The Comparison Of Two Different Concentrations Of Ketofol For Pediatric Procedural Sedation In Circumcision Surgeries

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INTRODUCTION

Since combination of ketamine and propofol lacks respiration related problems and opioid-associated adverse effects, such as respiratory depression, postoperative nausea and vomiting, compared to other anesthetic agents, ketofol has been increasingly used for anesthesia for children.

OBJECTIVE

The aim of our retrospective study was to evaluate the intraoperative sedation quality and side effects of two different concentrations of ketofol, 1:2(0.5mg/kg-1.0mg/kg) ketamine-propofol versus 1:3(0.5mg/kg-1.5mg/kg) ketamine-propofol, on children who underwent circumcision surgery.

METHODS

We enrolled 102 patients (American Society of Anesthesiologists[ASA] class I-II) who received either 1:2(0.5mg/kg-1.0mg/kg) ketamine-propofol (Group A, n = 50) or 1:3(0.5mg/kg-1.5mg/kg) ketamine-propofol (Group B, n = 52) for general anesthesia from June 2017 to December 2017 . Sedation quality was assessed using the Richmond Agitation and Sedation Scale (RASS).

RESULTS

The Richmond Agitation and Sedation Scale (RASS)

Score	Term	Description
+4	Combative	Overtly combative or violent; immediate danger to staff
+3	Very agitated	Pulls on or removes tube(s) or catheter(s) or has aggressive behavior toward staff
+2	Agitated	Frequent nonpurposeful movement or patient-ventilator dyssynchrony
+1	Restless	Anxious or apprehensive but movements not aggressive or vigorous
0	Alert and calm	Spontaneously pays attention to caregiver
-1	Drowsy	Not fully alert, but has sustained (more than 10 seconds) awakening, with eye contact, to voice
-2	Light sedation	Briefly (less than 10 seconds) awakens with eye contact to voice
-3	Moderate sedation	Any movement (but no eye contact) to voice
-4	Deep sedation	No response to voice, but any movement to physical stimulation
-5	Unarousable	No response to voice or physical stimulation

Sedation scores (RASS) at 5, 10, 15 and 20 min during operation.

	Group A (1:2) n = 50	Group B(1:3) n = 52	P-Value
5 min	-4	-5	<0.001
10 min	-4	-4	<0.001
15 min	-3	-4	0.08
20 min	-2	-2	<0.001

Postoperative adverse events	Group A(1:2) n = 50	Group B(1:3) n = 52
Vomiting	1	0
Hallucination	3	0
Respiratory depresyon	2	3

CONCLUSION

Our study showed that 1:3(0.5mg/kg-1.5mg/kg) ketamine-propofol mix provided better intraoperative sedation quality with fewer side effects compared to 1:2(0.5mg/kg-1.0mg/kg) ketamine-propofol mix.

In Group B(1:3 ketamine-propofol), all of the patients exhibited satisfactory sedation for the duration of 30 min after anesthesia induction. Repeat dose of ketofol was not necessary. However, in Group A(1:2 ketamine-propofol), repeat doses of ketofol were needed for some patients.