Title: POSTOPERATIVE EMESIS AFTER PEDIATRIC STRABISMUS SURGERY: THE EFFECT OF DIXYRAZINE COMPARED TO DROPERIDOL

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Introduction: Strabismus surgery in children is commonly associated with a 50-85% incidence of post-anesthetic vomiting. Although prophylactic treatment with droperidol[1-3] (0.075 mg/kg i v) decreases the incidence[1-3] it may result in delayed awakening. It has been our impression, however, that dixyrazine, a long acting phenthiazin-derivate, may be equally effective without causing prolonged sedation. We therefore compared the effects of droperidol and dixyrazine in a randomised double-blind study.

Methods: 47 children, ASA class I or II, scheduled for strabismus surgery were studied. Approval was granted by the local Human Studies Committee and informed consent was obtained from the parents.

The children were premedicated with diazepam 0.5 mg/kg (maximum dose 15 mg) and atropine 0.02 mg/kg (maximum dose 0.5 mg) rectally, 45 minutes before induction. Anesthesia was induced with thiopental (5-6 mg/kg i v), or with halothane in nitrous oxide/oxygen. Succinylcholine (1-2 mg/kg) was given, the trachea intubated, and the patients were ventilated with halothane in nitrous oxide/oxygen.

The patients were randomly assigned to one of three groups: control; droperidol 0.075 mg/kg; dixyrazine 0.25 mg/kg. The drugs were given at extubation and the drug administered was known only to the anesthesiologist.

Postoperatively, i v fluids were continued until the patients were able to take oral fluids. Pain was treated with rectal acetaminophen, 10-12 mg/kg. The incidence of postoperative vomiting and of delayed awakening was recorded by the nurses in the recovery room and on the ward during the first 8 postoperative hours. To obtain information about later nausea and vomiting and about other possible side-effects the parents were interviewed the next day.

Statistical analysis was with the t-test and with Fisher's exact test using the Bonferroni correction for multiple comparisons. $p<0.05$ was considered statistically significant.

Results: The three groups were similar in respect of age and weight (table), and duration of anesthesia. The incidence of vomiting during the first 24 hours after surgery was significantly less in the dixyrazine group ($p<0.01$ as compared to the control group). There was no statistically significant difference in postoperative vomiting between the control group and the droperidol group, or between the two treatment groups. At 4 hours after surgery, five children (29%) in the droperidol group and no child in the dixyrazine group were classified as difficult to arouse ($p<0.05$).

Discussion: The observed incidence of postoperative vomiting in the droperidol group is in agreement with that reported by Christensen et al[3]. We conclude that dixyrazine, 0.25 mg/kg i v, given at the end of surgery, may reduce the incidence of postoperative vomiting without causing prolonged drowsiness.

TABLE

	Control	Droperidol 0.075 mg/kg	Dixyrazine 0.25 mg/kg
Number of patients	14	17	16
Age, years	7.3 ± 2.2	6.8 ± 3.4	7.0 ± 3.0
Weight, kg	26.7 ± 6.9	24.8 ± 12.4	27.6 ± 14.2
Incidence of vomiting	7/14 (50%)	5/17 (29%)	1/16 ** (6%)
Incidence of delayed awakening	1/14 (7%)	5/17 29%)	0/16 * (0%)

Data are mean ± SD.
* $p < 0.05$ as compared to droperidol
** $p < 0.01$ as compared to control

References:
1. Hardy JF, Charest J, Girouard G, Lepage Y: Nausea and vomiting after strabismus surgery in preschool children. Can Anaesth Soc J 33:57-62, 1986
2. Abramowitz MD, Oh TH, Epstein BS, Ruttimann UE, Friendly DS: The antiemetic effect of droperidol following outpatient strabismus surgery in children. Anesthesiology 59:579-83, 1983
3. Christensen S, Farrow-Gillespie A, Lerman J: Post-anesthetic vomiting in children undergoing strabismus repair: A comparison of droperidol and lidocaine. Anesth Analg 67:S30, 1988

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