e-ISSN: 0975-1556, p-ISSN:2820-2643

Available online on www.ijpcr.com

International Journal of Pharmaceutical and Clinical Research 2024; 16(2); 1480-1486

Original Research Article

To Evaluate the Role of Early Laparoscopy in Diagnosis of Acute Abdominal Pain in Tertiary Medical College and Hospital

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Received: 25-11-2023 / Revised: 23-12-2023 / Accepted: 26-01-2024

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Conflict of interest: Nil

Abstract:

Background: The majority of general surgery workload is comprised of emergency admissions for acute non-specific abdominal pain. The most popular approach previously was hospitalization followed by active clinical observation; however, this approach carries a risk of problems for patients, such as infertility and peritonitis, as well as needless laparotomy. Aside from the financial advantages, laparoscopy integration has enhanced the handling of emergency admissions. A comparison between early laparoscopy and clinical observation in cases of acute abdominal pain was done as part of the study to assess the role of early laparoscopy in the management of acute non-specific abdominal pain.

Methods: Fifty patients with normal baseline tests and acute nonspecific abdominal pain were included in the study. For early laparoscopy (Group I) and clinical observation (Group II), patients were divided up at random. Within eighteen hours, an early laparoscopy was performed to confirm the diagnosis, and if possible, simultaneous intervention was carried out. Interventions, empirical treatment, and serial investigations were used to manage the clinical observation group. Records included postoperative hospital stay, complications associated to laparoscopy, hospital readmission, ultimate diagnosis, and response rate.

Results: The M:F ratio was 1:2.1, and the average age at presentation was 30.5±12.9 years. Twenty to forty year olds made up 62% of the cases. The three most frequent presenting symptoms were vomiting, nausea, and discomfort. Appendicitis (32%), bands and adhesions (20%), and gynecological pathology (24%), were the results of the laparoscopic examination. Group I exhibited a lower average radiation exposure ($p<0.01$), a lower VAS score on days 1, 3, 5, and 7 ($p<0.01$), a lower average necessity for injectable antibiotics ($p<0.01$), a lower average requirement for injectable analgesics ($p<0.01$), a lower NBM status ($p<0.01$), and a shorter hospital stay ($p<0.01$). At three months (48%), six months (16%), and twelve months (8%), Group II had a higher readmission rate and recurrence rate. In 92% of cases, the final diagnosis was made.

Conclusion: In the therapy of acute nonspecific abdominal pain, an early laparoscopy is helpful. It reduces the frequency of needless laparotomies, allows for early patient release, and provides substantially high diagnostic accuracy.

Keywords: Early Laparoscopy, Acute Abdominal Pain, Non Specific.

Introduction

Between 1% and 6% of hospital admissions and emergency room visits are related to acute abdominal pain. Assessment of this complaint can be made simpler, even though it is difficult, with meticulous history taking, careful symptom evaluation, complete physical examination, and wise use of laboratory tests. All diagnostic instruments have not always resolved the confusion in certain circumstances, nevertheless. [1,2]

Acute abdominal pain that lasts fewer than seven days and for which a diagnosis cannot be made based on examination and baseline examinations is known as acute nonspecific abdominal pain, or NSAP. Surgeons are compelled to make a swift decision regarding whether to do surgery right away, treat the patient conservatively, or monitor them. It is thought to be the cause of 13% to 40% of emergency surgical admissions, making it a serious issue in general surgery. [3,4]

Even with the advancements in diagnostic technology such as computed tomography and ultrasonography, situations involving acute abdominal conditions still arise where a surgeon must open the belly without a definitive diagnosis. These situations put a strain on doctors' offices and hospitals. Pelvic inflammatory disease (PID), appendicitis, ectopic

pregnancy, torsion of the adnexa, and other conditions can all lead to NSAP. [1,3]

Traditionally, the most common approach to clinical therapy of these individuals has been hospitalization followed by active clinical monitoring, or "waits and watch." This method's clinical diagnosis predictive value ranges from 68% to 92%. While there is a chance of consequences such as bleeding, infertility, or peritonitis with this approach, there is also a chance that an unnecessary laparotomy will be done. Abdominal ultrasound (US), abdominal computed tomography (CT) scan, early laparoscopy, and computer-aided diagnostic questionnaires have all been mentioned as possible ways to improve diagnosis. [3]

The best method for bridging the gap between major surgical investigation and clinical evaluation is laparoscopy. It is a useful diagnostic tool because of its advantages in terms of safety, lower rates of morbidity and mortality, less discomfort following surgery, and shorter hospital stays. [5,6]

