

statistical strength. Finally, the subgroups are too small to allow any statistically significant conclusion. Nonetheless, the subgroup stratification provides tendentially attractive indications.

**Conflict of interest:** none declared.

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**eComment. Postoperative rise in serum creatinine following coronary artery bypass grafting: how is this best measured and what is its significance?**

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Mannacio *et al.*'s paper provides a valuable contribution to the evidence base concerning multiple composite grafts, highlighting concerns regarding an inability to meet flow requirements during perioperative stress-testing [1]. Of particular interest was the authors' definition of preoperative renal dysfunction, and the cut-off level used for the postoperative rise in serum creatinine.

The link between end-stage renal failure and predisposition to adverse outcomes following coronary artery bypass surgery is established [2]. More recently, researchers have considered the impact of lesser degrees of renal impairment on mortality following coronary artery bypass graft (CABG) [3], and previous definitions of acute renal failure have been challenged [4]. In their paper on the impact of minimal increases in serum creatinine, Lassnigg *et al.* conclude that measuring repeat serum creatinine concentrations within 48 hours postoperatively was the most effective method for detecting patients at increased risk of adverse outcome following cardiothoracic surgery [4]. In their prospective study comparing patient outcomes following CABG, Anderson *et al.*'s univariate analysis showed that individuals with a serum creatinine of 1.5-3.0 mg/dl were at an increased risk of 30-day mortality and morbidity, including renal failure necessitating dialysis [3]. In Mannacio *et al.*'s cohort, four patients experienced a postoperative rise in serum creatinine >1.5 mg/dl [1]. We are informed that although two patients with chronic renal disease received dialysis, no patients required postoperative dialysis for 'new' insufficiency [1]. Firstly, with the above literature in mind, it would be interesting for Mannacio *et al.* to define the time frame used in measuring postoperative serum creatinine rise in their cohort. Secondly, where the postoperative rise in serum creatinine was >1.5 mg/dl, arguably, dialysis during the 12-month follow-up period may be of significance, even where the renal insufficiency is not 'new'; recording dialysis frequency postoperatively in patients with known renal insufficiency, for example, may be helpful.

Other studies have shown that patients with composite grafts have had postoperative acute renal failure [5]. In contrast, Mannacio *et al.* report that no patients in their cohort required new dialysis in the postoperative period [1]. These two different definitions of renal insufficiency demonstrate a need for a harmonized, defined outcome measure.

**Conflict of interest:** none declared.

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**eReply. Postoperative rise in serum creatinine following coronary artery bypass grafting: how is this best measured and what is its significance?**

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We would like to thank Dr Burnell [1] for the interest in our article [2], and the editor for giving us the opportunity to reply. We very much appreciated this eComment that underlines the actual confusion regarding the correct definition of renal failure in coronary artery bypass surgery. In our study, 4 patients had chronic

renal failure were on dialysis and were treated by dialysis after surgery. Only 4 other patients had increased postoperative creatinine higher than 1.5 mg/dl above the baseline. No patients required dialysis for postoperative, acute, newly occurred renal failure either postoperatively or within one year after surgery. Creatinine values were measured upon admission in the intensive care unit, every 6 hours during the first postoperative 48 h and daily thereafter. In our cohort, the higher creatinine values generally occurred from 6-24 h postoperatively, but normalized in the first 2-4 postoperative weeks. No patients developed renal insufficiency within the one-year follow-up. Increased postoperative creatinine was not a significant risk factor of adverse outcome in our cohort. Indeed, it must be taken into account that all the patients included in our study underwent off-pump coronary artery surgery, which is known to reduce the risk of postoperative renal failure [3-4]. Having said that, we are in complete agreement that a harmonized, defined outcome measure is needed in order to avoid different definition. However, this screening parameter should have a high sensitivity, a low cost and be easily accessible.

**Conflict of Interest:** None declared

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