



## CONTROLLED UNDER VISION TECHNIQUE (CUTE) OF LAPAROSCOPIC PORT SITE CLOSURE

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### ABSTRACT

**BACKGROUND:** Various new challenges have emerged since the introduction of laparoscopic surgery. Port site hernia is one of the serious complication. Various methods have been introduced to reduce it. The aim of this article is to introduce a procedure that is easy, safe and quick to perform and will help in decreasing port site complications after laparoscopic procedure.

**MATERIAL AND METHOD:** We have described here a simple technique for the fascial closure after laparoscopic surgery over 100 patients who underwent laparoscopic cholecystectomy repair at VMMC & Safdarjung Hospital, New Delhi.

**RESULT:** This method was used in 100 patients with no intro-operative complication, no port site hernia reported in a follow up period of 1 year.

**CONCLUSION:** This procedure of fascial closure is safe, quick, effective and easy to perform method of fascial closure.

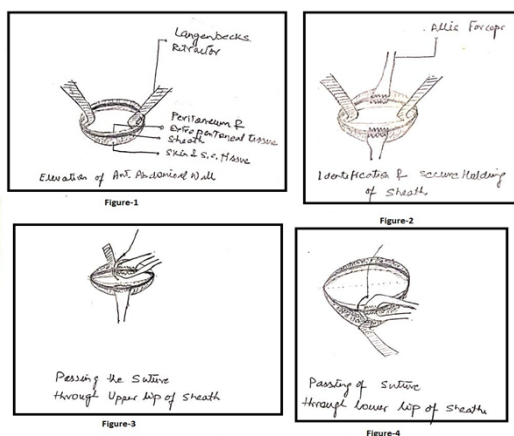
**KEYWORDS :** Fascial Closure, Port Site Hernia, Laparoscopic Surgery

### INTRODUCTION:

This is the era of minimal access surgery. Laparoscopic surgery is also associated with a number of new challenges for example—occurrence of port site hernia. Fascial closure at port site is necessary, when a large trocar is used or after dilation of a port site for organ extraction. Single port surgery renders fascial closure a big challenge (1). Port Site Incision Hernia has been reported as a serious complication after laparoscopic surgery.

Many techniques and devices have been introduced to minimize the risk of port site complication. Standard Port Site Fascial Closure is tricky and often requiring a blind suturing of fascial defect. In this study, we are proposing a new method of laparoscopic port site closure:-

### MATERIAL AND METHOD:-



Diagrammatic Representation of CUTE Procedure



Fig.-5 Elevation of Abdominal Wall with Langenbeck Retractor

Fig.-6 Identification and secure holding of sheath

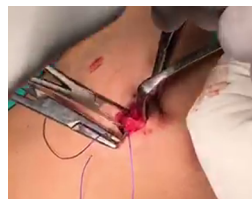


Fig. 7 Suturing of Upper and Lower ends of Sheath



Fig. 8 Skin closed with Ethilon 4-0/3-0 horizontal mattress

### OUR TECHNIQUE: -

Steps: Port closure – Umbilical Port using 10/12 mm camera port

1. Elevation of Abdominal Wall with Langenbeck Retractor – (Figure – 1&5)
  - Langenbeck Retractor is introduced through the port and reached up to peritoneum.
  - All layers of the abdominal wall are elevated with the help of Langenbeck Retractor. It pulls the abdominal wall off the peritoneal cavity / intra-abdominal viscera.
2. Identification and secure holding of sheath – (Figure – 2&6)
  - The Sheath is identified as glistening white layer between layers of subcutaneous fat and extra-peritoneal fat.
  - The upper and lower ends of sheath is held with help of Allis Tissue Forceps under vision and under controlled elevation of the sheath off the abdominal cavity / Intra-abdominal viscera.
  - After grasping the both ends of sheath with Allis Tissue Forceps, both Langenbeck Retractor are removed.
3. Suturing of Upper and Lower ends of Sheath – (Figure- 3&7)
  - Now, with the help of Langenbeck Retractor, the skin and subcutaneous tissue is retracted off the upper end of sheath. The port closure suture (Vicryl no. 1) is passed outside to inside, from the middle of the upper end of sheath taking margin of 5mm.
  - Now, upper Langenbeck Retractor and Allis Tissue Forceps is removed and the subcutaneous tissue is retracted with Langenbeck Retractor off the lower end of sheath and port closure suture is brought inside to outside taking about 5mm margin.
  - Now, Allis Tissue Forceps and Langenbeck Retractor removed from lower end of sheath. Port closure suture is

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tied with surgical knot.

4. Skin closed with Ethilon 4-0/3-0 horizontal mattress – (Figure – 4&8)

## RESULTS:

We have using this technique of Port Site Closure over 100 patients who underwent laparoscopic cholecystectomy from December 2017 to October 2018. No intra-operative incident and no port site hernia reported during a mean follow up of 1 year.

## DISCUSSION:

Port Site Hernia after laparoscopic surgery is known serious complication. Studies showed that the incidence of port site incision hernia varies from 1 to 6% (2,3). Various factors such as diameter of trocar, design of trocar, any preexisting fascial defects, failure to adequately suture the fascial defect. Infection or Ascitic Fluid Leakage in case of cirrhotic patients (4) are responsible for this condition.

It is recommended that All 10mm or more sized trocar must be closed. Port Site Closure techniques were classified by Shaher into the three groups (5). Many different fascial closure devise such as spinal needle (6), hypodermic needle (7), Deschamp Needle, Berci Needle (8) have been recommended by different surgeons. But these techniques need specific device which are time consuming, some needs special devices and assistance from Inside the abdomen and these devices are not available in the operation theatre.

We are introducing new technique which does not demand any special device or assistance and not time consuming. In our opinion, the efficacy of this new procedure in preventing port site hernia is proven by technique itself. Moreover, we consider that in present technique, no need to follow the patient for Port Site Hernia, because we perform the procedure in controlled and under vision and there is no chance of any risk of internal injuries.

## CONCLUSION:

The present proposed new technique of port site closure is safe, easy to perform, cost effective and without any complication and easy to learn.

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