Acute abdominal pain has a diagnosis rate of 99%; chronic pain syndrome is at 70%; focal liver disorders are at 95%; abdominal masses are at 95%; ascites is at 95%; and retroperitoneal disease is at 80%. In cases of abdominal trauma, laparoscopy has a 91% diagnostic accuracy rate, and 54% of patients do not require a laparotomy. When combined with a biopsy, a diagnostic laparoscopy can help manage ambiguous stomach pain by providing a clear diagnosis, facilitating prompt treatment; lowering readmission and hospital stay rates, and finally saving money. [7,8]

Two randomized controlled trials (RCTs) have recently assessed the role of early laparoscopy in the management of non-surgical abdominal pain (NSAP) in comparison with the conventional "wait and watch" approach. In a rural tertiary care facility, this study was conducted to investigate the role of laparoscopy in cases with acute abdominal pain [3,9,10].

Material and Methods

From October 2022 to September 2023, 50 patients with severe abdominal pain at Department of Surgery, Jawaharlal Nehru Medical College and Hospital, Bhagalpur, Bihar, were included in the present study.

All patients, regardless of gender, between the ages of 0 - 60, experiencing acute abdominal pain for which standard hematological, biochemical, and radiological examinations were unable to provide a diagnosis, and who arrived at the hospital within seven days of the onset of symptoms, met the inclusion criteria. Patients with acute or chronic abdominal pain, pregnancy, a diagnosis of malignancy or chronic disorders, blood dyscrasias, severe coagulopathy, contraindications to pneumoperitoneum (e.g., co-morbid illness such as COPD or IHD), patients with features of peritonitis, patients with psychiatric disorders, excessive abdominal distension, and patients where a precise diagnosis following baseline investigations were reached were the exclusion criteria.

Along with a thorough medical history, a general and abdominal examination, and other information, the patient's general bio data was documented. On days 1, 3, 5, and 7, the duration and level of the pain were assessed using a "visual analogue scale." (9–10): severe, (5-8): moderate, and (1-4): mild.

In order to rule out any hidden causes of acute abdominal pain, a baseline haematological, biochemical, and radiographic evaluation was completed at the time of admission.

All patients had chest X-rays, erect abdominal X-rays, and abdominal ultrasounds. It was noted how often these tests were necessary. Some individuals who had a clinical suspicion of a certain disease underwent a CT scan.

The following factors were taken into account when estimating the mean radiation dose (mSv): 0.1 mSv for a plain X-ray thorax, 2 mSv for a plain X-ray abdomen, 20 mSv for a CT scan with contrast, and 10 mSv for a CT scan without dye.

All patients with normal findings, fulfilling inclusion criteria were then, randomly arranged into two different groups:

1. Early Laparoscopy Group-I (EDL)
2. Active Clinical Observation Group-II (OBS)

The patients were monitored until a conclusive diagnosis could be determined, or until their condition and stomach pain subsided and they were released from the hospital.

The data was entered into a spreadsheet (Excel, Microsoft corp.) and then transferred to statistical software, EPI6 Info for data analysis. Descriptive statistics were used for the analysis.

Results

30.5±12.9 years was the average age at presentation (males: 27.87±14.7 years, females: 31.76±12.1 years, $p>0.05$). The mean age of presentation was 32.4±10.9 years (76% females, 24% males) in Group I (diagnostic laparoscopy), and 28.7±14.7 years (60% females, 40% males) in Group II (observation) ($p>0.05$).

Young adults (20–40 years old) made up the majority of patients (62%) with undiagnosed acute abdominal discomfort, with women making up the majority of patients (68%). [Table 1].

Table 1: Age and Sex distribution among the patients in Group I (EDL) and Group II (OBS)

Age Group	Group I (EDL) N=25(%)		Group II (OBS) N=25(%)		N=50 (%)
	Male	Female	Male	Female	
0-10yrs	0(0.0)	0(0.0)	1(2.0)	1(2.0)	2 (4.0)
11-20yrs	2(4.0)	1(2.0)	2(4.0)	2(4.0)	7 (14.0)
21-30yrs	2(4.0)	7(14.0)	4(8.0)	8(16.0)	21 (42.0)
31-40yrs	1(2.0)	7(14.0)	1(2.0)	1(2.0)	10 (20.0)
41-50yrs	1(2.0)	2(4.0)	1(2.0)	1(2.0)	5 (10.0)
51-60yrs	0(0.0)	2(4.0)	1(2.0)	2(4.0)	5 (10.0)
Total	6(12.0)	19(38.0)	10(20.0)	15(30.0)	50 (100)

Of the patients, 66% showed up between 6 and 24 hours after the start of their symptoms, with 44% showing up in less than 12 hours. Twenty percent of cases in group I (EDL) had the earliest hospital presentation (less than six hours), while 12.0% of cases in group II (OBS) presented relatively late (between five and seven days) ($p<0.01$).

