

Comparison of cervical cancer outcomes following open and laparoscopic surgery performed by experienced surgeons: a retrospective study

Chunlin Chen¹, Jianxin Guo², Jun Lan³, Pengfei Li⁴, Xiaonong Bin⁵, Jinghe Lang⁶, Wuliang Wang⁷, Anwei Lu⁸, Min Hao⁹, Weili Li³, Hui Duan³, and Ping Liu³

¹Affiliation not available

²Daping hospital, Army Medical University

³Nanfang Hospital, Southern Medical University

⁴Southern Medical University Nanfang Hospital

⁵College of Public Health, Guangzhou Medical University

⁶Peking Union Medical College Hospital

⁷The Second Affiliated Hospital of Zhengzhou University

⁸The Maternity and Child Care Hospital of Guizhou Province

⁹The Second Hospital of Shanxi Medical University

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Abstract

Objective: Compare the outcomes associated with laparoscopic radical hysterectomy (LRH) and abdominal radical hysterectomy (ARH) for cervical cancer. **Design:** Retrospective, multicenter observational analysis **Setting:** Select patients of LRH and ARH from cervical cancer database and compare their outcomes. **Population:** Patients with stage IA1 (Lymphovascular space invasion [LVSI]-positive) and stage IIA2 cervical cancer (N=6804) were enrolled, of whom 3003 underwent laparoscopy (LRH group), and 3801 underwent laparotomy (ARH group). **Methods:** Kaplan-Meier survival analysis, propensity score matching (PSM) and Cox regression. **Main Outcome Measures:** Five-year overall survival (OS) and 5-year disease-free survival (DFS) **Results:** Before PSM, there was no difference in outcomes between the groups (5-year OS: LRH 89.2% vs. ARH 90.6%, P=0.903.; 5-year DFS: LRH 84.5% vs. ARH 87.1%, P=0.155). Surgical approach did not affect 5-year OS; however, it did affect 5-year DFS (hazard ratio [HR]=0.827, 95% confidence interval [CI]: 0.711-0.962, P=0.014). After PSM, there was no difference in 5-year OS between the LRH (N=1828) and ARH (N=1828) groups (91.0% vs. 93.1%, P=0.220); but there was a significant difference in 5-year DFS between the LRH and ARH groups (86.2% vs. 90.6%, P=0.002). Cox regression revealed that the surgical approach did not affect 5-year OS; however, it did affect 5-year DFS (HR=0.701, 95% CI: 0.563-0.874, P=0.002). **Conclusions:** For IA1 (LVSI-positive) and IIA1 cervical cancers, the recurrence rate following laparoscopic surgery was higher than that following open surgery, regardless of the surgeon's experience.

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