



## TO INCIDENCE OF DIAGNOSTIC AND THERAPEUTIC LAPAROSCOPY FOR ABDOMINAL TRAUMA

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### ABSTRACT

The spleen is the most customarily injured organ and can be the most effective intra-belly injury in over 60% of the cases. Combined with pedestrian as opposed to automobile injuries, these kinds of belly traumas account for as much as 75% of cases visible, at the same time as direct abdominal blows and falls include the rest. Abdominal trauma is one of the most important causes of death and incapacity in world. In the case of young people underneath the age of 40 years, it is the largest cause of mortality and everlasting disability. The aim of the study to incidence of diagnostic and therapeutic laparoscopy for abdominal trauma. Retrospective studies of abdominal trauma were laparoscopic intervention done by general surgery department at Sri Lakshmi Narayana Institute of Medical sciences, Pondicherry. All patients underwent clinical assessment inform of history and full body examination and also Focused Assessment with Sonography for Trauma (FAST) Scan. In present study twenty-seven patients with abdominal trauma, 21 penetrating trauma (77.7%) all of them were shotgun injuries, and 6 blunt trauma (22.2%). In penetrating trauma therapeutic laparoscopy for eight patients (38.0%), diagnostic laparoscopy for 10 patients(47.6%), and negative laparoscopy for 3 cases (14.2%). laparoscopy is a possible modality within the control of blunt and penetrating belly injuries. It may be effectively achieved in hemodyconversion namically stable patients with belly trauma for each diagnostic and healing purpose and additionally it allows cut down the wide variety of non-therapeutic laparotomies.

**Key words:** Laproscopy, Blunt abdominal trauma, diagnostic laproscopy, laparotomy.

### INTRODUCTION

The spleen is the most customarily injured organ and can be the most effective intra-belly injury in over 60% of the cases. Liver and hole viscus injuries follow in decreasing prevalence. [1] Where in advance, laparotomy would be used as a diagnostic and healing device, and an increasing number of conservative measures are followed on the premise of modern-day imaging facilities. Abdominal trauma is one of the most important causes of death and incapacity in world. In the case of young people underneath the age of 40 years, it is the largest cause of mortality and everlasting disability. When

combined with pedestrian as opposed to automobile injuries, these kinds of belly traumas account for as much as 75% of cases visible, at the same time as direct abdominal blows and falls include the rest.

A dependable and consistent tool for identity of these sufferers with visceral and diaphragmatic injuries is with the aid of direct visualization both by diagnostic laparoscopy or laparotomy. [2]

The gain of laparoscopy can offer each diagnostic and healing interventions for the ones hemodynamically stable abdominal trauma patients. [3] The strong organ and

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visceral accidents can be reliably assessed by using laparoscopy, identification of intestinal damage is greater tough, but hole organ accidents may additionally show neither medical signs and symptoms of acute abdomen nor fantastic radiological symptoms inside the early submit-worrying phase, ultimately not on time exploration with a better threat of septic surprise and boom morbidity take place. [4]

Laparoscopy can hit upon signs of visceral injury and repair it or convert to laparotomy Diagnostic laparoscopy have to perceive all accidents as correctly as computed tomography. There is a big variety in the number of abdominal accidents that can be handled laparoscopically in a trauma placing. The subset of sufferers offering with penetrating trauma blended with important balance and no medical belly symptoms warrants greater complicated choice-making. In this subset, laparoscopy constitutes a treasured device probably eliminating non-healing laparotomies and conservative control, namely postpone exploration which needs prolonged medical institution live and fees associated with serial labs and imaging. The aim of this study changed into to assess whether laparoscopic intervention may be safely carried out in trauma and whether there is any overall benefit to the affected person.

## **MATERIAL AND METHODS**

A retrospective study of twenty seven patients with abdominal trauma (21 penetrating trauma, 6 blunt trauma) were laparoscopic intervention done by general surgery department at Sri Lakshmi Narayana Institute of Medical sciences, Pondicherry. All patients underwent clinical assessment inform of history and full body examination and also Focused Assessment with Sonography for Trauma (FAST) Scan,

CT (Computed Tomography) scan done for twenty patients and was unavailable for six patients. All of the patients included for the research were stable with normal blood pressure. In patients with blunt abdominal trauma were an unexplained free fluid seen in imaging study/ showing deterioration in clinical signs as fever, abdominal tenderness, and decrease hemoglobin levels are typically evaluated by a laparoscopic exploration.

In patients with penetrating abdominal trauma and hemodynamically stable are evaluated by laparoscopic exploration. Operative interventions with laparoscopy were classified as therapeutic which includes hemostasis, repair or resection of any injured structure including solid organ or hollow viscus, and diaphragmatic repair.

