

# Role of Diagnostic Laparoscopy in Recurrent Vague Abdominal Pain

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## ABSTRACT

**Objective** To determine the role of laparoscopy in the management of recurrent vague abdominal pain.

**Study design** Descriptive case series.

**Place & Duration of study** Surgical Unit I, Civil Hospital Karachi, from January 2005 to June 2007.

**Methodology** All patients who presented with vague recurrent abdominal pain and underwent laparoscopic surgery to make a definitive diagnosis were included in the study.

**Results** A total of 60 patients were managed. There were 36 (60%) females and 24 (40%) males. The mean age was 26 year (range 18-58 year). The common mode of admission was out patient department (73.3%).

Fourteen (23.3%) patients presented with vague abdominal pain in lower abdomen, followed by 12 (20%) with right lower abdominal pain and 12 (20%) with central pain radiating to right lower abdomen. Diagnosis was established in 56 (93.3%) patients. In 4 (6.6%) patients no pathology was found. The most common diagnosis was inflamed appendix in 18 (30%) patients followed by abdominal tuberculosis in 16 (26.6%) patients. Most (36.6%) of the patients stayed in hospital for 24 hours. There was no readmission and no major postoperative complications.

**Conclusions** Diagnostic laparoscopy in vague abdominal pain provided a higher diagnostic accuracy and improved treatment. It may be considered as first line operative investigation for undiagnosed vague abdominal pain.

**Key words** Vague abdominal pain, Laparoscopy, Abdomen.

## INTRODUCTION:

Abdominal pain is a common complaint with which patients present to emergency department (ED). Out of these 25% patients have vague abdominal pain.<sup>1</sup> In chronic abdominal pain more than 40% of the patients have no specific etiological diagnosis made at the end of diagnostic workup.<sup>2</sup> Many organic and functional diseases can cause abdominal pain.

Laparoscopic surgery is a method in which the peritoneal cavity can be visualised without making

large surgical incisions.<sup>3</sup> It has modified the management of many surgical diseases.<sup>4</sup> Diagnostic laparoscopy is now accepted as the preferred primary approach to many disease processes.<sup>5</sup> Incorporation of diagnostic laparoscopy along with biopsy, may improve the management of vague abdominal pain, by making a definite diagnosis, access for immediate treatment, reducing hospital stay and readmission rates and eventually having cost benefits.<sup>6-9</sup> A normal diagnostic laparoscopy may allow the surgeon to discharge patients early after giving symptomatic treatment.

Minimal local data is available and it is not proved exactly if at all it is helpful. This study was conducted to highlight outcome of laparoscopy in patients with vague abdominal pain.

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**METHODOLOGY:**

A case series was carried out at Surgical unit: I, Civil Hospital, Karachi from January 2005 to June 2007. All patients of either sex and age, who presented with recurrent vague abdominal pain admitted through emergency or outpatient department in whom routine diagnostic investigations failed to make a definite diagnosis, were included. They were subjected to diagnostic laparoscopy. After taking history and clinical examination, relevant blood investigations, x-ray abdomen and ultrasound were performed. A proforma was used to record the socio-demographic data of the patients along with clinical findings, investigations, laparoscopic findings, diagnosis, and complications. The time for hospital stay was considered as time from operative day inclusive of postoperative period until discharge.

A single antibiotic for prophylaxis was given preoperatively. Patients were informed about the possibility of conversion of laparoscopic surgery to an open procedure depending on peroperative findings. During operation the camera port was introduced through periumbilical incision with open technique, followed by insertion of additional ports where therapeutic intervention was required. The findings on laparoscopy were recorded. Biopsy specimen if obtained was sent for histopathology to confirm the diagnosis.

Outcome measures included diagnosis made, duration of surgery, duration of hospital stay and postoperative complications. Data was analysed by using SPSS Version 15. Descriptive statistics like frequency, percentage, mean etc. were calculated.

**RESULTS:**

The common mode of admission was through outpatient department (n=44 - 73.3%). The common clinical presentations were vague abdominal pain in the lower abdomen in 14 (23.3%) patients, with right lower abdominal pain in 12 (20%) and 12 (20%) with central pain radiating to right lower abdomen. (table I).

In 34 (56.7%) patients abdominal ultrasound was normal. The most common finding noted on ultrasound abdomen and pelvis was distended bowel loops in right iliac fossa. Benign hypertrophy of prostate was reported in two patients. Ultrasound pelvis in 32 of 36 females was normal. In the remaining patients minimal free fluid in cul de sac was reported.

Laparoscopic results showed inflamed appendix, enlarged mesenteric lymph nodes, omentum at deep ring, fluid in cul de sac, uterine serosal polyps and ovarian cyst (table II). Final diagnosis was made in 56 (93.3%) patients. In 4 patients (6.6%) no diagnosis was established. All laparoscopic findings were confirmed by histopathology. Inflamed appendix was the most common diagnosis made in 18 (30%) patients (table III).

