

TITLE: MEPERIDINE VERSUS METHYLPHENIDATE FOR TREATMENT OF POSTANESTHESIA SHIVERING
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INTRODUCTION: Postanesthesia shivering (PAS) is common, resulting in pain and discomfort and occasional cardiorespiratory decompensation. Methylphenidate is effective in treating PAS¹, but failed to attain widespread popularity because of reservations about hypertension and cardiac arrhythmias. More recently, meperidine has been shown to be effective in abolishing PAS². We studied symptom relief and hemodynamics in two groups of patients randomized to receive methylphenidate or meperidine.

PATIENTS AND METHODS: Twenty-two ASA-I patients between 18 and 50 years of age were studied. All had developed moderate to severe sustained PAS in the post-anesthesia recovery room. Subjects were randomized to receive either meperidine 0.7 mg/kg (maximum 50 mg) or methylphenidate (0.2 mg/kg) as a slow IV bolus. Each received facemask oxygen via 4 L/min. Recovery room temperature was maintained at 12-15°C. A blinded observer performed all patient assessments and graded symptoms on a four point scale. (0 = none, 1 = mild, 2 = moderate, 3 = severe). Heart rate (HR) was recorded via EKG and blood pressure (BP) measured noninvasively (Dinamap 845). Vital signs were recorded and symptoms assessed over a 30 minute period after drug administration. Data were analyzed using

Student's t-test for paired or unpaired data as appropriate, and Fisher's exact probability test.

RESULTS: Both groups were demographically similar. PAS rapidly resolved within three minutes in all patients except for one given methylphenidate, and remained absent for the duration of the study. One patient in each group vomited within five minutes of drug injection; both subjects were awake and had full airway control. Four patients given methylphenidate developed psychomotor symptoms. One patient became hyperkinetic immediately after injection and for the next five minutes continually changed position on the recovery room trolley. Three patients complained of moderate to severe anxiety; one required intravenous midazolam 2.5mg for relief. No psychomotor symptoms were noted in subjects receiving meperidine (P = 0.03).

Patients given meperidine showed a gradual decrease in HR. HR rose transiently after methylphenidate and remained elevated throughout the study period. No arrhythmias occurred. BP was unchanged in either group.

DISCUSSION: In the dosages under study, both drugs are equally effective in the treatment of PAS. Methylphenidate has no clinically significant pressor effects in this age group, but is associated with tachycardia and dysphoric effects, making meperidine a superior choice.

REFERENCES:

- Br J Anaesth 42: 718, 1970
- Acta Anaesth Scand 28: 138, 1984

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TITLE: Effects of Mechanical Evacuation of Gastric Contents on Post-operative Nausea and Vomiting
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Newer anesthetic techniques have not reduced the incidence of postoperative emetic episodes (PEE). The reduction of PEE by metaclopramide(1) may be related to decreased gastric volume(GV). A general belief that reducing GV with GT's decreases PEE's is based on inconclusive data(2).

To examine the effect of GT use upon PEE, we studied 98 adult patients(pts) undergoing elective surgery. Intraabdominal, oral, eye, and inner-ear cases were excluded. Approval by the Human Use Committee and informed consent were obtained. A standardized anesthetic consisting of fentanyl, N2O, O2, and isoflurane was employed. Pts were blinded and randomly assigned to 1 of 2 groups(GR): GR1 pts had GT's placed after intubation which were suctioned and removed prior to extubation and GR2 pts had no GT placed. A blinded observer recorded complaints of(c/o) nausea, retching, vomiting, and antiemetic requirements in the recovery room. A modification of Bellville's(3) score of PEE's was used: 0 = none, 1 = c/o nausea only, 2 = nausea with one episode of retching or emesis, 3 = two or more episodes of retching/emesis. Data was

analyzed by Chi-square testing and ANOVA (P<0.05 was assigned significance).

There were no significant differences in age, sex, weight, anesthetic duration, or time of induction among groups. The incidence of PEE and antiemetic use was not different between GR1 and GR2. Female pts had a significantly higher incidence of PEE scores of 3 (8/45 vs 1/53, p<0.01) and increased needs for antiemetic therapy (9/45 vs 3/53, p<0.03). No difference in PEE's was found between GR1 and GR2 female pts.

We found that GT use did not reduce the incidence or severity of PEE's. Intraoperative GT placement may be complicated by bleeding, soft tissue injury, and endotracheal tube dislodgement. Therefore, we do not recommend routine use of GT's for elective non-intraabdominal operations.

1. Broadman, LM, et al. Anesth. 72:245, 1990
2. Smessaert, A, et al. JAMA 170:2072, 1959
3. Bellville, JW, et al. Anesth. 21:186 1960

GROUP	PEE SCORE			
	0	1	2	3
GR1	32	8	6	5
GR2	27	5	11	4
Male	34	7	11	1
Female	25	6	6	8*(p<0.01)
Female/GR1	13	1	3	4
Female/GR2	12	5	3	4