Laparoscopic Evaluation of Nonspecific Vague Abdominal Pain

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ABSTRACT

Objective — *To determine the diagnostic value of laparoscopy in patients with nonspecific vague abdominal pain.*

Study design — *Descriptive case series*

Place & Duration of study — *Surgical "C" Unit, Department of Surgery, Hayatabad Medical Complex Peshawar, from July 2020 to June 2021.*

Methodology — *Patients with nonspecific vague abdominal pain were admitted for diagnostic laparoscopy. Data were collected and analysed through SPSS version 15. Patients were followed in OPD for three months.*

Results — *A total of 60 patients were included. There were 20 (33.3%) males and 40 (66.7%) females with male to female ratio of 1:2. Age of the patients was from 21 to 65 years with mean 30±6.0 year. Twenty-two (53.3%) patients had umbilical pain followed by right lower quadrant pain (25%) and left lower quadrant pain (10%). Eighteen (30%) patients had appendicular pathology while 15 (25%) had abdominal tuberculosis. Chronic and recurrent cholecystitis was found in 8 (13.3%) cases while 7 (11.7%) had postoperative adhesions and bands. Postoperative complications of the procedure included wound infections (8.3%) and RTI (5%). A definitive diagnosis was established in 56 (93.5%) cases.*

Conclusion — *Diagnostic laparoscopy was found useful in establishing definite diagnosis in patients labeled as having nonspecific vague abdominal pain.*

Key words — *Diagnostic laparoscopy, Nonspecific abdominal pain, Appendicitis, Abdominal tuberculosis.*

INTRODUCTION:

Abdominal pain is a common complaint with which patients present to surgical department. In large number of cases and specially with pain of acute nature, diagnosis is easily made on basis of history and clinical examination along with investigations like ultrasound or CT scan.[1] Out of all acute abdominal emergencies, 25% patients will have nonspecific vague abdominal pain and these cases cannot be diagnosed through available diagnostic modalities.[2]

A chronic or recurrent nonspecific abdominal pain is defined as a condition in which recurrent pain occurred over a period of 2-3 months. Another researcher defined chronic recurrent abdominal pain as a condition that persists for at least three months.[1] In chronic and recurrent cases of abdominal pain, 40% patients remain undiagnosed despite of complete workup.[3] About 3.8% of females present with chronic pelvic pain in their reproductive age and 10% of them visit gynecologists.[4] The etiology of abdominal pain includes organic and functional conditions.[1,5] Chronic and recurrent vague abdominal pain is diagnostic challenge and need close attention. Majority of these cases cannot be diagnosed with clinical examination

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and diagnostic modalities like ultrasound and CT scan.[1]

Laparoscopy is a procedure which allows a surgeon to examine the peritoneal cavity without making large surgical incisions.[6] This modern technique has brought a revolution in the management of various surgical conditions. Diagnostic laparoscopy is now the gold standard for many undiagnosed abdominal pathologies.[6] Diagnostic laparoscopy combined with tissue biopsy for histopathology, is of utmost importance to make diagnosis and plan subsequent treatment. It decreases hospital stay and is cost effective.[7] The aim of this study was to report the outcome of diagnostic laparoscopy for nonspecific vague abdominal pain.

METHODOLOGY:

This descriptive case series was carried out at Department of Surgery Unit C, Hayatabad Medical Complex Peshawar, from July 2020 to June 2021. Patients of either sex and age who presented with nonspecific vague abdominal pain, were included. They were admitted either through emergency or outpatient department. These patients had already been subjected to routine diagnostic investigations including ultrasound and CT scan. However, no definite diagnosis was made. Patients having unstable hemodynamic condition and intra-abdominal malignant disease were excluded. Institution review board approval and informed consent were obtained.

After admission, detailed history and clinical examination were performed. Relevant investigation including full blood count, urine R/E, blood urea, creatinine, random blood sugar, hepatitis virology, albumin level, ECG and chest X-ray were carried out. X-ray abdomen and ultrasound scan were also repeated. All the patients were subjected to diagnostic laparoscopy to rule out the cause of vague abdominal pain. Preoperatively a single IV dose of 2 gram cefaparazone plus sulbactum was given. Patients were informed about the possible conversion of laparoscopy to open surgery, if required. Diagnostic laparoscopy was performed under general anesthesia.

During operation, the camera ports was introduced through periumbilical incision with open technique followed by insertion of additional ports where therapeutic intervention was required. A predesigned form was used to record socio-demographic data of the patients along with clinical findings, investigations, laparoscopic finding, diagnosis, operative time, postoperative hospital stay and postoperative complications. Biopsy specimen where needed, was taken, and sent for histopathology to confirm the diagnosis. Data were analyzed using SPSS version 15. Descriptive statistics like frequency, percentage, mean etc. were calculated.

RESULTS:

A total of 60 patients were included in the study. There were 40 (66.7%) females and 20 (33.3%) males. The male female ratio was 1:2. The age of the patients was from 21 to 65 years with the mean age of 30±6.0 year. Twenty-five (41.7%) patients were admitted through OPD and thirty-five (58.3%) to emergency department. The common clinical presentation was pain in umbilical region in thirty-two (53.3%) patients. Details are given in table I.