The maximum duration of laparoscopic surgery was 90 minutes. Among the postoperative complications 04 (6.6%) patients developed wound infection, 04 (6.6%) had fever and chest infection, 02 (3.3%) with fever alone.

Follow up was done on weekly basis for two months, then on monthly basis for four months. No major

**Table I: Site of Abdominal Pain**

Site of Abdominal Pain	No of Patients	Percentage (%)
Right iliac fossa, Hypogastrium, Left iliac fossa	14	23.3
Umbilical region then whole abdomen	12	20.0
Right iliac fossa	12	20.0
Right lumbar and Right iliac fossa	6	10.0
Left iliac fossa	4	6.7
Hypogastrium	4	6.7
Right iliac fossa and Hypogastrium	2	3.3
Umbilical then Right iliac fossa	2	3.3
Right hypochondrium and Left iliac fossa	2	3.3
Umbilical region	2	3.3
Total	60	100.0

Table II: Findings on Laparoscopy		
Finding on Laparoscopy	No of Patients	Percentage %
Inflamed appendix	10	16.6
Fibrous bands ( 02 congenital, 06 postoperative)	8	13.3
Small fibrous appendix	8	13.3
Enlarged mesenteric lymph nodes	6	10.0
Adhesions in ileal loops and enlarged mesenteric lymph nodes	4	6.6
Granuloma with enlarged mesenteric lymph nodes	4	6.6
Ovarian cyst, bulky inflamed uterus and fallopian tubes, fluid in cul de sac	4	6.6
Bulky inflamed uterus, fallopian tube and fluid cul de sac / Serosal polyps, ovarian cyst	4	6.6
Enlarged para aortic lymph nodes	2	3.3
Omentum at deep ring	2	3.3
Fibrous band, bulky inflamed uterus and fallopian tubes	2	3.3
Stricture small bowel with enlarged mesenteric lymph nodes	2	3.3
No pathology found	4	6.6
Total	60	100.0

complications were noted. No patient came back with complaint of abdominal pain.

Table III: Final Diagnosis		
Diagnosis	n	%
Inflamed appendix	18	30.0
Abdominal tuberculosis	16	26.6
Pelvic inflammatory disease	10	16.6
Postoperative adhesions	6	10.0
Inguinal hernia	2	3.3
Congenital bands	2	3.3
Non Hodgkin's lymphoma	2	3.3

**DISCUSSION:**

Vague abdominal pain is a diagnostic dilemma. In many cases despite all the routine laboratory investigations and ultrasonography, cases remain undiagnosed. The abdominal disease is obscure and patients usually undergo exploratory laparotomy for definitive diagnosis. In such conditions diagnostic laparoscopy is a better choice. It can directly visualize the abdominal cavity, provide adequate material for histopathological assessment, and in good hands is an excellent therapeutic tool with cosmetic acceptable scars.

Literature review shows various outcomes of diagnostic laparoscopy to support its use in recurrent vague abdominal pain. In some studies more than 90% accuracy has been reported.<sup>10,11</sup> Some studies could not achieve this high rate of authenticity.<sup>2,12</sup> In these studies definitive diagnosis was made in 83.3% and 88.75% respectively. However in a study from Finland, diagnostic accuracy was only 68%.<sup>13</sup> The overall success in present study was 93.9% which validates use of this diagnostic modality.

A study by Lippert V et al showed that diagnostic difficulties are more in young females with lower abdominal pain and inconsistent features of appendicitis.<sup>14</sup> Diagnostic laparoscopy seems to be a better option to evaluate vague lower abdominal pain in this gender class. This is similar to the study carried by Ou CS et al in which diagnostic laparoscopy provided a definitive diagnosis in 76 of the 77 cases (98.7%).<sup>15</sup> In our study more than half (36 out of 60) of patients were females. This strengthens the observation that vague abdominal pain was common diagnostic problem in this group. In our study laparoscopy provided a definitive diagnosis in 32 (88.8%) out of 36 female patients.

In a study by Reem Al-Bareeq inflamed appendix found in 73% cases whereas in another study it was found in 39% patients.<sup>16,17</sup> These were higher as compared to our study in which inflamed appendix was found in 30% (n=18) cases. Abdominal

tuberculosis was found in 22 (26.8%) patients in a study which is similar to our results.<sup>18</sup>

Two male patients in present study presented with the complaint of right groin pain which radiated to right iliac fossa. On diagnostic laparoscopy there was omentum at deep ring. Hernia repair was done in both the patients by a separate groin incision. This is similar to a study from Egypt.<sup>2</sup>

In our study there were some minor postoperative complications noted including wound infection and fever while laparoscopy failed to make any diagnosis in four patients. Two were unmarried females of child bearing age whereas the other two had history of cesarean section with raised ESR and normal barium studies. All of these patients attended the follow up clinic for six weeks and then were lost to follow up.

### CONCLUSIONS:

Laparoscopy provided diagnosis in large number of patients. It is a good tool for diagnosis and therapeutic surgery. It may be considered as first line operative investigation for undiagnosed recurrent vague abdominal pain.

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