Diagnostic laparoscopy is a term used for abdominal injuries not requiring hemostasis or repair as in retroperitoneal hematoma. Negative laparoscopy is terms used in a case were abdominal organ injury not identified. Laparoscopic exploration is performed with a patient in supine position. Pneumo-peritoneum created by veress

needle technique. First trocar usually at supra-umbilical area 10 mm trocar.

The other trocars inserted according to the finding in the intra-abdominal cavity. All abdomens explored systematically including solid organs, hollow viscus and diaphragm.

## **RESULTS**

In present study twenty-seven patients with abdominal trauma, 21 penetrating trauma (77.7%) all of them were shotgun injuries, and 6 blunt trauma (22.2%). In penetrating trauma therapeutic laparoscopy for eight patients (38.0%), diagnostic laparoscopy for 10 patients (47.6%), and negative laparoscopy for 3 cases (14.2%).

Therapeutic laparoscopy were done for the following cases, two cases liver tears were hemostasis done by combined of cauterization and intra-corporeal stitching, four cases of diaphragmatic injury were repaired by intra-corporeal stitching, one case was small bowel perforation were repaired with intra-corporeal stitching. Another one case of splenic tear were bleeding not stopped with cauterization and splenectomy done.

Diagnostic laparoscopy were done for the following cases, seven cases were injuries diagnosed and converted to laparotomies including three major liver injuries, splenic injury with active bleeding, huge diaphragmatic injury, and two combined large and small bowel injuries, while the last two cases of diagnostic laparoscopy not converted were retroperitoneal hematoma identified.

In blunt trauma therapeutic laparoscopy for 3 cases (50%), diagnostic laparoscopy for 2 cases (33.3%), and negative laparoscopy for 1 case (16.7%). Therapeutic laparoscopy were done for the following cases, one case of grade 4 splenic injury were laparoscopic splenectomy done and two cases of diaphragmatic injury and repaired by laparoscopy. Diagnostic laparoscopy were done for the following cases, one case of retroperitoneal hematoma and one case of large diaphragmatic injury were converted to laparotomy. The rates of hemodyconversion to laparotomies were 10 cases (37.0%) for both penetrating and blunt trauma. No complications were associated with pneumoperitoneum.

## **DISCUSSION**

It is very important to determine the presence, location, and severity of intra-abdominal injury to decide the surgical intervention; and to thoroughly evaluate intra-abdominal organs for associated injuries in the trauma patient. Trauma surgeons should not hesitate to perform laparoscopy for diagnostic reasons, and once an injury is revealed in the operative field, it can be treated with laparoscopy or OC, depending on the degree of injury. In patients with abdominal trauma, laparoscopy as a diagnostic tool is commonly considered an option today. It is important to find potential injuries as soon as possible,

but a physical examination alone is often insufficient for diagnosis. In patients with penetrating trauma, local wound exploration has been performed to determine whether peritoneal penetration occurred; however, because of the possibility of false-negative results and wound contamination, this approach is not commonly used. [6]

Chol and Lim [7] performed a laparoscopy for 78 stable patient who already underwent CT scan revealed a significant injuries, two third of his patients were blunt trauma, this group reported no missed injuries, no mortality with (83%) success rate to complete it by laparoscopy which is correlated our study twenty-seven patients with abdominal trauma, abdominal trauma, 21 penetrating trauma (77.7%) all of them were shotgun injuries, and 6 blunt trauma (22.2%). In penetrating trauma therapeutic laparoscopy for eight patients (38.0%), diagnostic laparoscopy for 10 patients (47.6%), and negative laparoscopy for 3 cases (14.2%). Therapeutic laparoscopy were done for the following cases, two cases liver tears were hemostasis done by combined of cauterization and intra-corporeal stitching, four cases of diaphragmatic

injury were repaired by intra-corporeal stitching, one case was small bowel perforation were repaired with intra-corporeal stitching. Another one case of splenic tear were bleeding not stopped with cauterization and splenectomy done. The most common penetrating abdominal injury was liver injury and was the same in Malkomes P, Stormann P, studies. [8]

## CONCLUSION

Minimal invasive surgical operation end up a beneficial device within the remedy of abdominal trauma,, laparoscopy can diagnose and restore accidents to hollow viscus, diaphragm and strong organs. Further blessings are decreased morbidity, shortened hospital live and lower value. Based in this examine we end that laparoscopy is a possible modality within the control of blunt and penetrating belly injuries. It may be effectively achieved in hemodyconversion namicly stable patients with belly trauma for each diagnostic and healing purpose and additionally it allows to cut down the wide variety of non-therapeutic laparotomies.

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