

A125

TITLE: EFFECT OF PHARYNGO-LARYNGEAL TOPICAL LIDOCAINE ON THE SWALLOWING REFLEX

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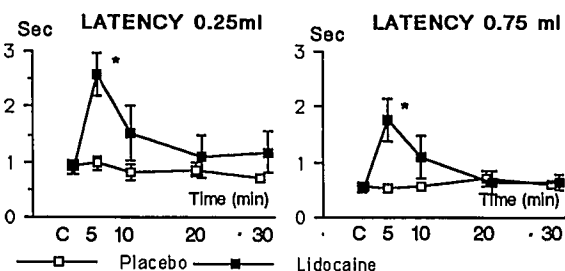
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Introduction : Contact anesthetic properties of lidocaine are widely used to facilitate endotracheal intubation. However, the consequences of lidocaine application on the swallowing reflex have not been investigated. The aim of the present study was therefore to assess the pharmacodynamic effect of topical lidocaine on the swallowing reflex.

Materials and methods : After approval by the Local Ethic Committee, the swallowing reflex was studied in six healthy volunteers, (age 26±5 yrs) who were studied twice in a randomised double blind protocol. The swallowing act was induced by the injection in a randomised sequence of two isotonic sodium chloride bolus (0.25 and 0.75 ml) through a catheter placed 8 cm from the nostril to the epipharynx (1). The swallowing act was identified by a submental electromyogram (EMG). Swallowing efficiency was assessed using measurements of : 1) the latency between the bolus injection and the initiation of swallowing on EMG response 2) the amplitude of the integrated EMG signal and 3) the number of swallows. After a control point (C), an injection of 100 mg of 2% lidocaine or 5 ml of saline, was performed over 5 min on the pharyngo-laryngeal area through the nasal catheter. Measurements were repeated 5, 10, 20 and 30 minutes

after the instillation. Values are given as mean±SEM. Statistical analysis was performed using Mann-Whitney U test and Wilcoxon test (p<0.05 significant).

Results : Changes in latency of swallowing are depicted in the figures. No change in the amplitude of integrated EMG, or in the number of swallows with each bolus was noted following lidocaine when compared with placebo.



mean ± SEM * p<0.05 vs C.

Discussion : Our data demonstrate that topical lidocaine at a clinical relevant dosage produces a marked impairment of the swallowing act by delaying the swallowing response. However, the effects of lidocaine appear to be short-lived since the latency of swallow returns toward control values 10 minutes after its application.

Reference: 1) Anesthesiology 67 : 995-998, 1987

A126

POST OPERATIVE PULMONARY COMPLICATIONS AFTER ABDOMINAL SURGERY : EPIDURAL ANALGESIA USING BUPIVACAINE AND OPIOID VERSUS SUBCUTANEOUS MORPHINE.

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The incidence of pulmonary complications may be related to the technique of postoperative analgesia. Nevertheless, discrepancies have been found in several studies (1, 2). The aim of this prospective random study was to compare the incidence of pulmonary complications after abdominal surgery between two analgesic regimens.

METHODS : With institutional approval and informed consent 138 patients undergoing elective abdominal surgery for cancer were studied. Preoperatively, spirometry and arterial blood gases (ABG) were measured. Group EP received intraop. epidural bupivacaine 0.25 % and fentanyl (0.1 mg) and then postoperatively, epidural bupivacaine 0.125 % (50 mg/4 h) and morphine (1 mg/4h). Group SC received intraop. intravenous fentanyl and then postoperatively, subcutaneous morphine (10 mg/4h). All patients received etomidate, vecuronium, isoflurane and O2/N2O general anesthesia.

Each morning of the first 5 postop. days, VC and FEV1 were measured and clinical signs were scored (cough = 1, purulent sputum = 2, ronchi = 3, localised consolidation = 2, fever = 1). Respiratory complications were defined when the score was greater than or equal to 3 on two consecutive days. ABG were performed on days 1, 3 and 5 after surgery. The intensity of pain was evaluated using the 0-100 mm visual analogue scale (VAS). For statistical analysis between groups, analysis of variance with repeated measures was used.

RESULTS : Patients in EP and SC groups were not different with respect to age, sex, preop. spirometry and ABG. In EP group the pain relief was significantly better, PaCO2 was significantly lower and VC decreased less than that in SC group (Table). Respiratory complications were not different (EP 27 %, SC 31 %).

CONCLUSIONS : Epidural bupivacaine with opioid improves the postoperative comfort of patients. Despite a better spirometry in EP group, we did not find a decrease in respiratory complications.

	Days	VAS (mm)		
		D1	D3	D5
PaO2 (mmHg)	EP	75 (14)	73 (10)	77 (13)
	SC	72 (15)	70 (12)	78 (12)
PaCO2 (mmHg)	EP	39 (5)	37 (4)	35 (4)
	SC	41 (5)*	40 (5)*	37 (5)*
VC (%)	EP	46 (14)	53 (17)	60 (21)
	SC	37 (13)*	45 (16)	57 (17)

*p<0.05 between two groups ; values are mean (SD).

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- Br J Surg, 72 : 495-498, 1985.