

## **The Influence of Preoperative Hemoglobin A1C Level on Postoperative Anti-Diabetic Treatment in Patients Undergoing CABG Surgery**

Yoav Ben-Shahar, Oved Cohen, Zvi Adler, Victor Kertsman, Sammer Diab, Yaron Barak, Gil Bolotin

*Cardiac Surgery, Rambam Health Care Campus and the Bruce Rappaport Faculty of Medicine, The Technion-Israel Institute of Technology, Haifa, Israel*

**Objective:** Diabetes is a well-known risk factor for adverse events post heart surgery. The A1C hemoglobin level provides a good view of the diabetic patient's status in the previous three months. The purpose of this study was to determine whether measuring hemoglobin A1C levels preoperatively in patients undergoing CABG surgery would impact on postoperative anti-diabetic treatment.

**Methods:** Preoperative serum hemoglobin A1C level was measured in all patients who underwent CABG surgery between July 1, 2007, and July 31, 2008 (known A1C Hg group). This data, along with a known diabetes history and actual glucose level on admission, were factors that helped in determining optimal anti-diabetic treatment. This cohort was compared to another series of patients who underwent CABG surgery two years previously, between July 1, 2005, and July 31, 2006 (unknown A1C Hg group).

**Results:** The prevalence of patients with a diabetic history was similar in both groups, 48.1% vs 47.8% ( $p=1$ ). In the known A1C hemoglobin group, 84 (45.1%) patients were discharged with anti-diabetic treatment, compared to 63 (33.7%) patients in the unknown A1C hemoglobin group, ( $p=0.026$ ). Of 97 patients defined as non-diabetic with a known hemoglobin A1C, 50 (51.5%) were discharged with anti-diabetic treatment, compared to 29 (29.9%) of 97 patients in the unknown A1C hemoglobin group who were defined as non-diabetic ( $p=0.003$ ).

**Conclusions:** A1C hemoglobin was found to be an influencing factor on postoperative anti-diabetic treatment, thus providing another tool in the physician's armamentarium for best anti-diabetic treatment.