Comparative study between the effect of propofol and fentanyl on the incidence and severity of emergence agitation after sevoflurane anesthesia in pediatrics.

Hany Mahmoud Yassin, Maged labib Boules

Ain-Shams Journal of Anesthesiology 2015; 8:529–534

Abstract:

Introduction

The occurrence of emergence agitation (EA) in pediatric patients who received sevoflurane anesthesia is a common postoperative problem.

Purpose

This study aimed to compare the efficacy of propofol versus fentanyl to decrease the incidence
of EA using an emergence behavior scale – pediatric agitation emergence delirium (PAED).

Patients and methods

This study was performed on three patient groups undergoing the same surgical procedure, under sevoflurane anesthesia: the first received saline as a control, the second received propofol, and the third received fentanyl. Thereafter, we compared the efficacy on incidence and severity of EA using an emergence behavior scale – PAED.

Results

Regarding the frequency of agitation, the highest frequency was observed in the control group followed by the propofol group and then the fentanyl group (46.9% , 18.8%, and 12.5%, respectively).

The onset of agitation was delayed in the propofol and fentanyl groups when compared with the control group ($P < 0.01$ and 0.02, respectively). There was no statistically significant difference between the three groups regarding the duration of agitation. The PAED scoring revealed no significant difference between the propofol and fentanyl groups ($P = 0.239$), but a highly significant difference between both and the control group was found ($P < 0.001$).

Conclusion

Both propofol and fentanyl decrease the incidence and the severity of EA, but there is no reliable significance when comparing both drugs. We recommend further studies to declare other drugs that have potency to decrease the incidence and to treat the EA.

Keywords:

emergence agitation, fentanyl, pediatric anesthesia, propofol, sevoflurane anesthesia.