The majority of patients (42%), followed by pain in the umbilical area (24%) and right iliac fossa (14%), first reported having nonspecific stomach pain. Other than abdominal discomfort, nausea (84%), followed by vomiting (80%), was the most prevalent presenting symptom. Only 8% of patients reported having chills and rigors, despite the fact that 72% of patients had fever. Another symptom that was statistically significant was loss of appetite (88% EDL versus 44% OBS, $p < 0.01$).

Sixty-four percent of patients had hypotension (BP < 90 mm Hg), whereas eighty-six percent of patients had tachycardia (pulse > 100 beats per minute). All patients had some degree of abdominal soreness; 58% had localized tenderness, 6% had significant abdominal distension, and 48% had rebound tenderness. There was no guarding or rigidity among the patients. Both groups showed leucocytosis (group I: 11340±2186.89 cells/mm3, group II: 14716±2377.27 cells/mm3).

In Group II (OBS), 84% of patients needed follow-up X-rays (once, twice, or thrice) due to ambiguous diagnoses, and 16% of patients even needed more than three X-rays. In Group I (EDL), only 12% of patients had follow-up X-rays beyond the original one. When it came to several serial X-rays performed either to determine a diagnosis or create a management plan, Group II (OBS) was exposed to greater radiation ($p<0.01$). [Table 2] In both groups, the initial USG abdomen was performed in 100% of patients. Just 12% of cases in group I (EDL) required follow-up USG abdomen (once, twice, or three times), but 100% of cases in group II (OBS) underwent follow-up ultrasonography abdomen (>3 times) ($p<0.01$). [Table 3].

In group I, only 40% of patients needed a CT scan before a laparoscopy to confirm their diagnosis (EDL). Sixty percent of instances did not feel the need for a CT scan because laparoscopy was an option. On the other hand, all patients (100%) in group II (OBS) got CT scanning ($p<0.01$), suggesting that this group experienced higher expenses and radiation exposure. [Table 2] Pain was measured using the Visual Analogue Score for patients in groups I (EDL) and II (OBS). Day 1 saw the highest mean pain score for both groups, with Group I (EDL) experiencing less pain than Group II (OBS) (4.96 ±0.73, EDL vs. 8.96±0.68, OBS). The "OBS" group had a mean pain score of 2.84±0.75) on day 7, which was significantly higher than the "EDL" group's mean pain score of 0.36±0.49 ($p<0.01$). [Table-3]

Table 2: Radiological assessment X-Ray chest, abdomen and USG abdomen

Parameters	Variables	Group I (EDL) Total=25(%)	Group II (OBS) Total=25 (%)
X-ray Abdomen	Initial X-ray	22 (88.0)	0 (0.0)
	1-3 X-ray	3 (12.0)	21 (84.0)
	>3 X-ray	0 (0.0)	4 (16.0)
USG Frequency	1	22 (88%)	0 (0%)
	1-3 time	3 (12%)	0 (0%)
	>3 time	0 (0%)	25 (100%)
USG Finding	Absent	11(44%)	25 (100%)
	Organomegally	0 (0%)	0 (0%)
	Free Fluid	5 (20%)	0 (0%)
	Lymphadenopathy	4 (16%)	0 (0%)
	Dilated Gut Loops	5 (20%)	0 (0%)
	Lump	0 (0%)	0 (0%)
CT Abdomen		10 (40%)	25 (100%)

Table 3: Assessment of pain-Visual Analogue Score (VAS) among patients of Group I (EDL) and Group II (OBS)

Group	Group I (EDL)		Group II (OBS)		t value	df	P value
	Mean	SD	Mean	SD			
Day1	4.96	0.73	8.96	0.68	-20.0	48	0.00**
Day3	2.92	0.76	5.00	0.76	-9.66	48	0.00**
Day5	1.44	0.65	5.92	0.70	-23.40	48	0.00**
Day7	0.36	0.49	2.84	0.75	-13.89	48	0.00**

Compared to none in Group II (OBS), 36% of patients in Group I (EDL) required blood or colloid transfusions. The early diagnostic laparoscopy was conducted on average 11.28±4.35 hours after admission, and the early laparoscopy took 46.76±29.74 minutes on average.

