

# “Posterior first” dissection approach may contribute safe laparoscopic cholecystectomy

● Tufan Egeli, ● Cihan Ağalar, ● Mücahit Ünal, ● Tarkan Unek

Department of General Surgery, Dokuz Eylul University Medical Faculty, Hepatopancreatobiliary Surgery and Liver Transplantation Unit, Izmir, Turkey

Dear Editor,

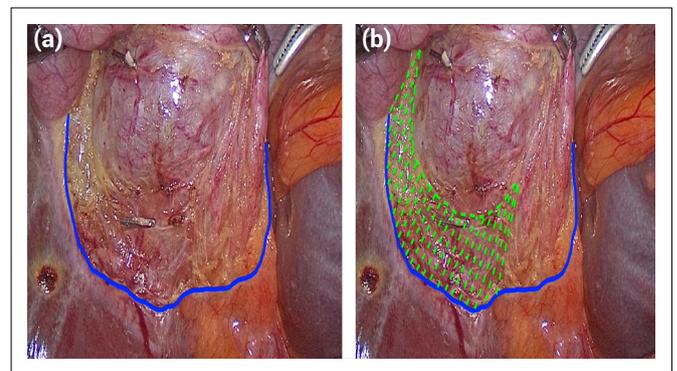
As known, laparoscopic cholecystectomy (LC) is one of the most common procedures in general surgery. Although some patients and even surgeons consider this operation as an ordinary, simple procedure, complications that may occur may lead serious morbidity and also mortality.

The “critical view of safety” (CVS) principles that were defined by Strasberg and Brunt are currently used by many surgeons to prevent complications such as common bile duct or hepatic artery injury during LC.<sup>[1]</sup> Many studies reported a significant reduction in bile duct or hepatic artery injuries in cases of LC performed with CVS, and it has been accepted worldwide.<sup>[2,3]</sup> However, there is no defined standard dissection technique to obtain CVS in the literature.

According to our experience, CVS can be done more safely by starting the dissection from the posterior (lateral) side of gallbladder. In the “posterior first” technique; dissection is initiated to the posterior part of the gallbladder and the peritoneum is opened at the level of the gallbladder neck first. Then, the peritoneum is opened up to the fundus along the neighborhood of the gallbladder and liver segment 5 (Fig. 1a). In the next step, dissection is continued along this line from lateral to medial, until the half of the areolar tissue between the gallbladder and the cystic plate is exposed (Fig. 1b). Then,

dissection is proceeded to anterior part of gallbladder and CVS is completed.

In our opinion, posterior first dissection approach ensures some certain important advantages as follows. For instance, the gallbladder can be further lifted from the cystic plate and hepatic pedicle during anterior dissection stage, since segment 5 and cystic plate connections of the gallbladder are released before. Therefore, the probability of injury to any aberrant arterial or biliary structure at this level is reduced. On the other hand, since the posterior fibrous tissues of the gallbladder were thinned previously, it would be easier to create holes to obtain CVS by dissecting the cystic duct and artery during anterior part

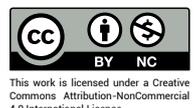


**Figure 1.** (a) Peritoneum is opened up to the fundus along the gallbladder and liver segment 5 (Blue line). (b) Half of the areolar tissue between the gallbladder and the cystic plate is exposed (Green area)

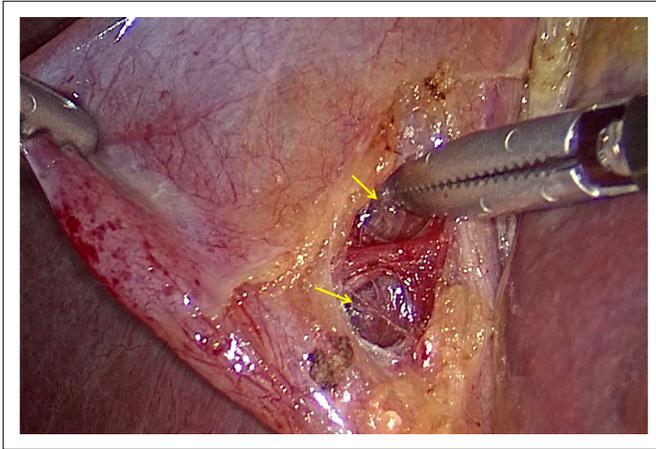


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Correspondence: Tufan Egeli, M.D., Department of General Surgery, Dokuz Eylul University Medical Faculty, Hepatopancreatobiliary Surgery and Liver Transplantation Unit, Izmir, Turkey  
e-mail: tufanegeli@gmail.com



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**Figure 2.** Dissecting the cystic canal and artery and creating holes during anterior part would be easier since the posterior fibrous tissues were thinned before (yellow arrows).

(Fig. 2). And also, in case of posterior localized accessory cystic artery existence, posterior first approach provides early detection and safely control of it and precludes unexpected annoying bleeding while creating holes for CVS during anterior dissection stage.

Of course, every surgeons have their own dissection method that they are used to perform and they feel proceed more safely. Here, we define and share our own safe dissection technique with its suggested advantages.

#### Disclosures

**Peer-review:** Externally peer-reviewed.

**Conflict of Interest:** None declared.

#### References

1. Strasberg SM, Brunt LM. Rationale and use of the critical view of safety in laparoscopic cholecystectomy. *J Am Coll Surg* 2010;211:132–8. [\[CrossRef\]](#)
2. Avgerinos C, Kelgiorgi D, Touloumis Z, Baltatzi L, Dervenis C. One thousand laparoscopic cholecystectomies in a single surgical unit using the “critical view of safety” technique. *J Gastrointest Surg* 2009;13:498-503. [\[CrossRef\]](#)
3. Terho P, Sallinen V, Lampela H, Harju J, Koskenvuo L, Mentula P. The critical view of safety and bile duct injuries in laparoscopic cholecystectomy: a photo evaluation study on 1532 patients. *HPB (Oxford)*. 2021 Apr 27:S1365-182X(21)00117-9. doi: 10.1016/j.hpb.2021.04.017. [Epub ahead of print]. [\[CrossRef\]](#)