



PO-005

## ArtiSential® Assisted Laparoscopic Cholecystectomy Versus Single-Fulcrum Laparoscopic Cholecystectomy: Which Minimally Invasive Surgery Is Better For The Patient?

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**Background :** In recent years, as laparoscopic cholecystectomy (LC) has been recognized as the gold-standard surgical procedure for cholecystectomy, many minimally invasive surgical methods have been introduced to reduce the number of ports, which has the benefits of reducing postoperative pain and cosmetic aspects for patients, and new surgical instruments have been developed accordingly. ArtiSential® is a new multi-DOF (Degree of freedom) articulating laparoscopic instrument that reflects the ergonomic features of robotic surgery and can overcome the spatial limitations of laparoscopic surgery, especially fewer ports surgery like single port laparoscopy. ArtiSential® assisted LC is performed using only two ports, and this study aims to compare the surgical outcomes of ArtiSential® assisted LC and single-fulcrum LC performed at our center.

**Methods :** This retrospective study compared ArtiSential® assisted LC and Single-fulcrum LC among LCs performed for GB stones at the same center and analyzed the basic characteristics of patients, intraoperative outcomes such as operative time, estimated blood loss and intraoperative gallbladder (GB) rupture, and postoperative outcomes such as length of hospital stay, incidence of postoperative complications, and postoperative pain.

**Results :** A total of 88 and 63 patients underwent ArtiSential® assisted LC and Single-fulcrum LC after diagnosis of GB stones, respectively. Analysis showed that ArtiSential® assisted LC resulted in significantly fewer cases of surgery longer than 60 minutes (30 vs. 35,  $p=0.009$ ) and intraoperative GB rupture (2 vs. 10,  $p=0.007$ ). In terms of post-operative outcomes, there were no complications with either method and no difference in length of hospital stay, but ArtiSential® assisted LC showed better results in the respective VAS scores immediately after surgery and before discharge (2.59 vs. 3.73,  $p<0.0001$ ; 1.44 vs. 2.02,  $p=0.01$ ).

**Conclusions :** ArtiSential® assisted LC showed better results in terms of surgical outcomes, especially postoperative pain. In conclusion, ArtiSential® assisted LC is thought to be the better option for patients between ArtiSential® assisted LC and single-fulcrum LC.

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