EDL had a 100% success rate in pathology detection. Appendicitis was the most frequently found disease (32%), followed by adhesion bands without prior surgery (20%).

Other prevalent diseases were PID (8%) and ovarian torsion (12%). Following a routine laparoscopy, two patients were diagnosed with generalized abdominal pain. Intussusception, hemorrhagic ovarian cyst, meckel's diverticulum, partial intestinal obstruction, and post-cholecystectomy syndrome were among the least prevalent diseases, each with only one patient being affected. [Table 4] Treatment procedures in the early laparoscopic group included wedge resection and anastamosis for meckel's diverticulum (8%), excision of residual GB stump (4%), multiple puncture for ovarian cyst (4%) and enterotomy for phytobezoar (4%). Appendectomy (32%) (28% laparoscopic, 4% open), band adhesionolysis (20%), oopherectomy for ovarian torsion (12%), fluid aspiration, biopsy, and methrogyl flush for PID (8%). [Table 4]

Table 4: Pathology detected on EDL in Group I

Pathology	Group I (EDL) N (%)	Intervention Performed	Group I (EDL) N (%)
Appendecitis	8(32.0)	Appendectomy	8(32.0)
Post Cholecystectomy Syndrome	1(4.0)	Excision of residual GB stump	1(4.0)
Partial Intestinal Obstruction	1(4.0)	Enterotomy	1(4.0)
Meckels Diverticulum	1(4.0)	Resection and Anastomosis	1(4.0)
Ovarian Cyst	1(4.0)	Multiple Puncture	1(4.0)
Torsion of Ovary	3(12.0)	Oopherectomy	3(12.0)
PID	2(8.0)	Biopsy with Metrogyl flush	2(8.0)
NSAP	2(8.0)	Normal Laparoscopy	2(8.0)
Band with no previous surgery	5(20.0)	Division of Band	5(20.0)
Intussusception	1(4.0)	Resection and Anastomosis	1(4.0)

Less injectable antibiotic (mean period 3.48±1.50 days) and less injectable analgesic (mean period: 3.32±3.04 days, group I vs. 6.08±3.12, group II) were given to patients in group I (EDL) compared to patients in group II (OBS) (mean period 5.12±1.72 days, p<0.001). Group I (EDL) patients received enteral feeding earlier than group II (OBS) patients (NBM status: 36.24±47.22 hours, group I vs. 90.76 ±54.54 hours, group II, p<0.001). Group II (OBS) experienced a longer hospital stay (7.68±3.35 days, group II vs. 4.52±3.10 days, group I, p<0.001) than group I (EDL). [Table-5]

Table 5: Treatment offered in Group I (EDL) and Group II (OBS)

Group	Group I (EDL)		Group II (OBS)		t value	df	P value
	Mean	SD	Mean	SD			
Injectable Antibiotic (in days)	3.48	1.50	5.12	1.72	-3.59	48	0.00**
Injectable Analgesic (in days)	3.32	3.04	6.08	3.12	-3.17	48	0.00**
NBM Status (in hours)	36.24	47.22	90.76	54.54	-3.78	48	0.00**
Hospital Stay (in days)	4.52	3.10	7.68	3.35	-3.46	48	0.00**

Early laparoscopic intervention in Group I patients resulted in some problems despite early diagnosis and management of abdominal pain; scar pain accounted for 16% of cases, followed by bleeding (8%) and wound infection (4%). At three, six, and twelve months, group II (OBS) experienced a greater return of symptoms. The highest rate of recurrence (48%) was observed in 3 months, with 16% of patients experiencing it in 6 months and 8% in 1 year. In contrast, group I (EDL) showed 4% of patients experiencing recurrences each. In group II, readmissions were common (OBS). While only 4%

of patients in group I (EDL) were readmitted within 6 months, 32% of readmissions were recorded after 3 months and 16% within 6 months. [Table 6] A final diagnosis was obtained by 92% of Group I (EDL) versus 24% of Group II (OBS) ($p<0.01$). In Group I (EDL), 88% of patients reacted to treatment, whereas 52% of patients in Group II (OBS) did the same ($p<0.01$). [Table 6]

Table 6: Response to treatment in patients in Group I (EDL) and Group II (OBS)

