

IN BRIEF

SURGERY**Restrictive versus liberal red-cell transfusion**

Patients undergoing cardiac surgery are among the highest recipients of red-cell transfusion. Investigators in the randomized, controlled, noninferiority TRICS III trial aimed to determine whether a restrictive red-cell transfusion strategy in patients undergoing cardiac surgery with cardiopulmonary bypass could achieve similar outcomes to a more liberal transfusion strategy. Patients assigned to the restrictive strategy received red-cell transfusion if their haemoglobin levels were <7.5 g/dl, whereas patients assigned to the liberal strategy received a transfusion if their haemoglobin levels were <9.5 g/dl in the intensive care unit (ICU) or <8.5 g/dl in a non-ICU ward. In total, 4,860 patients were included in the per-protocol analysis ($n = 2,430$ in each group). Among the patients in the restrictive-threshold group, 11.4% had a primary composite outcome event (composite of all-cause death, myocardial infarction, stroke, or renal failure), compared with 12.5% in the liberal-threshold group (OR 0.90, 95% CI 0.76–1.07, $P < 0.001$ for noninferiority). The investigators concluded that a restrictive red-cell transfusion strategy was noninferior to a more liberal strategy with regard to major death and disability in patients undergoing cardiac surgery.

ORIGINAL ARTICLE Mazer C. D. *et al.* Restrictive or liberal red-cell transfusion for cardiac surgery. *N. Engl. J. Med.* <http://dx.doi.org/10.1056/NEJMoa1711818> (2017)

ACUTE KIDNEY INJURY**Preventing angiography-associated kidney injury**

Contrast agents used during angiography have been linked with acute kidney injury (AKI) and death. In the 2×2 factorial-designed PRESERVE trial, investigators randomly assigned 5,177 patients undergoing angiography to intravenous sodium bicarbonate or intravenous sodium chloride, and 5 days of oral acetylcysteine or oral placebo, for the prevention of AKI and adverse outcomes. No benefit of intravenous sodium bicarbonate versus intravenous sodium chloride, or of oral acetylcysteine versus oral placebo, was observed for the prevention of death, major adverse kidney events, or contrast-associated AKI in patients undergoing angiography.

ORIGINAL ARTICLE Weisbord S. D. *et al.* Outcomes after angiography with sodium bicarbonate and acetylcysteine. *N. Engl. J. Med.* <http://dx.doi.org/10.1056/NEJMoa1710933> (2017)

ANTIPLATELET THERAPY**Similar 1-year results for prasugrel and ticagrelor**

Investigators in the randomized PRAGUE-18 trial previously reported no differences in outcomes between prasugrel and ticagrelor treatment at 7 days and 30 days in patients who underwent percutaneous coronary intervention for ST-segment elevation myocardial infarction (MI). Now, the longer-term follow-up data similarly show that patients assigned to prasugrel versus ticagrelor treatment for 12 months had no differences in the end point of cardiovascular death, MI, or stroke (6.6% versus 5.7%; HR 1.17, 95% CI 0.74–1.84). Notably, 34.1% ($n = 216$) of patients in the prasugrel group, and 44.4% ($n = 265$) of patients in the ticagrelor group switched to clopidogrel treatment for economic reasons. These early post-discharge switches to clopidogrel were not linked to an increased risk of ischaemic events.

ORIGINAL ARTICLE Motovska, Z. *et al.* One-year outcomes of prasugrel versus ticagrelor in acute myocardial infarction treated with primary angioplasty: the PRAGUE-18 study. *J. Am. Coll. Cardiol.* <http://dx.doi.org/10.1016/j.jacc.2017.11.008> (2017)