

Conflict of interest: none declared.

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eComment. Interpretation of the data together with the management of cardiac surgery patients with diabetes mellitus

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We have read with interest the analysis by Tennyson *et al.* of the role of HbA1c in predicting the mortality and morbidity outcomes in patients undergoing coronary artery bypass surgery (CABG) [1].

In such patients, higher fasting blood glucose (FPG) levels are associated with a higher incidence of arrhythmia, atelectasis and prolonged mechanical ventilation, whereas higher HbA1c levels are associated with a higher incidence of intra-aortic balloon counterpulsation, massive bleeding and multi-organ failure [2]. Although diabetes mellitus (DM) is traditionally known to be associated with an increased risk for CABG, there are also adverse outcomes reported in the literature indicating similar hospital mortality rates for diabetic and non-diabetic patient groups [3]. In fact, delaying the surgical procedure seems to be the safest measure when quadrupled mortality for CABG is noted with HbA1c values of over 8.6% [1]. Since the lifespan of red blood cells is around three months, any effective change in HbA1c levels will be assumed to take place within 10–12 weeks. So, the question is about which parameters we are able to manipulate in a patient with altered FBG levels who are candidates for a CABG procedure and how we can interpret and evaluate the HbA1c and FPG levels in these patients. In our clinical practice we put all DM patients who are on oral hypoglycaemic drugs onto dual insulin treatment in the preoperative period without taking HbA1c levels into account. We encourage adequate oral hydration until the day of surgery. In the same time period, we administer moderate to high doses of oral N-acetyl cysteine (up to 2400 mg/day) for renal protection. Where the insulin-dependent patients are concerned, we check the HbA1c level. When the HbA1c level is below 6.5%, we take the same precautions for renal function and continue on the same insulin dosage. When the HbA1c level is above 6.5%, we begin with quadruple insulin therapy. In any patient with a HbA1c level above 8.5%, we delay the surgery for an average of one week from instituting the dosage of quadruple insulin. In all cases, we aim to keep the postprandial blood glucose level below 150 mg/dl and the FPG level below 110 mg/dl. During the postoperative course, we keep patients on continuous insulin infusion with regard to the close follow-up of the blood glucose level. When patients achieve adequate oral intake, we wean them from intravenous insulin infusion and onto a subcutaneous regimen. In all patients with a previous oral anti-diabetic drug usage history, we administer dual or quadruple insulin for at least three months. In our opinion, providing effective blood glucose level management and taking renal protection measures until the day of CABG surgery is as important as preoperative HbA1c levels in these patients.

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