



ISFAHAN UNIVERSITY OF MEDICAL SCIENCES  
SCHOOL OF MEDICINE

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**Title:**

**Changes in blood glucose level during and after light sedations using propofol-fentanyl and midazolam-fentanyl in diabetic patients who underwent cataract surgery**

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## **Abstract:**

*Background:* Surgeries may trigger the stress response which leads to changes in blood glucose level; and studies suggest that different sedation and anesthesia methods have different effects on blood glucose level. In order to minimize complications related to blood glucose level in surgeries, it is vital to minimize effects of anesthetics on it. The aim of this study was to investigate changes of blood glucose levels in diabetic patients and compare them in two sedation methods of propofol+fentanyl and midazolam+fentanyl.

*Methods:* 80 diabetic candidates for cataract surgery who had all the inclusion criteria, underwent cataract surgery using two methods of Propofol (1mg/kg/h) + Fentanyl (2 $\mu$ g/kg) (Group P) and Midazolam (0.03mg/kg) + Fentanyl (2 $\mu$ g/kg) (Group M) for light sedation. In the end 70 patients (Group P N=35 and Group M N=35) remained in the study. Patients' blood glucose levels, vital signs and hemodynamic data were assessed 30 minutes prior to the surgery, each 15 minutes during surgery and at the end of surgery.

*Results:* Hemodynamic parameters did not have a statistically significant difference between the two groups. Mean blood glucose level in group M was 149.15 mg/dl and in group P was 149.2 mg/dl, and based on Repeated Measures ANOVA test, significant differences were not

observed between the two groups ( $p=0.99$ ). T-test showed no significant differences in the blood glucose level at any time of the study between the two groups.

*Conclusions:* Light sedation methods of propofol+fentanyl and midazolam+fentanyl did not have any differences in alteration of blood glucose level.

**Keywords:** blood glucose, Diabetes Mellitus, propofol, fentanyl, midazolam.

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