Increased Complications with Preoperative Hyponatremia

Surgical patients with hyponatremia have an elevated risk of death and complications in the 30 days postoperatively, according to a report in the Archives of Internal Medicine.

A national quality improvement database was used to identify more than 940,000 patients undergoing major surgery at U.S. hospitals from 2005 through 2010. Based on a sodium level less than 135 mEq/L, 7.8 percent of patients had preoperative hyponatremia. Adverse outcomes in the 30-day perioperative period—including death, major coronary events, wound infections, and pneumonia—were compared for patients with hyponatremia versus normal serum sodium levels.

Thirty-day mortality was 5.2 percent for patients with hyponatremia versus 1.3 percent for those with normal baseline sodium: adjusted odds ratio (OR) 1.44. Hyponatremia was associated with increased mortality across a wide range of patient subgroups. The increase in mortality was more pronounced for hyponatremic patients undergoing nonemergency surgery, OR 1.59; and those in American Society of Anesthesiologists class 1 and 2, OR 1.93.

Several morbidity outcomes were also increased among patients with preoperative hyponatremia, including major coronary events, OR 1.2; pneumonia, OR 1.2; and wound infections, OR 1.17. For most procedures, patients with hyponatremia had approximately a one-day increase in median length of stay.

Hyponatremia is a known, potentially reversible risk factor for adverse outcomes in medically ill patients. This large database study links preoperative hyponatremia to an increased risk of perioperative morbidity and mortality after major surgery. Discussing the clinical implications, the researchers write, “[O]ne reasonable approach is to monitor for perioperative complications in all patients at risk and to selectively treat hyponatremia before nonemergency surgical procedures when a reversible cause is found” [Leung AA, et al: Preoperative hyponatremia and perioperative complications. Arch Intern Med. 2012; 172: 1-8].

Lower Blood Pressure Doesn’t Reduce Mortality in Type 2 Diabetes

Aggressive blood pressure reduction in the year after diagnosis of type 2 diabetes does not lead to a reduced risk of death, according to a study of primary care data in the British Medical Journal.

The researchers analyzed data from nearly 127,000 adult patients with type 2 diabetes newly diagnosed at U.K. general practices between 1990 and 2005. Systolic and diastolic blood pressures during the subsequent year were analyzed for association with mortality. Comparisons were made for patients with and without established cardiovascular disease—present in 9.8 percent of patients at baseline. Median follow-up was 3.5 years.

With adjustment for a wide range of baseline characteristics, “tight” control of blood pressure to less than 130/80 mm Hg was not associated with increased survival in patients with cardiovascular disease. For patients with systolic blood pressure of 110 mm Hg, the hazard ratio was 1.85.