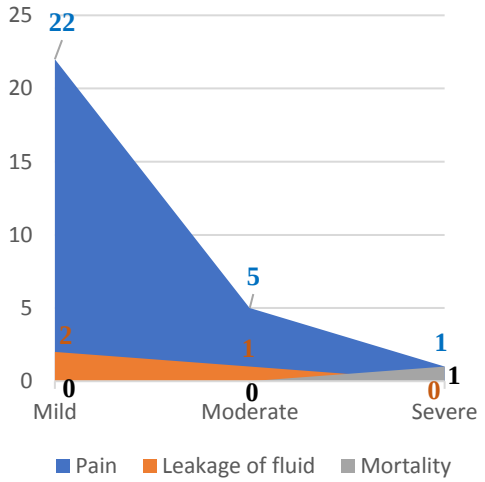

Figure V: Outcome of the laparoscopy in Patients with Chronic Abdominal Pain(n=40)

DISCUSSION

In Bangladesh, gynaecological surgeons used to utilize the laparoscopic device for detection of sterility. Till now they are almost confined to this small spectrum. In large scale diagnostic laparoscopy is being utilized in the last decade of 20th century by the general surgeon. At present it is utilized as a final investigative tool for diagnosis of chronic and relapsing abdominal pain. Present study

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includes 40 cases who were suffering from long standing and relapsing abdominal pain. Along with abdominal pain they had other symptoms & signs. Somebody had other medical problems also. The target of this study is how much easily a clinician can overcome his puzzling situation and can give benefit to the patient. The remote consequences are beyond my scope. In this study age distribution varies from 10-70 years. Among these patients' 5th, 6th& 7th decade patients were the majority. What I have seen in this study comparatively older age groups suffer from most of the life-threatening diseases. So, findings of the older age groups can be compared with the theoretical aspect of several life-threatening diseases. Sex distribution of patients in this study is almost equal.[8] Male patients were 21(52.5%) and female patients were 19 (47.5%). It indicates male and female may suffer equally in chronic and relapsing abdominal pain.

We advised one patient for Ba-enema study who has got left lower abdominal lumpiness and recurrent pain. He also had suspected asci ties. He was seen a mild stricturous area on the sigmoid colon. Montaux test were done in 9 cases. Those patients were suspected as intraabdominal tuberculosis. But only one patient (11 %) had positive montaux test. Other 8 patients (89%) MT test were negative.[9] Again, this test does not help much on the suspicion.

Laparoscopic procedure does not grossly alter the findings of ultrasonography but it gave more detail information about site of pathology, nature of pathology. Heinzelman-m; schob-O et all, department of surgery, Zurich University, Germany, shown that this relatively atraumatic investigative tool has the sensitivity of almost 100%. Boyd - WP Jr, Nord-HJ, University of Florida college of medicine, Tampa, U.S.A. shown that diagnostic laparoscopy plays an important role in the accurate evaluation of patients with abdominal disorders. Combined with laparoscopic ultrasound it is highly accurate in the staging of intraabdominal malignancy and it is superior to transcutaneous ultrasonography and computed tomography.[10] Laparoscopy can detect any small lesion in peritoneal cavity or liver which may be missed by CT or USG. Again, it gives additional positive findings which was missed by USG. Laparoscopy has the scope to take biopsy. The histopathologic findings should specify what modalities of treatment can be advised to the patients.

All patients were investigated with ultrasonography of whole abdomen. At this time USG is highly sensitive investigation for detecting intraabdominal pathologies. Again, it is a person-based investigation who is doing it. If a skilled person is doing it, in that case it can say about accurate findings more than 95% cases. But in case of malignancy, it can say the site of pathology but cannot give any information about modification of tissue architecture. In the majority of patients (25) presented with recurrent upper abdominal pain. 10 patients presented with lower abdominal pain. Most of the cases pain were vague. Many patients having other associated complain like fever (15), anorexia (9), vomiting (12), loss of appetite (9) etc. All patients were advised for base level investigation (Hb%, ESR, Plain X-ray of abdomen and X-ray chest). The evidence which has shown in these basic parameters are really exciting specially Hb% and ESR. Haemoglobin level are lower in 32 (80%) patients in this study. Haemoglobin leveldirectly reflects the patient's own body condition. It also proofs the patient's severity of sufferings and duration of sufferings. As patients of this study having chronic & relapsing problems, the haemoglobin level can be correlate with the disease process. High

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ESR shown in 31 (77.57%) patients. It also reflects the pattern and severity of sufferings of the patients. We have established on the basis of tissue diagnosis that majority of patients had malignant and tuberculous disease, these high ESR can easily correlate with the disease process. Though the Hb% and ESR signifies something but we can go to a final diagnosis on the basis of these. Plain X-ray of abdomen were normal in 37 cases (92.5%). Only 3 cases (7.5%) I got the abnormal findings. Chest Xray findings were normal in 36 (90%) cases but abnormal findings like pleural effusion in 4 cases (10%).[11,12,13,14,15] These evidence does not help much for final diagnosis. Right sided pleural effusion patients were later diagnosed as carcinomatosis peritonei. Several articles published related to this topic in different parts of the world. They e shown how laparoscopy can help widely in the diagnosis of disease. It also helps in taking decision what modalities of treatment to be taken.[16,17,18]

In this study, laparoscopic appendicectomy performed in only three patients. Actually, those were done as a part of diagnosis. Stilliaparoscopic appendicectomy does not get much popularity in comparison to laparoscopic colecystectomy. Most of the cases appendicectomy cone by trainee surgeon and cost of open appendicectomy is less in comparison to laparoscopic appendicectomy. In laparoscopic appendicectomy beneficial sides are wound morbidity and hospital stay time.

Limitations of the Study

This was a clinical study in a single centre with small a sample size. So, the study results may not reflect the scenarios of the whole community. Large scale study is needed for better conclusions.

CONCLUSION

Laparoscopy is an effective approach in the management of patients with chronic abdominal pain. Advantages of diagnostic laparoscopy are that it is minimally invasive, safe and efficacious.

Recommendations

This study can serve as a pilot to a much larger research involving multiple centers that can provide a nationwide picture, validate regression models proposed in this study for future use and emphasize points to ensure better management and adherence.

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