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## **Preoperative anemia is a predictor of acute kidney injury and mortality after coronary artery bypass graft surgery**

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**Objectives:** Anemia is an important health concern regarding risks of several morbidities and mortality. Nevertheless, its relationships with kidney outcomes and a long-term mortality after coronary artery bypass grafting (CABG) remain unresolved.

**Methods:** A total of 2,942 patients who underwent CABG at two tertiary referral hospitals between 2003 and 2015 were retrospectively reviewed. Patients were categorized by quartiles of preoperative hemoglobin (Hb) levels. Odds ratio (OR) for postoperative acute kidney injury (AKI) and hazard ratio (HR) for end-stage renal disease (ESRD) and all-cause mortality were calculated after adjustment of multiple covariates.

**Results:** Mean preoperative Hb level was  $13.0 \pm 1.8$  g/dL. The prevalence of postoperative AKI were 34.6%, 25.6%, 21.4%, and 22.6% from 1<sup>st</sup> to 4<sup>th</sup> quartiles, respectively. The 1<sup>st</sup> quartile had higher ORs of AKI [2.1 (1.55–2.76)] and ESRD [5.2 (1.06–25.39)] than the 4<sup>th</sup> quartile. During the mean follow-up period of 75 months, 755 patients (25.7%) died. The 1<sup>st</sup> quartile had a higher risk of mortality than the 4<sup>th</sup> quartile with a HR of [2.2 (1.57–2.97)].

**Conclusions:** Because preoperative anemia is associated with AKI, ESRD, and all-cause mortality, hemoglobin level should be monitored during the perioperative period of CABG.