SSIs May Occur Less After Minimally Invasive Surgery

Minimally invasive surgery is associated with fewer surgical-site infections than is open surgery, according to a new observational study of tens of thousands of patients, reported Rueters Health on Tuesday.

"Physicians should consider the adoption of minimally invasive approaches in order to reduce the risk of surgical site infections," lead author Dr. Giorgio Gandaglia from the University of Montreal Health Center in Canada told Reuters Health by email.

The researchers looked at seven years of data from the American College of Surgeons' National Surgical Quality Improvement Program database, analyzing 30-day infection rates from four types of surgery. They included nearly 100,000 appendectomy patients, 120,000 colectomy patients, 27,000 hysterectomy patients and 11,000 radical prostatectomy patients.

The researchers matched propensity scores to simulate randomization. They found that the rate of surgical site infection for appendectomy was 3.8 percent with minimally invasive surgeries and 7 percent with open surgery ($p<0.001$).

The infection rates were significantly lower with the minimally invasive approach for colectomy (9.3 percent vs. 15 percent), hysterectomy (1.8 percent vs. 3.9 percent) and radical prostatectomy (1.0 percent vs. 2.4 percent) as well, the team reports in JAMA Surgery, online August 20.

Logistic regression analysis of propensity-score matched cohorts confirmed that patients who underwent minimally invasive surgery had lower odds of developing surgical-site infection.

Given these findings and the growing popularity of minimally invasive techniques in the U.S., Dr. Gandaglia expects to see a decrease in surgical site infections over the next few years.

"On the other hand," he cautioned, "minimally invasive surgery cannot replace other forms of surgical site infections prevention."

In an editorial accompanying the paper, Dr. Simon Kim at Yale University in New Haven, Connecticut, and his colleagues say that the study's data are compelling, but they don't account for other complications or costs of each procedure.

"Because future randomized studies are unlikely, clearly defining outcomes meaningful to patients, health care professionals, and key stakeholders is essential to determining whether (minimally invasive surgery) is superior to open surgery or simply another tool selectively used at the discretion of the surgeon on an individual patient basis," they write.

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