Poster 39: Prospective Evaluation of the Da Vinci Single-Port (SP) Robotic System for Gynecologic and Gynecologic Oncology Procedures

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Topic
Other: Surgical

Objectives
The Da Vinci Single Port (SP) robotic system offers a single-incision platform with fully wristed, articulating instruments, theoretically providing improved cosmesis and less pain compared to multi-port robotics. While multi-port robotics is standard in gynecologic oncology, prospective data on the SP system across both benign and oncologic indications remain limited. We hypothesized the SP system is feasible and safe across this spectrum.

Methods
We conducted a prospective, single-institution Phase II study evaluating the Da Vinci SP for gynecologic surgery. Primary endpoints were conversion to laparotomy and major complication within 30 days (Clavien-Dindo Grade 3 or higher). Secondary endpoints included operative time, estimated blood loss (EBL), additional port use, and length of stay.

Results
Twenty-six patients were enrolled over approximately 2 years (median age 49, range 28–70). Procedures included hysterectomy with bilateral salpingo-oophorectomy (BSO) (n=19), BSO alone (n=4), ovarian cystectomy (n=1), hysterectomy/BSO with sentinel lymph node dissection (SLND) (n=5), and uterosacral ligament suspension (USLS) (n=1). Five patients (19%) had malignant indications, including endometrial cancer (n=4) and breast cancer with ovarian metastasis (n=1). Six patients had prior abdominal surgery; two had prior radiation. All 25 operated cases (100%) were completed without conversion. One patient required an additional port for adhesiolysis. There were no intraoperative or postoperative complications. Median surgical time was 186.5 minutes (range 65–395); median EBL was 20 mL (range 0–40). All patients were discharged on postoperative day 0 or 1.

Conclusions
The Da Vinci SP Surgical System is feasible and safe for gynecologic surgery, with no conversions or perioperative complications. Operative times were comparable to multi-port robotic series despite inclusion of staging procedures. Successful use in oncologic cases and in patients with prior surgery or radiation supports further evaluation of this platform in gynecologic oncology.

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