Minimal risk for minimally invasive hysterectomy for stage IA cervical cancer?

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The 2018 publication of the Laparoscopic Approach to Cervical Cancer (LACC) trial changed the surgical paradigm for women with early-stage cervical cancer. The study randomized 631 women with stage IA1 (with lymphovascular space invasion), IA2, and IB1 cervical cancer to minimally invasive or abdominal radical hysterectomy. The disease-free survival at 4.5 years was 86% in the minimally invasive surgery (MIS) group compared with 97% in the abdominal surgery group. MIS was associated with an increased locoregional recurrence rate and decreased overall survival.[1] Similar findings were noted in a large, observational study and subsequently confirmed in a variety of reports.[2] While these data are compelling, the majority of women, including 92% of those enrolled in the LACC trial, had stage IB1 tumors.[1] As such, whether these findings apply to women with microscopic (stage IA1 or IA2) cervical cancer remains an area of uncertainty.

Nasioudis et al examined the association between route of hysterectomy and survival in women with stage IA cervical cancer.[3] Using the National Cancer Database, the investigators identified 1930 women with stage IA cervical cancer treated from 2010 to 2015. Abdominal hysterectomy was performed in 36% of the cohort, 23% had a laparoscopic hysterectomy, and 42% a robotic-assisted procedure. There was no difference in survival based on route of hysterectomy with 4-year survival rates of 97.7% for open and 98.6% for MIS hysterectomy. In stratified analyses similar findings were noted for both stage IA1 (4-year overall survival 97.7% vs 98.5%, respectively) and stage IA2 (4-year overall survival 97.1% vs 98.8%, respectively) tumors. While only one-third of the cohort underwent radical hysterectomy, even when stratified by extent of hysterectomy the findings were similar, with 4-year survival rates of 97.6% vs 98.7% for simple abdominal compared with simple minimally invasive hysterectomy, respectively, and 97.8% vs 98.4% for radical open and radical minimally invasive hysterectomy, respectively.[3]

These data suggest that there may yet be a role for minimally invasive hysterectomy in the treatment of cervical cancer, at least for those women with microscopic disease. While the mechanisms by which minimal access surgery increases mortality for cervical cancer are uncertain, many have posited that tumor disruption and spread from uterine manipulation or colpotomy may be contributing factors. Theoretically the risk should therefore be lower for women with microscopic tumors and very low-volume disease. This hypothesis has been supported by other studies. A multi-institutional observational analysis of 851 patients with stage IA2–IB1 tumors found that MIS was associated with an increased risk of recurrence within the cohort overall, however, in the subset of women who underwent preoperative conization and had no tumor on preoperative assessment prior to radical history there was no increased risk associated with MIS.[4] Similarly, a report of 372 women with IB1 tumors who had no grossly visible lesions preoperatively found no difference in survival based on route of surgery.[5]

The authors of the current report recognize a number of limitations. Importantly, details regarding the performance of preoperative conization, the amount of tumor in the cone specimens, and the volume of residual tumor were uncertain. A large number of women, even those with stage IA2 tumors, underwent simple hysterectomy potentially confounding interpretation. The overall favorable prognosis of the cohort limits the power to detect differences in survival, however, given the large sample size, any difference in survival is likely to be small. Finally, the data source only captures overall survival and data on recurrences are lacking.

Although data describing the oncologic safety of MIS hysterectomy for stage IA cervical cancer were largely absent during the study period nearly two-thirds of the women in the cohort underwent minimally invasive hysterectomy, suggesting that there is already widespread acceptance of the procedure. The excellent prognosis for microscopic cervical cancer, the favorable perioperative morbidity profile of minimally invasive surgery, and now the lack of survival difference compared with open hysterectomy make MIS an attractive option for the management of appropriately counseled patients with stage IA cervical cancer.

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