ORIGINAL ARTICLES

ROLE OF LAPAROSCOPY IN EVALUATION OF ABDOMINAL PAIN

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ABSTRACT

Objective: To evaluate the diagnostic efficacy of laparoscopy in ill-defined recurrent chronic abdominal pain.
Study Design: Prospective study.
Place and Duration of Study: Surgical department, Military Hospital Rawalpindi, from Jul 2011 to Dec 2013.
Material and Methods: A total of 102 patients who presented to surgical department with chronic recurrent abdominal pain of unknown etiology and underwent diagnostic laparoscopy were included in our study. Patients with acute onset of abdominal pain, hemodynamically unstable, pregnant or those in which diagnosis can be made by radiological techniques were excluded from our study. Patient's demographic data, clinical findings and laparoscopic findings were recorded. Finally data was analyzed by using SPSS version 21.
Results: Out of 110 patients 96 were female while remaining 14 were male. The age range of the patients was 20-70 years with mean age of 50 ± 10 years. The most common site of pain was lower abdomen while mean duration of abdominal pain was 34 weeks. Laparoscopic findings include acute recurrent appendicitis in 32 (29.09%) patients, cholecystitis with biliary sludge in 14 (12.72%), pelvic inflammatory disease in 12 (10.90%), ovarian cyst in 11(10%), adhesions in 10(9.09%), intestinal tuberculosis in 8 (7.27%), mesenteric lymphadenitis in 7 (6.36%), lymphoma in 4 (3.63%), ectopic pregnancy in 3 (2.7%), CA gallbladder in 2 (1.81%), meckels diverticulum in 2 (1.81%), endometriosis in 2 (1.81%) and crohns disease in 1 (0.9%) patients. Mean operative time was 48 min while average hospital stay was 2-3 days. No major complications were noticed.
Conclusion: Laparoscopy in our clinical setup has significant role in diagnosing cases of vague abdominal pain which cannot be diagnosed by routine investigations.

Keywords: Appendicitis, Chronic recurrent abdominal pain, Diagnostic laparoscopy.

INTRODUCTION

Abdominal pain is a frequent problem with which patient presents to surgical department. Chronic abdominal pain accounts for large number of emergency visits which creates a burden on hospital and physician especially chronic abdominal pain of unknown etiology which still dares the diagnostic and therapeutic abilities of the surgeon. In most cases of chronic pain diagnosis can be made by clinical examinations alone or with the help of investigations like ultrasound and CT scan[1]. But about 25% patients present with vague abdominal pain[2] in which cannot be diagnosed by available diagnostic modalities. In case of chronic abdominal pain no specific diagnosis can be made at the end of diagnostic workup in more than 40% of the cases[3]. Similarly about 3.8% of women of reproductive age presented with chronic pelvic pain and it accounts of 10% of visit to gynaecologist[4].

Many organic and functional diseases can cause chronic abdominal pain. From anatomical and clinical point of view chronic abdominal pain can be classified into four categories; definite non-gynecological disease, definite gynecologic disease, non-organic disease but evidence of an effective disorder or no evidence of organic or psychiatric disease[5]. Although we have ruled out many functional and organic diseases in patients

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with chronic abdominal pain these 25% patients still represent as major diagnostic challenge to the surgeons[6].

Ill-defined recurrent abdominal pain is diagnostic dilemma and requires surgeon's attention to a great extent. In many cases of chronic abdominal pain clinical examination and diagnostic modalities like ultrasonography and CT scan are of no use in diagnosing the condition. Under such conditions diagnostic laparoscopy is the only option left. It can directly visualize the peritoneal cavity. Laparoscopy along with biopsy provides better option for diagnosis and hence for treatment.

With the invent of minimal invasive surgery, diagnostic laparoscopy has revolutionized the surgical skills. It has changed the diagnostic and therapeutic approach of surgeons in many abdominal conditions. Diagnostic laparoscopy was introduced for the first time by Kelling in 1901 who performed first peritoneoscopy in dog and called it celioscopy. However first diagnostic laparoscopy in human was performed in 1910 by Swedish internist Jacobaeusc. Diagnostic laparoscopy is now considered as primary approach in many disease processes[7]. In our study we evaluated the diagnostic efficacy of diagnostic laparoscopy in patients with chronic ill-defined abdominal pain.

MATERIAL AND METHODS

This was a prospective study which was conducted at surgical department, Military Hospital Rawalpindi from Jul 2011 to Dec 2013 over a period of 2.5 years. A total of 102 patients who presented to surgical department with chronic recurrent abdominal pain of unknown etiology were included in our study. We defined chronic abdominal pain as pain which was recurrent and having minimum duration of 3 months. Patients with acute onset of abdominal pain, hemodynamically unstable, pregnant, with abdominal malignancy or those in which diagnosis can be made by radiological techniques were excluded from our study.

