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Editorial

Simplifying Laparoscopic Cholecystectomy in Morbidly Obese Patients

Fanous MY*
Department of Surgery, Northstar Health System, USA

***Corresponding author:** Fanous MY, Department of Surgery, Northstar Hospital, 1400 W Ice Lake Road, Iron River, MI 49935, USA

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Introduction

Morbid obesity poses significant anesthesia and surgical risks. Laparoscopic cholecystectomy has been shown to be safe in this population [1]. However, there is longer operative time than on non-obese patients despite the similarity of the lines followed after pneumoperitoneum was established [2]. Consequently, more emphasis should be placed on an expedient technique to enter the peritoneal cavity safely and to exit it without causing port site hernia. Thus the traditional technique in port placement may not fit this purpose for this population.

Veress needle or optical access trocars were shown to be safe and rapid in entering the peritoneal cavity at different anatomic locations for various laparoscopic procedures [3,4]. Proponents of accessing the abdomen using these two techniques often criticize the open technique (Hasson) for various reasons. Firstly, it takes longer time to access the peritoneal cavity and to close the fascia. Secondly, it leads to bigger skin and facial incisions which lead to leakage of carbon dioxide. Thirdly, the larger skin incisions are more painful and can lead to increased risk of wound infection [4].

The time saved by accessing the peritoneal cavity using Veress needle or optical access trocar is lost when the gallbladder is extracted from the umbilical port, as the surgeon needs to perform the difficult closure of the fascial incision. This is more significant when the gallbladder contains large calculi requiring enlargement of the umbilical port.

Longer operative time is not the only disadvantage of extracting the gallbladder from the umbilical port. Umbilical port site hernia is also a considerable problem. The reported incidence of various port site hernias ranges between 1.7 – 4.1%. Umbilical port site hernia was the most common hernia and obesity was a key factor noted among these patients [5,6].

The concept described here allows for rapid safe access to the peritoneal cavity and aims at reducing post procedure hernia.

Technical Steps

A transverse incision is made over the right rectus sheath at the level of the umbilicus. A 5 mm optical access trocar is used to access the peritoneal cavity. The scope is advanced to the end of the optical trocar and placed into the incision perpendicular to the rectus sheath. A gentle downward pressure is applied to the abdominal wall. The optical port is advanced while viewing successive layers of the abdominal wall, then the peritoneum. Pneumoperitoneum is created and a 10 mm port is placed in the epigastric area under direct laparoscopic vision. Two 5 mm ports are placed on the right side in the standard fashion. The operation is performed in the standard technique, with identification of the cystic duct and the cystic artery in the triangle of Calot and their subsequent division between clips. The gall bladder is then dissected off its liver bed using a Dubois hook. The gallbladder is retrieved in an endobag via the epigastric port, which is closed using 0 vicryl via Carter-Thomason II port closure system (Cooper Surgical, Trumbull, CT). The right sided 5 mm ports are removed under direct vision and pneumoperitoneum is deflated. The 5 mm camera port is removed without fascial closure.

Discussion

Morbidly obese patients pose significant anesthesia and surgical risks. This article describes an expedient technique tailored for obese and morbidly obese patients. It focuses on two goals. The first goal is to enter the peritoneal cavity in a safe and rapid manner. The second goal is to prevent or reduce port site hernia.

The first goal is achieved via multiple steps aimed at reducing operative time. The first step is rapid entry to the peritoneal cavity using a 5 mm optical access trocar. The second step is achieved by not closing the fascial incision of the optical access port. The third step involves reducing the exchange of the laparoscope and other instruments. For example, when the gallbladder is removed via the umbilical port, the laparoscope and the insufflation tubing need to be attached to different ports to allow extraction of the gallbladder. The umbilical port is then placed again. The laparoscope and the insufflation tubing are reattached. This can be even more time consuming if the surgeon used a 10 mm laparoscope initially, as it must be changed to a 5 mm laparoscope.

To meet the second goal of reducing port site hernia, we elected to remove the gallbladder from the epigastric port, which is proven to be associated with less incidence of port site hernia than the umbilical port [5].

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