Variable		Group I (EDL)	Group II (OBS)	Chi-Square value	P value
Final diagnosis achieved		23 (92%)	6 (24%)	9.97	0.00**
Radiation exposure		Less	More		
Recurrence	3 months (%)	01 (4%)	12 (48%)	1.48	0.48
	6 months (%)	01 (4%)	04 (16%)		
	12 months(%)	01 (4%)	02 (8%)		
Readmission	3 months (%)	00 (0%)	08 (32%)	2.14	0.34
	6 months (%)	01 (4%)	04 (16%)		
	12 months(%)	00 (0%)	00 (0%)		
Response to Treatment		22(88.0)	13(52.0)	7.71	0.00**

Discussion

Uncertain stomach pain presents a diagnostic challenge. Since the abdominal ailment is unclear, patients typically require an exploratory laparotomy to make a conclusive diagnosis. Postponing surgery can lead to higher rates of morbidity and longer hospital stays. [4-6,11]

In cases where a definitive clinical diagnosis cannot be made, diagnostic laparoscopy can be helpful. By detecting diseases that can be properly managed without surgery by laparoscopy, an avoidable burden of non-therapeutic laparotomies is avoided. [12–14]

When a woman of childbearing age experiences tubo-ovarian irregularity, which mimics acute appendicitis, laparoscopy is especially helpful. The total rate of needless appendices removed without a laparoscopy is significant (39% for women and 15% for males). Many individuals with NSAP often have bitter complaints of ongoing symptoms and resistance to being released from the hospital without a "diagnosis." These characteristics, along with a surgeon's innate desire to make sure nothing major is missed, lead to an extended hospital stay for this patient population. [15–19]

The majority of people with acute nonspecific abdominal pain are young, productive adults (mean age 31 years, 20–40 years), and any undiscovered illness process affecting this age group can have negative social and economic effects on dependent family members. In the current study, the average age of presentation was 30.5±12.9 years. Yehia MA et al. [20] and Al-Bareeq R et al. [21] reported similar outcomes (mean 31.3 years; 13 – 62 years and 31 years; 16 – 62 years, respectively).

The current study (M:F = 1:2.13) and those by Valpen GCV et al [4], Yehia MA et al [20], and Ilce Z et al [22] (1:2.5, 1:2.07, and 1:2.5, respectively) showed a larger female preponderance. The majority of cases of acute nonspecific abdominal pain were in women, suggesting that the female reproductive pelvic organs play an additional role in the production of pain that goes undetected.

The majority of patients (42%), had umbilical pain (24%), and had right iliac fossa discomfort (14%), but the incidence of right lower quadrant pain (33.3% and 87.5%, respectively) was higher, according to studies by Ali SAS et al [23] and Valpen GCV et al [4]. The foregoing discordance may be explained by the fact that a patient who first presents with pain referred to the umbilical region may not later experience pain in the right lower quadrant if prompt management and antibiotics are administered.

When dealing with acute, nonspecific abdominal discomfort, symptoms including nausea, vomiting, fever, and appetite loss are frequent and should be treated symptomatically until a more conclusive diagnosis can be made. While Al-Bareeq R et al [21] noted loss of appetite (48%) as the second most prevalent symptom after pain coupled with vomiting (34%) and fever (11%), Yehia MA et al [20] reported nausea and vomiting in 55% of patients. While not always present, localizing symptoms such as rebound pain (48%) and localized soreness (58%) aid in clinical diagnosis, patient progress evaluation, and the early identification of surgical intervention needs.

The extra benefit of laparoscopy as a diagnostic tool is that it is less expensive and exposes the patient to no radiation. Compared to Group II (OBS), Group I (EDL) had fewer follow-up X-rays (either once, twice, or three times) and had lower CT exposure (40% group I vs. 100% group II, $p<0.01$). There was also a decrease in repeat USG abdomen (once, twice, or three times) in group I (EDL) (12%, EDL vs. 100% OBS, $p<0.001$). Additionally, less mean radiation exposure was found in the LAP group (1.1±1 mSv vs 2.2±5.1 mSv) by Morino M et al [3] (2006). In group II (OBS), additional repeated X-rays, USGs, and CECTs were performed,

either to confirm the diagnosis or create a treatment plan.

Though Morino M et al [3] concluded that the same amount of analgesics were required in either group, this may vary depending on case selection and the pain threshold of the concerned population. In the case of the OBS group, injectable analgesics were required more (6.08±3.12 days vs 3.32±3.04 days, $p<0.001$) as they suffered more pain due to lack of diagnosis and definitive management, which is also evident by the increased VAS score on days 1, 3, 5, 7, and 7. The EDL group did not experience any pain during the early enteral feed (NBM status: group I: 36.24±47.22 hours vs group II: 90.76±54.54 hours, $p<0.001$).

