Teaching Status: The Impact on Emergency and Elective Surgical Care in the US

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Abstract

Objective(s): To examine the relation between hospital teaching status and surgical outcomes for both emergency and elective general surgery cases using a national database.

Background: Teaching hospitals (TH) have been shown to have better outcomes for complex elective surgical cases when compared with nonteaching hospitals (NTH). Less is known about the effect of teaching status on outcomes for more common procedures, especially where emergency surgical cases are concerned. Worse outcomes seen in this cohort are often attributed to patient disease, but systems level variables such as TH status may also play a role.

Methods: We performed a nationally representative retrospective cohort study of surgical admissions during 2000 to 2006 using the Nationwide Inpatient Sample. Patients were included if they were more than 18 years of age and had a general surgical procedure performed on the day of admission. We examined unadjusted and adjusted in-hospital mortality (IHM) and postoperative complications (POC) for elective and emergency patients.

Results: We identified 1,052,809 admissions. Patients treated at THs were more likely to be nonwhite and at extremes of income when compared with those treated at NTH. Adjusted outcomes revealed an increased risk of IHM at TH (overall OR = 1.20; 95% CI 1.03–1.40, P = 0.017) for emergency admissions with no difference in IHM seen after elective procedures. Postoperative infections were more likely to occur at TH than NTH after elective procedures (OR = 1.14; 95% CI 1.06–1.17, P < 0.007). Postoperative fistula was more likely to occur at TH than NTH after elective surgery (OR = 1.56; 95% CI 1.32–1.85, P < 0.005) whereas postoperative ileus was less likely to occur at TH than NTH (OR = 0.82; 95% CI 0.74–0.91, P = 0.002).

Conclusions: Teaching status is associated with increased risk of IHM after emergency cases. POC profiles also differ by TH status. Investigation of the way in which systems-level variables that differ between TH and NTH contribute to postoperative outcomes may identify novel targets for performance improvement.