PILOT: RCT OF ADJUNCTS TO GENERAL ANESTHESIA IN PEDIATRIC DENTISTRY

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INTRODUCTION Small children with extensive caries require dentistry under general anesthesia (GA). Their course is often marred by vomiting (35%)¹, prolonged crying, and emergence agitation (EA, 18%)². Rapid awakening, pain, inflammation, and nausea are suspected causes. Adjuncts to GA used to prevent these problems have not been systematically studied. A randomised controlled trial (RCT), of intravenous (IV) morphine, dexamethasone, and granisetron, was used to study effects on emergence crying, vomiting, EA, and wellness at next-day followup.

METHODS With Research Ethics Board approval, 100 healthy subjects were randomised with full blinding and concealment. All had oral ibuprofen 10mg/kg, then a standard GA: mask induction halothane, an IV infusion of saline; 2 mg/kg of propofol, then intubation; maintenance with halothane and nitrous oxide. Study drug: saline placebo (group 0), morphine 50 ug/kg (group 1), dexamethasone 150ug/kg (group 2), granisetron 40ug/kg (group 3), or a combination of active drugs in half doses (group 4).

RESULTS

	Group differences	Mean (SD)	Mean (SD)	P
Age	None			0.63
Weight	None			0.65
Awakening time	None			0.67
Loud crying Duration (min)	1 < 4 Rest not significant	1.00 (2.15)	10.000 (11.64)	0.04
Vomiting PACU	No			0.06
EA	1 better than others			0.006
Vomiting later (episodes)	1 worse than others (placebo best)	2.42 (2.43)	0.08 (0.28)	<0.0001
Wellness next day	None			0.497

DISCUSSION Morphine prevented EA and crying in PACU, but caused more vomiting after leaving the clinic. Numbers are insufficient to show other adjuncts were ineffectual.

REFERENCES 1. Davis PJ, McGowan FX, *et al.* Anesthesiology 1995; 83: 956 – 960.
2. Voepel-Lewis T, Malviya S, Tait AR. Anesth Analg. 2003 Jun; 96(6): 1625-30