

## Role of Laparoscopy In Peritonitis

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**Abstract: Background:** Acute peritonitis is an acute inflammation of the peritoneum, either localized or generalized. If there is delay in diagnosis and appropriate treatment, it may worsen the condition and produce a fatal outcome. Acute peritonitis is an abdominal emergency containing 20-25% of total emergency. Laparoscopy has a significant role in diagnosis as well as management of acute peritonitis. **Methods:** The patients were selected from indoor registration cases from V.S. General Hospital from 2010-2012. In total, 30 patients underwent diagnostic and therapeutic laparoscopy for acute peritonitis. **Results and Interpretation:** Acute peritonitis is distributed in both sexes at almost same frequency. Acute peritonitis is distributed in all age groups. It is more common in 16-45 years age group which contains approximately 65-70%. Appendicitis is the major cause of peritonitis. Other causes were pericholecystic collection and perforation was the cause in 10% of patients. **Conclusion:** Diagnosis and management of the patient with acute peritonitis is a challenging part of a surgeon's practice. Laparoscopy has a small but substantial role to play in relatively stable patients of acute peritonitis. [ Leuva H et al NJIRM 2014; 5(2) :54-55]

**Key Words:** Peritonitis, laparoscopy, appendectomy, cholecystectomy, perforation

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**Introduction:** Acute peritonitis is an acute inflammation of the peritoneum, either localized or generalized. Inflammation of the peritoneum can be caused by a number of etiological agents. The sequence of both local and systemic events that occurs following the peritoneal insult represents a relatively constant response to a variety of injurious agents<sup>1</sup>. The term acute peritonitis refers to sign and symptoms of peritonitis in first 72 hours and that often requires immediate diagnosis and emergency surgical therapy. If there is delay in diagnosis and appropriate treatment, it may worsen the condition and produce a fatal outcome. Acute peritonitis is an abdominal emergency containing 20-25% of total emergency.<sup>1</sup>The single most influential factor in the successful management of peritonitis is early accurate diagnosis and treatment. Emergency exploratory laparotomy is the lifesaving surgery for peritonitis. Laparoscopy has a significant role in diagnosis as well as management of acute peritonitis.

**Material and Methods:** This was a prospective study with IRB permission. The patients were selected from indoor registration cases from V.S. General Hospital from 2010-2011, 30 patients underwent diagnostic and therapeutic laparoscopy for acute peritonitis. The patients were from all age groups and in both sex. Patients who came in emergency with clinical feature of acute peritonitis

and who were fit for General Anaesthesia were considered for the study.

Pre-op investigation of blood, x-rays and ultrasonography were done. The procedure was explained to the patient as there was the possibility of switching over to formal laparotomy for the sake of the patient if need arises. Laparoscopy was done and in certain conditions procedure was converted to formal laparotomy. IV fluids and antibiotics were started immediately postoperatively. Once patient had started bowel action, clear liquids were started orally and flatus passed than light diet started and intravenous fluid gradually stopped. Drain was removed when output decreased to less than 30 ml per 24 hours and serosanguinous in color. Once the patient was having no pain, fever, vomiting and relieved from it and taking all orally, patient was discharged.

**Result :** The results were noted down in tables. Table 1 shows age & sex distribution, table 2 shows the operative procedure. Acute peritonitis is distributed in both sex at almost same frequency. Acute peritonitis is distributed in all age groups. It is more common in 16-45 years age group which contains approximately 65-70%. Appendicitis is the major cause of peritonitis. Other causes were pericholecystic collection and adhesion. Bowel perforation was the cause in 10% of patients.

**Table 1: Age & Sex Distribution:**

Age In Years	Frequency Male, Female	Total	Percentage
LESS THAN 15	3,2	5	16.7
16 TO 30	5,9	14	46.7
31 TO 45	2,4	6	20.0
46 TO 60	2,2	4	13.3
MORE THAN 60	1,0	1	3.3
TOTAL	13,17	30	100

**Table 2: Operative Procedure**

Operation Name	Frequency	Percentage
Lap. Assisted meckel's diverticulectomy	1	3.3
Lap. Assisted right hemicolectomy	1	3.3
Lap. Appendectomy	12	40.0
Lap. Cholecystectomy	5	16.7
Lap. Repair of Perforation	1	3.3
Lap. Converted to open repair of perforation	2	6.6
Lap. Adhesiolysis and appendectomy	5	16.7
Lap. Removal of twisted ovarian cyst	2	6.7
Lap. Cholecystectomy and Adhesiolysis	1	3.3
Total	30	100

**Discussion:** In our study the females were 56% while males were 44% which is comparable to study by Napolitano L et<sup>2</sup> al where females were 60% and males were 40%. Young and middle age group patients were offered laparoscopy more because they were relatively more clinically stable as compared to elderly patients.

In our study, successful laparoscopic surgery without conversion was done in 94% patients. In study by Sana et al<sup>3</sup>, this rate is 88%, by Cueto J. et al<sup>4</sup>, it is 87%, while in Ates M. et al<sup>5</sup> study this rate is 85%. This difference is probably because we have excluded borderline clinically stable and have not offered them laparoscopy approach. 40% of the patients in our group had acute appendicitis and its complications. In Napolitano L. et al study, this rate was 15% and in Cueto j. et al, study this rate was 24%. In our study the other major causes were

cholecystitis and its complications and bowel perforation.

**Conclusion:** Laparoscopy offers adequate visualization of the entire abdomen and pelvic cavity in the diagnosis of an acute abdomen secondary to peritonitis. Laparoscopy is a valuable way to prevent unnecessary laparotomies. In most cases a definitive treatment can be offered without conversion. It should always be in the mind of the surgeon that the patients who are offered laparoscopy can be converted to formal laparotomy if there is any hindrance in access, approach or difficulty in maneuvering.

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