

Comparing Two Different Plasma Concentration Of TCI Propofol Using Paedfusor Model During Induction Of Anaesthesia For Elective Surgery In Paediatric Population

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Background: Paedfusor model is one of the validated target-controlled infusion (TCI) propofol in paediatric population. In Malaysia, the current propose dose for induction of anaesthesia with TCI propofol based on several studies is between 5 mcg/ml to 6 mcg/ml in combination with remifentanyl. However, there has been no study to compare the plasma concentration of TCI propofol for induction of anaesthesia in paediatric population using Paedfusor model in combination with intravenous fentanyl.

Objectives: Compare the effectiveness of induction of anaesthesia in paediatric undergoing elective surgery using TCI propofol with Paedfusor model at two different plasma concentration, 4mcg/ml and 5 mcg/ml.

Method: A randomized, prospective, single-blinded controlled trial was used for this study. Thirty-six unpremedicated paediatric patients, American Society of Anaesthesiologists (ASA) class I and II undergoing elective surgical procedure were randomly allocated between two groups. Group 1 and group 2 received TCI propofol (Paedfusor model) 4 mcg/ml and 5 mcg/ml respectively for induction of anaesthesia. The induction time, the successful induction and the haemodynamic were recorded and compared between groups.

Results: There was no significant difference in induction time for both groups 4 mcg/ml and 5 mcg/ml (222.28(98.86) vs 212.94(83.17) ($p > 0.05$). There was no association between success rate of induction and groups (40% vs 60%) ($p > 0.05$). For both groups, there was no difference of mean age between those who had success induction and fail induction ($p > 0.05$). There was no significant haemodynamic response difference between groups during pre-induction and within three minutes after induction ($p > 0.05$).

Conclusion: Induction of anaesthesia in paediatric with TCI propofol using Paedfusor model at 4mcg/ml is effective as 5 mcg/ml as it provides equal induction time, success rate and haemodynamic response.