All the patients were subjected to thorough physical and clinical examination (gynecological examination in females) after taking detailed history. Diagnostic laparoscopy was planned to rule out the cause of pain abdomen. Routine pre-op investigations for fitness of general anesthesia were performed that include blood complete picture, urine analysis, blood urea, serum creatinine, blood sugar, serum albumin, hepatitis B and C, ECG, X-ray chest. Diagnostic laparoscopy was performed under general anesthesia. Biopsy specimens where needed were taken and sent for histopatholgical examination. Patient's demographic data, presenting

Table: Laparoscopic findings of the patients.

		n (%)
1.	Appendicitis	32 (29.09%)
2.	Cholecystitis	14 (12.72%)
3.	Pelvic inflammatory disease	12 (10.09%)
4.	Ovarian cyst	11 (10%)
5.	Adhesions	10 (9.09%)
6.	Intestinal tuberculosis	8 (7.27%)
7.	Mesenteric lymphadenitis	7 (6.36%)
8.	Lymphoma	4 (3.63%)
9.	Ectopic pregnancy	3 (2.7%)
10.	caranome gallbladder	2 (1.81%)
11.	Meckels diverticulum	2 (1.81%)
12.	Endometriosis	2 (1.81%)
13.	Crohns disease	1 (0.9%)
14.	Idiopathic	2 (1.81%)

complaints, clinical findings, laparoscopic findings and data regarding operative time, post-op hospital stay and post-op complications were recorded. All the data were analyzed by using SPSS version 21.

RESULTS

A total of 110 patients were studied out of which 96 were female while remaining 14 were male. Most of the patients were in age range of 20-70 years with mean age of 50 ± 10 years. Most patients (48%) presented with lower abdominal pain while mean duration of abdominal pain was 34 weeks with range of 12-32 weeks. A definitive diagnosis was made in 98.18% patients while in 1.8% patients no identifiable cause of pain was found. Laparoscopic findings include acute recurrent appendicitis in 32 (29.09%) patients, cholecystitis with biliary sludge in 14 (12.72%), pelvic inflammatory disease in 12 (10.90%), ovarian cyst in 11 (10%), adhesions in 10 (9.09%), intestinal tuberculosis in 8 (7.27%), mesenteric lymphadenitis in 7 (6.36%), lymphoma in 4 (3.63%), ectopic pregnancy in 3 (2.7%), CA gallbladder in 2 (1.81%), Meckels diverticulum in 2 (1.81%), endometriosis in 2 (1.81%) and Crohns disease in 1 (0.9%) patients. Mean operative time was 48 min while average hospital stay was 2-3 days. Post-OP complications encountered were bleeding in two cases while wound site infection in six cases (table).

DISCUSSION

In this study 110 patients with chronic abdominal pain were studied. A definitive diagnosis was made in 98% cases which is comparable to data available. In studies performed by Ou et al[8] diagnostic accuracy was 98%. In our study more than half of the patients studied were females. Similarly in study performed by Ahmed et al[9] and Nilesh et al[10] majority of the patients studied were females. In our study acute recurrent appendicitis is leading cause of pain abdomen which is consistent with results of Ahmed et al. In our study acute recurrent appendicitis was found in 29% cases while in study by McCartan et al[11] incidence was 39%.

In this study intestinal TB was diagnosed in 7.2% cases however in another study it was 26.8%[12]. In our study adhesions were diagnosed in 9% patients however in another study the rate was 18.6%[13]. About 2.7% patients undergoing diagnostic laparoscopy were found to have ectopic pregnancy while Gomal et al[4] found 3.6% cases have ectopic pregnancy. Post-op complications encountered were bleeding in two cases while wound site infection in six cases.

Diagnostic laparoscopy thus has modified the management of many diseases by aiding in diagnosis[14]. Laparoscopy is not only confined for diagnostic purpose however it can also be used in the treatment of many abdominal diseases like cholecystitis, appendicitis etc. The scope of laparoscopy is increasing everyday. However there is scarcity of technology and skill in our country. In order to cope with its emerging need we have to overcome scarcity of technology and experienced staff in Pakistan.

CONCLUSION

Laparoscopy in our clinical setup has significant role in diagnosing cases of vague abdominal pain which cannot be diagnosed by routine investigations.

It is simple, safe and provide accurate diagnosis in majority of the cases. However it should be preserved for those cases in which other non-invasive diagnostic modalities fail to make a diagnosis.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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