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## Single working instrument, double trocars, clip less cholecystectomy using harmonic scalpel: A feasible, safe, and less invasive technique

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**Aim:** To evaluate safety and efficacy of harmonic scalpel in closure/division of the cystic duct and artery, and bladder dissection in laparoscopic cholecystectomy as a single working instrument, with the use of two working trocars, compared with clip/cautery, three trocars technique.

**Method:** A prospective study included 160 patients with symptomatic gall stone disease were randomly assigned for laparoscopic cholecystectomy by either harmonic shear, with two trocars (group I=80 patients), or group II (clip/cautery, 3 trocars) including 80 patients.

**Results:** No significant complications were encountered in either group; however 1 case of group II suffers mild leakage treated conservatively. Intra-operative bile spillage was insignificantly lower in group I (10% vs. 13%;  $P=0.46$ ). The median operative time was significantly shorter in group I (20 vs. 45 minutes;  $P=0.0001$ ). Also hospital stay was significantly shorter in group I (1 vs. 1.5 days;  $P=0.001$ ), but no significant difference found in the incidence of post operative complications. The overall cosmetic results and patient satisfaction was better in group I.

**Conclusion:** Harmonic shear is as safe and effective as clip/cautery technique in achieving hemo-biliary stasis; with shorter operative time especially if used solely as a working instrument. Two trocars technique is safe, feasible, and provides better cosmetic results and patient satisfaction.

### Biography

Alaa A. Redwan is a Professor of GIT surgery and laparoendoscopy at Sohag University, Egypt. His research interest includes Gastrointestinal, Hepatobiliary pancreatic surgery and laparoendoscopy.

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