The most prevalent pathology found in this investigation was appendicitis (32%). Valpen GCV et al [4] (32.5%), Al-Bareeq R et al [21] (73%), and Yehia MA et al [20] (40%), all support this. Band adhesions (20%) were the next most prevalent, as reported by Ali SAS et al. (13.3%) and Yehia MA [20] et al. (7.5%). According to Valpen GCV et al [4], Morino M et al [3], Al-Bareeq R et al [21], Yehia MA et al [20], tuboovarian pathology (12%) and PID (8%) were two other prevalent pathologies (22.5%,5%; 11.53%, 21.2%; 10%,14%; 25%, 0% respectively). It is observed that the most prevalent diseases seen in cases of unexplained acute abdominal discomfort include tubo-ovarian pathology, adhesions and bands producing partial intestinal obstruction, and appendicitis (mainly retrocaecal; not discovered by USG). These disorders, which stay concealed even after extensive search for diagnosis, should be particularly considered in cases of acute abdominal pain with negative radiological examinations.

In situations where an early diagnostic laparoscopy failed to identify a pathology, the diagnosis of "nonspecific abdominal pain" (4% in the current study) was applied. Additionally, cases of normal laparoscopy were described in the series by Valpen GCV et al [4], Morino M et al [3], Yehia MA et al [20], and Ali SAS et al [23] (15%, 37.5%,5%, and 6.6%, respectively).

Early patient intervention led to an early recovery and lower hospital morbidity rates; the earlier the diagnostic laparoscopy procedure was performed, the earlier the patient was involved. In the current study, EDL was completed an average of 11.28±4.35 hours following admission. The time range of EDL was similarly reported by Talaat A et al. [15] and Morino M et al. [3] as being 2–39 hours (median 9 hours) and 3–12 hours (mean 7.5 hours) after admission, respectively.

Patients in Group II (OBS) stayed in the hospital for longer (7.68 ±3.35 days compared to 4.52±3.10 days). Morino M et al [3] reported similar outcomes (3.7±0.8 days, EDL vs. 4.7±2.4 days, OBS). The length of the patient's stay in the hospital depended on the intervention carried out in the diagnostic laparoscopy group, the patient's happiness, and the rate of conversion.

A final diagnosis was obtained by 92% of patients in Group I (EDL) compared to 24% of patients in Group II (OBS) ($p<0.01$). Final diagnosis attainment was also noted by Valpen GCV et al [4], Al-Bareeq R et al [21], Yehia MA et al [20], Ali SAS et al [23], and Teamma MS et al [24] in the early laparoscopy group, with respective rates of 100%, 98%, 92.5%, 93.3%, and 98.5%.

Early diagnosis and treatment were sacrificed for a few problems experienced by patients receiving laparoscopic intervention. In all other groups [Talaat A et al [15] (2%), Morino M et al [3] (3.7%), and Teamma MS et al [24] (6.6%)], wound infection was the most frequent postoperative consequence; however, our series (4%), suggests improved wound care and intraoperative and postoperative sterilization techniques.

Compared to group I (EDL), group II (OBS) experienced a higher rate of symptom recurrence and readmissions at three, six, and twelve months because there was insufficient evidence for a conclusive diagnosis and treatment procedures were not followed. Additionally, in the early diagnostic laparoscopy group, there was less recurring abdominal discomfort (20.8%, 3 months; 15.9%, 12 months: EDL vs. 52.2%, 3 months; 25%, 12 months: OBS), according to Morino M et al [3].

Conclusion

Acute non-specific acute paralysis primarily affects the young, working population, particularly female. Less radiation exposure, improved visibility, and greater cosmesis are all benefits of early diagnostic laparoscopy. Overall expenditures are reduced with early diagnostic laparoscopy because to short hospital stays, fewer follow-up exams, lower needs for antibiotics and analgesics, early oral feeding, and ambulation. Clinical observation (OBS) increases treatment costs and radiation exposure overall, increases the need for antibiotics and analgesics in cases when a diagnosis is not made, increases the number of readmissions, and lengthens hospital stays. Therefore, in such circumstances, early diagnostic laparoscopy intervention and early hospital presentation can reduce further morbidity and mortality while also improving patient happiness and quality of life.

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