

Teaching hospital status associated with death rate after colon surgery

April 19 2010

When both cancer and benign diagnoses are taken into consideration, patients undergoing colon surgery appear to have increased odds of death if their procedure is performed at a teaching hospital, according to a report in the April issue of *Archives of Surgery*.

"Teaching hospitals are responsible for training surgical residents and fellows in the United States, which requires a considerable allocation of resources from the federal government and a large capital outlay to offset the costs of training," the authors write as background information in the article. Although the involvement of trainees in care has raised concerns about possible negative outcomes, teaching hospitals are attractive to patients undergoing complex surgeries because they also typically possess board-certified specialty surgeons, multidisciplinary teams and [intensive care unit](#) staffing. "There is a growing interest in the interaction between teaching [hospital](#) status and volume and the individual and combined effects of these characteristics on outcomes."

"In contrast to complex procedures performed at teaching hospitals, colon surgery is more commonly performed by general surgeons in non-teaching hospitals and comparatively less sophisticated settings," write Awori J. Hayanga, M.D., M.P.H., of the Johns Hopkins Bloomberg School of Public Health, Baltimore, and the University of Michigan Medical School, Ann Arbor, and colleagues. The researchers analyzed data from 115,250 patients who underwent colon resection (removal of part of the organ) for both benign and malignant diseases at 1,045 hospitals in 38 states from 2001 through 2005.

Fewer patients had surgery at teaching hospitals than at non-teaching hospitals (46,656 vs. 68,589). The average length of hospital stay was 10 days, and 4,371 patients (3.8 percent) died in the hospital. Teaching hospitals were associated with an increased length of stay (0.5 days) and also an increased risk of death in the hospital compared with non-teaching hospitals (3.9 percent vs. 3.7 percent).

"While the volume-outcome relationship may favor colon cancer resections performed in teaching hospitals, this advantage might be lost when benign colon disease is factored into the equation," the authors write. "The inclusion of common benign disease might represent the tipping point at which both superior level of care and high volume shift away from teaching hospitals in favor of non-teaching hospital settings. Where teaching hospitals perform surgery in comparatively lower volume, they may also demonstrate comparatively poorer outcomes."

The analysis suggests that both procedure and diagnosis should be taken into account when assessing quality of care and surgical outcomes, the authors note. "As policymakers strive to establish quality measures and rationale for regionalization of surgical care, data gathered in this manner may be of great interest to patients, payers and health care providers," they conclude. "These data might further allow the identification of a similar tipping point in other gastrointestinal surgical disease that allows a demarcation to guide the venues where individual surgical care may be most appropriately and efficiently rendered."

More information: Arch Surg. 2010;145[4]:346-350.

Provided by JAMA and Archives Journals

Citation: Teaching hospital status associated with death rate after colon surgery (2010, April 19)

retrieved 26 April 2024 from

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