

Increased postoperative glycemic variability is associated with increased revision surgery rates in diabetic patients undergoing hip fracture fixation

Itay Ashkenazi¹, Nissan Amzallag, Nadav Graif, Or Shaked¹, Yaniv Warschawski, Ron Gurel², Tomer Ben-Tov³, Amal Khoury⁴

¹Tel Aviv Sourasky Medical Center, ²Mr, ³The Tel Aviv Sourasky Medical Center, ⁴Tel Aviv Medical Center

INTRODUCTION:

The associations between increased glycemic variability (GV) during hospitalization and increased rates of mortality, revision surgery, and postoperative surgical site infections in diabetic patients following fixation of hip fractures has not been established. The aim of this study is to evaluate the association between GV and those sequelae in that patient's population.

METHODS:

We retrospectively analyzed data on 3117 consecutive patients who underwent fixation of hip fractures at our institution from 2011 to 2020. Patients with a known diagnosis of diabetic mellitus who had a minimum of three postoperative glucose evaluations within the first week after surgery were included. GV was assessed by a coefficient of variation. The study population was divided into three patient groups according to the extent of their GV. Outcomes included short- and long-term mortality, reoperations, readmissions, and postoperative infection rates.

RESULTS:

The final cohort consisted of 605 patients. There was a non-significant trend between greater GV and increased mortality, readmission, revision, and postoperative infection rates. The revision rates for any cause, however, were significantly higher in the high GV group compared to the two other groups ($P = 0.04$).

DISCUSSION AND CONCLUSION:

Higher GV in the postoperative period is associated with increased rates of revision surgery in diabetic patients following fixation for hip fractures. Glucose levels of diabetic patients must be meticulously monitored and controlled in the postoperative period in an effort to contain the sequelae associated with elevated GV.