

### **Cheap Retrieval Bag for Laparoscopic Cholecystectomy.**

**D. C. Shyam<sup>1</sup>, A.J. Baruah<sup>2</sup>, N. Topno<sup>1</sup>,**

<sup>1</sup>North Eastern Indira Gandhi Regional Institute of Health and Medical Sciences.

<sup>2</sup>Guwahati Medical College and Hospital.

**Correspondence to:** Dr Devajit Chowlek Shyam, Email: devajit\_cs@yahoo.com

**Gallstone disease is one of the most common gastrointestinal conditions that require surgery and currently laparoscopic cholecystectomy (LC) is the standard treatment for symptomatic cholelithiasis. Use of a laparoscopic bag for facilitating extraction/ morcellation of the operative specimen has been shown to minimize infection of wound and abdominal cavity. Various laparoscopic bag substitutes like latex gloves and glove fingers have been used. We described a sterilized plastic surgical drain cover as a reasonable substitute for retrieving the gallbladder after LC.**

The percentage of organ/space infections following laparoscopic cholecystectomy for gallstone disease is higher than open cholecystectomy (OC) whereas Site Specific Infection (SSI) is lower in LC<sup>1</sup>. The common complications of LC are major bleeding, wound infection and biliary leakage or injury, and the most common complications due to lost stone and infected bile is intra-abdominal and subcutaneous abscesses and fistulas<sup>2</sup>.

Helme et al<sup>2</sup> stated that the best way to avoid complication due to lost stone or infected bile is to use endobags to retrieve dissected gallbladder through port site. The laparoscopic bag can be used to contain a variety of tissue, organs or stones. It facilitates removal of the operative specimen while minimizing contamination of the abdominal cavity and wound tract<sup>3</sup>. It prevent scattering of specimen and stones into abdominal cavity and may lead to the prevention of serious infection. The cheapest price of endobags ranges from 14 – 15 US dollars – Endosac (Zenith medical - \$14), Endobag (Dexdelac - \$15)<sup>3</sup>, hence most of our poor patients cannot afford to buy them. Literature reported use of latex gloves / glove fingers as retrieval bag substitute but we found that the plastic covers of surgical drain tubes are a substitute which are freely available **and** hence can solve the problem without extra cost to the patients.

In our experience, we found the use of surgical gloves as a laparoscopic gall bladder retrieval bag to be big and space occupying, whereas, glove fingers are small and hence difficult to retrieve.

In our institute, for laparoscopic gall bladder extraction, we follow the following simple procedure:

- Plastic cover of surgical drain tubes are collected after their use (Figure 1) and then sterilize.
- Before inserting into the abdominal cavity, one edge of plastic bag is cut short (Figure 2) for easy identification of the plastic bag edge (for grasping and opening the mouth of the bag).
- Once the gallbladder specimen is inside the plastic bag, the gallbladder cystic duct along with the mouth of the plastic bag is grasped with a crocodile forceps.
- Graspers are used to pull the top of the bag into the distal end of the trocar cannula. While securing the bag with graspers, the trocar cannula is withdrawn slowly through the incision site until the mouth of the bag can be visualized.
- After retrieving it through the umbilical/ epigastric port, the mouth of the plastic bag is exteriorized and opened after securing it with straight artery forceps and gallbladder is nicked between two artery forceps.
- Bile is then suctioned with suction tube and calculi are delivered with the help of ovum forceps. Big calculi, if present, are crushed and then delivered with ovum forceps.
- Upon completion of the laparoscopic procedure, the bag is then disposed of in accordance with local regulations.

## Conclusion

We can state that even though latex gloves are the cheapest retrieval bags substitutes so far reported, and are commonly used; but the plastic cover of surgical drain tubes, which we use are absolutely free of cost and freely available as compared to any retrieval bag including gloves. They are also easy to handle and durable for gallbladder removal, and also serves the same purpose as any gall bladder retrieval bag.



**Figure 1.** Plastic Cover of Surgical Drain Tubes.



**Figure 2.** Sterilized plastic cover of surgi drain tubes with one edge cut short.

The plastic cover of surgical drain tubes, collected after their use, are absolutely free of cost and freely available as compared to any retrieval bag. Before inserting into the abdominal cavity, one edge of plastic bag is cut short for easy identification of the plastic bag edge while grasping and opening the mouth of the bag inside the abdominal cavity before retrieving the gall bladder specimen. These bags are easy to handle, durable for gallbladder removal and also serves the same purpose as any gall bladder retrieval bag.

## References

1. Richards C, Edwards J, Culver D et al. Does using a laparoscopic approach to cholecystectomy decrease the risk of surgical site infection? *Ann Surg.* 2003; 237(3): 358-362.
2. Helme S, Samdani T, Sinha P. Complications of spilled gallstones following laparoscopic cholecystectomy: a case report and literature overview. *J Med Case Reports.* 2009; 3: 8626.
3. Raj PK, Katris F, Linderman CG, Remine SG. An inexperienced laparoscopic specimen retrieval bag. *Surg Endosc.* 1998; 12: 83.