English Abstract Session

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[E2] English Abstract Session 2 Colorectal Surgery 1

Moderator:Atsushi Hamabe(Department of Gastroenterological Surgery Graduate School of Medicine, The University of Osaka), Mina Ming-yin Shen(Department of Surgery, China Medical University Hsinchu Hospital, Taiwan)

[E2-5] CUSUM-Based Learning Curve Analysis of RiSSA in Robotic Left-Sided Colorectal Cancer Surgery

Shih-Feng Huang[1], Chih-Chien Wu[1,2] (1.Division of Colorectal Surgery, Kaohsiung Veterans General Hospital, 2.School of Medicine, National Yang Ming Chiao Tung University)

Background
The robotic intracorporeal single-stapling anastomosis (RiSSA) technique offers a promising alternative to traditional double-stapling methods in minimally invasive colorectal surgery. However, data on its procedural learning curve remain limited.

Methods
This retrospective study assessed the first 28 consecutive robotic low anterior resections using the RiSSA technique by a single surgeon for left-sided colorectal cancer. Operative time was analyzed using cumulative sum (CUSUM) methodology to identify the learning inflection point. Patients were stratified into early (cases 1-14) and late (cases 15-28) phases. Secondary outcomes included console time, intraoperative blood loss, complication rate, and length of stay.

Results
CUSUM analysis demonstrated a learning curve inflection at case 16. Compared to the early phase, the late phase showed significant reductions in operative time (285.0 vs. 269.0 minutes, p = 0.014) and console time (194.0 vs. 146.5 minutes, p = 0.001). No major complications (Clavien-Dindo >= III) occurred in either phase.

Conclusions
RiSSA can be safely implemented with a manageable learning curve on a fully robotic platform. The technique demonstrated improved efficiency without compromising patient safety, supporting its feasibility for broader clinical adoption and training programs.