

**ABSTRACT NO.: ABS3115****Effect of sevoflurane vs desflurane on blood glucose level in patients undergoing intracranial neurosurgery: A randomised control study****ASHUTOSH KAUSHAL**

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**Background & Aims:** Patients undergoing neurosurgery are prone to neurological damage due to the anaerobic metabolism of blood glucose. In this study we aimed to compare the effect of sevoflurane and desflurane on blood glucose levels in patients undergoing intracranial surgery.

**Methods:** All consenting patients of either gender 18-65 years belonging to American Society of Anesthesiologists (ASA) physical status I & II scheduled for intracranial surgery under sevoflurane or desflurane maintenance anaesthesia were included. Patients suffering from diabetes, thyroid dysfunction, renal or hepatic disease, on steroids, beta-adrenergic blocking agents, insulin or oral hypoglycaemic agents, pregnant or lactating patients, chronic alcoholic patients, and non-consenting patients were excluded from the study. The enrolled patients were randomised in the sevoflurane and desflurane groups. The periodic glucose level was measured hourly after induction until completion of surgery using the glucose oxidase peroxidase method.

**Results:** A total of 70 patients was included in the study. Both sevoflurane and desflurane when used as maintenance anaesthetics cause changes in blood sugar levels. Sevoflurane causes a gradual increase in blood sugar intraoperatively whereas desflurane causes an initial rise in blood sugar followed by a decline in blood sugar level in euglycemic patients. There was a significant difference in the trend of blood sugar (mg/dL) over time between the two groups ( $p < 0.001$ ).

**Conclusion:** The changes in blood sugar level by both agents were statistically significant but clinically insignificant as the values remained within clinically normal range and there were no episodes of hypo or hyperglycaemia.

**Keywords:** Blood glucose, Desflurane, Sevoflurane

**References**

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