Ovarian cancer patients have lower mortality rates when treated at high-volume hospitals

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A study by researchers at the Herbert Irving Comprehensive Cancer Center (HICCC) at NewYork-Presbyterian/Columbia University Medical Center, recently e-published ahead of print by the *Journal of Clinical Oncology*, suggests that women who have surgery for ovarian cancer at high-volume hospitals have superior outcomes than similar patients at low-volume hospitals.

The improved survival rate is not dependent on a lower rate of complications following surgery, but on the treatment of the complications. In fact, patients with a complication after surgery at a low-volume hospital are nearly 50 percent more likely to die as a result of the complication than patients seen at high-volume hospitals.

"It is widely documented that surgical volume has an important effect on outcomes following surgery," said lead author Jason D. Wright, MD, the Levine Family Assistant Professor of Women's Health and the Florence Irving Assistant Professor of Obstetrics and Gynecology at CUMC, a gynecologic oncologist at NYP/Columbia, and a member of the HICCC.

"We examined three specific areas: the influence of hospital volume on complications, failure to rescue from complications, and inpatient mortality in ovarian cancer patients who underwent cancer-related surgery," said Dr. Wright. "But the mortality rate did not coincide with the complication rate. For women who experienced a complication at a low-volume hospital, the mortality rate was 8 percent. For women at a high-volume hospital, it was 4.9 percent. After adjusting for variables, we concluded that the failure-to-rescue rate was 48 percent higher at low-volume hospitals than at high-volume hospitals. In short, high-volume hospitals are better able to rescue patients with complications following ovarian cancer surgery."

The researchers used National Inpatient Sample data from 1998 to 2009, specifically, women aged 18 to 90 with ovarian cancer who under oophorectomy (removal of one or both ovaries): a total of more than 36,000 patients treated at 1,166 hospitals. After reviewing the data, the researchers noted several significant trends. For example, the complication rate increased with surgical volume: 20.4 percent for patients at low-volume hospitals, compared with 24.6 percent at high-volume hospitals.

Although the researchers could not account for all possible factors influencing these findings—the NIS lacks data on physician characteristics and does not have data covering all US hospitals, for example—their findings have important implications for the care of patients with ovarian cancer.

"Our findings suggest that targeted initiatives to improve the care of patients with complications can improve outcomes," said Dawn L. Hershman, MD, associate professor of medicine and epidemiology at CUMC, an oncologist at NYP/Columbia, co-leader of the Breast Cancer Program at the HICCC, and a co-author of the study. "We also believe in the importance of adhering to quality guidelines and best practices, which may overcome these volume-based disparities.

"And at the most basic level, the findings highlight the importance of preventing complications to begin with. They increase mortality, in the worst-case scenario, but can also cause long-term medical problems, with patients and families facing difficult treatment choices and additional costs," said Dr. Hershman.

More information: The paper is titled "Failure to Rescue As a Source of Variation in Hospital Mortality for Ovarian Cancer."

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