474209 - ANESTHESIA CONSULTATION REDUCES LENGTH-OF-STAY BUT NOT MORTALITY

Duminda Wijeyesundera, MD FRCPC¹, Peter Austin, PhD², Scott Beattie, MD¹, Janet Hux, MD MSc², Andreas Laupacis, MD MSc³

1. Anesthesia, University Health Network, Toronto, ON, Canada

2. Institute for Clinical Evaluative Sciences, Toronto, ON, Canada

3. Keenan Research Centre, Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto, ON, Canada

Introduction: In previous single-centre studies, preoperative consultation by an anesthesiologist several days to weeks before surgery was associated with reduced patient anxiety, case-cancellations on the day-of-surgery, and duration of hospitalization.¹⁻⁴ Nonetheless, the broader impact of anesthesia consultation on outcomes in the population remains unclear. We therefore undertook a population-based observational study to determine whether preoperative anesthesia consultation is associated with reduced hospital length-of-stay and mortality after elective intermediate-to-high non-cardiac surgery.

Methods: We used population-based linked administrative databases to conduct a cohort study of 217,082 patients, aged ≥ 40 years, who underwent selected elective intermediate-to-high risk non-cardiac surgical procedures between 1 April 1994 and 31 March 2004. Propensity-score methods were used to construct a matched-pairs cohort that resolved important baseline differences between patients who underwent consultation as opposed to those that did not. We then determined the association of consultation (within 60 days before surgery) with hospital length-of-stay and postoperative mortality (30-days and 1-year) within the matched pairs. Pre-specified subgroup analyses were also performed, based on sex, age (≥ 70 years, < 70 years) and surgical procedure type (vascular, orthopedic, intra-peritoneal or intra-thoracic).

Results: Of the 271,082 patients in the entire cohort, 39% ($n = 104,716$) underwent preoperative anesthesia consultation. The median time between consultation and surgery was 8 days (interquartile range 5-14 days). Consultation rates increased throughout the study, from 19% of cases in 1994 to 53% of cases in 2004. The matched-pairs cohort consisted of 104,716 patients. Within the matched-cohort, anesthesia consultation was associated with a reduced mean hospital length-of-stay [8.17 days vs. 8.52 days; difference -0.35 days, 95% confidence interval (CI) -0.27 to -0.43, $P < 0.001$]. Consultation was not associated with reduced mortality, either at 30-days [relative risk (RR) 1.04, 95% CI 0.96-1.13, $P = 0.36$] or 1-year (RR 0.98, 95% CI 0.95-1.02, $P = 0.20$). The pre-specified subgroup analyses suggested that the association of consultation with mortality varied based on the surgical procedure. Specifically, consultation might be associated with improved survival after vascular surgery, at 30-days (RR 0.86, 95% CI 0.73-1.01) and 1-year (RR 0.83, 95% CI 0.76-0.91).

Discussion: Preoperative anesthesia consultation is associated with reduced hospital length-of-stay. Overall, it is not associated with improved survival, either at 30-days or 1-year after surgery; however, a subgroup analysis did demonstrate improved survival

among patients undergoing vascular surgery. In light of these potential benefits, further research is needed to evaluate the overall cost-effectiveness of the increasing use of preoperative anesthesia consultation.

References: 1. Anesthesiology 2005 103: 855-859 2. Can J Anesth 2000 47: 511-515 3. Anesth Analg 1997 85: 1307-1311 4. Anesth Analg 2002 94: 644-649