Preoperative ultrasound scan reveal and dilated bowel loops in thirty-five (58.3%) cases and eighteen (30%) patients had mild free fluid in the pelvic cavity. Three (5%) patients had acalculus cholecystitis and 5 (8.3%) had fibrotic gall bladder with small stones which did not seem to be the cause of nonspecific chronic abdominal pain before the procedure. CT scan was performed in all cases which revealed inflamed appendix in 12 (20%) patients, dilated bowel loops in 38 (60.3%) cases, mesenteric lymphadenopathy in 9 (15%), enlarged para aortic lymph nodes in 3 (5%) and pelvic pathology in 2 (3.3%) cases. Finding recorded during laparoscopy are given in table II.

Subacute and recurrent appendicitis was the most common diagnosis made in eighteen (30%) cases followed abdominal tuberculosis in fifteen (25%) patients. Final diagnosis was made in fifty six (93.5%) patients. Details are given in table III.

The maximum duration of laparoscopy was 85 minutes and average operative time was 45 minutes. Postoperative complications included wound infection in five (8.3%) and RTI in three (5%) patients. Patients were followed up in OPD. Follow up visits were scheduled at tenth day, one month, two months and three months after surgery. Forty (66.6%) patients completed their follow up visits. Ten (33.3%) patients were lost during the follow up. These 10 (33.3%) patients came to OPD for 2-3 visits but did not complete the recommended follow up schedule of 4 visits. During these 2-3 visits, they were symptom free. Out of 56 diagnosed cases, 51 (91.07%) had complete relief of pain following either surgery or medical treatment. Remaining 5 (8.9%) patients (tuberculosis n=3, lymphoma n=2), had off and on recurrent abdominal pain even after medical treatment.

Table I: Site of Pain (n=60)

Site of Pain	Male	Female	Total
Umbilicus	10 (16.7%)	22 (36.6%)	32 (53.3%)
Right Lower quadrant	5 (8.3%)	10 (16.7%)	15 (25%)
Left lower quadrant	2 (3.3%)	4 (6.7%)	6 (10%)
Right upper quadrant	2 (3.3%)	3 (5%)	5 (8.3%)
Left upper quadrant	1 (1.7%)	1 (1.7%)	2 (3.4%)
Total	20 (33.3%)	40 (66.7%)	60 (100%)

Table II: Laparoscopic Findings (n=60)

Findings	No of Cases	Percentage
Inflamed appendix	13	21.6%
Small fibrous appendix	05	8.3%
Adhesions with enlarged mesenteric lymph nodes	06	10%
Enlarged mesenteric lymph nodes	05	8.3%
Small intestine stricture with enlarged mesenteric lymph nodes	04	6.7%
Inflamed/ Fibrotic gallbladder	08	13.3%
Postoperative fibrous bands and adhesions	07	11.7%
Ovarian cysts, inflamed uterus, and fallopian tubes with fluid in pelvic cavity	03	5.0%
Enlarged para-aortic lymph nodes	03	5.0%
Meckel's diverticulum	01	1.7%
Omentum stuck in the deep inguinal ring	01	1.7%
No pathology found	04	6.6%
Total	60	100%

Table III: Final Diagnosis (n=60)

Diagnosis	No of Cases	Percentage
Subacute / Recurrent Appendicitis	18	30%
Abdominal Tuberculosis	15	25%
Chronic/ Recurrent Cholecystitis	08	13.3%
Postoperative Adhesions	07	11.7%
PID and Adnexal Cyst	03	5%
Lymphoma	03	5%
Meckel's Diverticulum	01	1.7%
Inguinal Hernia	01	1.7%
No Pathology found	04	6.6%
Total	60	100%

DISCUSSION:

Laparoscopy plays an important role in the diagnosis of multiple intra-abdominal pathologies.[7] It has revolutionized the management of intra-abdominal diseases. Diagnostic difficulties in young female patients are reported who present with lower abdominal pain with and inconsistent features of appendicitis.[8] Diagnostic laparoscopy seems to be a better option in this age group to evaluate the nonspecific lower abdominal pain. In this series 66.7% females presented with nonspecific

vague abdominal pain. Ou CS et al performed diagnostic laparoscopy in 19.7% females.[9] Ali SAS had 60% female in their series.[5] Similarly Tulaskar N et al had majority of female patients in their study.[10]

In this study, 53 percent patients had pain in the umbilical region followed by 25 percent, in the right lower quadrant. These figures are comparable with other series.[11] We had 30% cases of subacute and chronic appendicitis which is comparable to 29.9% recorded by others.[1,5] McCartan et al reported 39% appendicular pathology.[12] We found 25% cases of abdominal tuberculosis. Safarpor F et al reported 9.6% cases of abdominal tuberculosis in a study of 290 cases.[13] In the current series 3.3% cases of chronic/recurrent cholecystitis were diagnosed. This figure is lower than reported by other researchers.[1,11,] In literature the reported figures of postoperative adhesions range from 2%, to as high as 43.3%.[11,15,16] This was different from our experience. Postoperative complications included minor wound infection and respiratory tract infection. These values are comparable to a national study.[1] In the literature, the success rate of making diagnosis varies from 83% to 98%.[,5,11] This is comparable to our success rate of 93.5%.

CONCLUSION:

Diagnostic laparoscopy has a significant role in patients presenting with nonspecific vague and recurrent abdominal pain which cannot be diagnosed with routine investigations.

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