In ovarian cancer care, focus on high-volume centers could come at a cost

June 20 2019

Limiting ovarian cancer surgery to high-volume hospitals could improve survival but may also reduce access for many rural and underserved patients, a new study from researchers at Columbia University Vagelos College of Physicians and Surgeons has found.

Although mortality was higher than average at hospitals that performed 3 or fewer procedures, more than 75% of low-volume hospitals had better-than-expected outcomes at 60-days and 51% had better-than-expected outcomes at 2 years based on their patient population.

Applying a minimum-volume cutoff of 3 procedures would prevent nearly 35% of hospitals, mainly in rural areas, from performing ovarian cancer surgery—affecting nearly 8% of patients. Over 300 patients would need to be moved from a hospital treating 3 or fewer patients to a higher-volume center to prevent 1 death in the year after surgery.

"Our study shows that hospitals considering implementing minimum-volume standards for cancer surgery could unintentionally prevent many patients from getting timely care for a minimal increase in survival," says Jason Wright, MD, an associate professor of gynecologic oncology at Columbia University Vagelos College of Physicians and Surgeons and the study's senior author.

The findings were published in *Obstetrics & Gynecology*.

Ovarian cancer surgery is a complex procedure with a high risk of

complications. Studies have shown that patients undergoing cancer surgery often have better outcomes when treated at hospitals that perform these procedures routinely.

"There's a strong rationale for implementing minimum-volume standards at hospitals that perform cancer surgeries—large procedures that require experience and a very specialized skill set," Wright says. "But while some hospital systems are voluntarily implementing minimum-volume standards, we haven't determined the optimal volume for hospitals performing complex cancer procedures, or how applying minimum-volume standards would affect access to care for women with ovarian cancer, especially in rural areas."

The researchers used a national cancer database containing 136,196 women who were diagnosed with invasive ovarian cancer between 2005 and 2015 and the 1,321 hospitals that had treated them.

They then compared the hospitals' actual (observed) mortality rates with expected mortality rates (based the characteristics of each hospital's caseload) and modeled how eliminating low-volume hospitals would affect outcomes.

A large number (nearly 50%) of hospitals performed 5 or less ovarian cancer surgeries per in 2015, treating approximately 13% of all women with newly diagnosed ovarian cancer.

On average, hospitals performing 5 or less of these procedures had higher-than-expected mortality rates at 6 months, 1 year, 2 years, and 5 years after surgery. The biggest differences in mortality occurred in the first 6 months to 2 years after surgery, when the risk of complications is higher.

But individually, a large number of low-volume hospitals had better-than-

expected mortality rates. For examples, among hospitals that performed 3 or fewer surgeries in the previous year, 51% had lower than expected 2-year mortality rates.

Implementing a minimum-volume standard of 3 or more surgeries a year would have eliminated 35% of hospitals that treated 7.7% of all patients with ovarian cancer in 2015. Yet this restriction would have only avoided 1 death for every 300 patients treated.

"An arbitrary minimum-volume standard may be unnecessarily punitive for low volume centers with good outcomes," says Wright. "We have previously found that outcomes are better at low-volume centers that rigorously adhere to evidence-based treatment guidelines for ovarian cancer, suggesting that metrics other than volume may be more appropriate."

More information: Jason D. Wright et al, Potential Consequences of Minimum-Volume Standards for Hospitals Treating Women With Ovarian Cancer, *Obstetrics & Gynecology* (2019). DOI: 10.1097/AOG.0000000000003288

Provided by Columbia University Irving Medical Center