Perioperative Blood Glucose in Pediatric Outpatients

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Glucose free solution for pediatric patients during surgery is still controversial. Many investigators found no hypoglycemia while the others still found some in their series.
This study was conducted in 93 pediatric patients scheduled for outpatient surgery under genral anesthesia to determine blood glucose level in perioperative period. The result of this study may lead to suggestion for proper fluid administration in children during surgery
The patients were divided into 2 groups, group A (n = 39) and group B (n =54), without and with 5% D 1/3 NSS administration at maintenance rate respectively. The results showed no significant difference in age, body weight, duration of fasting, duration of surgery and anesthesia. P>0.05 (p =0.11-0.92)
Mean blood glucose in both groups were within normal limit. Intraoperative blood glucose were significantly different between group A and group B (111.3(30.6 VS 131.4(32.8 mg%) p =0.003). Preoperative (94.23(26.31 VS 95.94(3.98 mg%) and post operative blood glucose (98.42(30.34 VS 94.71(38.82 mg%) were comparable.

The result showed that 9 patient (9.67%) had hypoglycemia (BG was the number of children failing to response to the stress of surgery, their blood glucose was lower than the control (preoperative value). This incidence during intraoperative and postoperative period was found in group A 30.77%, 56.41% and group B9.43%,61.22%.

The result of this study suggested that stress response in children by increasing blood glucose is not a simple pattern as someone expected. Both non dextrose fluid and dextrose fluid administration may result in blood glueose temporarily below control in some children. The administration of dextrose fluid at maintenance rate may lead to high blood glucose intraoperatively but not upto the dangerous level.

In conclusion, the administration of dextrose fluid at maintenance rate is suggested to prevent decreasing blood glucose encountered in certain children until oral intake is resumed.

Key words : Blood glucose level, Pediatric, outpatient surgery.