Society of Laparoscopic Surgeons

Minimally Invasive Surgery Week

Clear Laparoscopic Visualization: Initial Experience with 5mm ClickClean Device in a Human Patient

Jessica Carlson, MD (jessicarcarlson@gmail.com)

OBJECTIVE:

During minimally invasive laparoscopic surgery, the scope must repeatedly be removed and cleaned as it is obscured by blood, smoke, and water vapor. A device called ClickClean (Medeon Biodesign) permits *in situ* lens cleaning to quickly restore clear visualization without pausing surgery. A 10mm ClickClean device exists, and now a 5mm device has been developed for minimally invasive laparoscopic techniques. In this study, the 5mm ClickClean device was evaluated in the animal lab and for the first time in human subjects.

METHODS & PROCEDURES:

In a prospective, open-label, observational study of the 5mm ClickClean, the device was used in two porcine models simulating laparoscopic procedures. Clinical use in laparoscopic surgery was evaluated in laparoscopic cholecystectomies. Both studies used similar metrics for evaluation: total clicks required to restore visibility; performance with common obstructions (smoke, fog, fat, and blood); number of scope removals for cleaning; and the surgeon's subjective evaluation.

RESULTS:

The 5mm ClickClean device restored a clear laparoscopic view in 1 click in almost all situations. An exception was blood dip (mode = 5 clicks) in both studies. During laparoscopic surgery, the scope was never removed for cleaning.

CONCLUSION: In early studies, 5mm ClickClean provided effective *in situ* laparoscopic lens cleaning with a range of common obstructions. The device allowed minimally invasive surgery to continue uninterrupted with clean and clear visualization.