Higher hospital volume more important than surgeon experience in outcome of prostate cancer surgery

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Older, sicker, high-risk patients who undergo one of the most common treatments for prostate cancer get better results in larger, busier hospitals, according to new research by Henry Ford Hospital.

In such cases, the same research showed the experience level of the surgeon doing the procedure mattered somewhat less than the hospital setting.

The results, based on data gathered throughout the U.S., will be presented this week at the American Urological Association Annual Meeting in Atlanta.

It is both intuitive - "practice makes perfect" - and has been well known and accepted in the medical community, that both higher hospital volume (the number of occupied beds) and higher surgeon volume (the number of operations performed) lead to better surgical results.

But the new study is the first to test that conclusion in a head-to-head comparison of the two factors on radical prostatectomy (RP).

"There's a clear and distinct relation between surgeon and hospital volume and outcome - the more you do the better the results," says Quoc-Dien Trinh, M.D., a Fellow at Henry Ford Hospital's Vattikuti Urology Institute and lead author of the study.

"I think the novelty of this research is that there are not a lot of studies that have compared hospital to surgeon volume. When does hospital volume matter more, and when does surgeon volume?"

RP, in which the entire prostate gland and some of the surrounding tissue are surgically removed, is the most widely used treatment for prostate cancer, the second most common cancer in American men older than 45. The surgery is highly complex and the results can have serious effects on quality of life, including incontinence and erectile dysfunction.

Drawing on data from the National Cancer Institute's Surveillance, Epidemiology and End Results Program (SEER), the researchers identified 19,225 Medicare patients with prostate cancer who underwent RP from 1995 to 2005. Then, looking at the outcome for each patient within 30 days after surgery, they analyzed the effect of both hospital volume (HV) and surgeon volume (SV) in predicting complications, including blood transfusion, anastomotic stricture (scarring and narrowing of incision lines), long-term incontinence, and erectile dysfunction.

In each case, the results were adjusted for the patient's age, race, the presence of other disease or disorders, and marital and socioeconomic status, as well the hospital's surrounding population density, the surgical approach, and the seriousness of the cancer.

The study found:

- Both higher HV and higher SV led to lower rates of overall complications.
- HV and SV were each related to fewer respiratory and vascular complications.
- Higher SV led to less need for blood transfusion.

- Both HV and SV were associated with lower rates of anastomotic stricture, urinary incontinence, and erectile dysfunction.

Based on these findings and others, the researchers concluded "hospital volume matters more where it's about general delivery of care - for example, preventing complications and mortality," Dr. Trinh says. "That probably depends on the quality of the hospital's intensive care unit, the nursing staff, and other factors such as those, rather than on a specific surgeon's skill.

"But risk of recurrence probably depends on the skill of the surgeon to remove the cancer properly, not on how good the hospital is."

Overall, Dr. Trinh adds, "the main finding is that hospital volume matters more than surgeon volume with regard to 30-day complication rates, especially for older, sicker patients, those at higher risk of complications."

Provided by Henry Ford Health System

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