26391 - SEDATION FREE AWAKE FIBREOPTIC INTUBATION USING ATOMISED 1% COCAINE AND 3% LIDOCAINE

Hock Tan MBBS, Pieter Swart, MBChB FRCPC; Pamela Lennox, MB FCARCSI; Himat Vaghadia, Vancouver General Hospital, Vancouver, Brithish, Columbia, Canada

INTRODUCTION: Sedation free awake fibreoptic intubation using atomised 1% cocaine and 3% lidocaine was evaluated. This study was undertaken to determine the efficacy and safety by measuring volunteer compliance and blood assay for cocaine and lidocaine.

METHODS: After University of British Columbia ethics approval was obtained, eight fasting volunteers were recruited. The study was undertaken with standard monitoring in an operating room in Vancouver General Hospital by a consultant anesthesiologist and an anaesthesiology fellow. All volunteers received 5 micrograms/kg glycopyrrolate IV 15 minutes before airway topicalisation. Intravenous access was obtained for sampling. A De Vilbiss atomiser, with 5 ml of 4% cocaine mixed with 15 ml of 4% lidocaine, was attached to a 14-16 Fr suction catheter with a control vent and oxygen was delivered at 10 L/min to create the venturi effect. Blood local anesthetic assays were sampled at 10,20 and 30 minutes after topicalisation¹⁻⁴. Each volunteer had their trachea intubated and subjectively scored their experience. An investigator had a parallel objective scoring system.

RESULTS: The mean time from start of topicalisation to endotracheal cuff inflation was 18 minutes (range 12 to 25 minutes). Intubating conditions were good and the procedure was well tolerated in all subjects. The mean visual analogue scores (VAS) for topicalisation and intubation were 4.3 and 4.6 respectively (0 = 'terrible' and 10 = 'enjoyable'). The mean VAS for pain and anxiety were 9.7 and 8.2 respectively (0 = 'terrible' and 10 = 'no pain or anxiety'). Independent observation rated the mean grimacing score for volunteer compliance during topicalisation and intubation to be 1.8 and 1.3 respectively. See Table 1.

The mean dose of cocaine was 1.8 mg/kg (range 1.4 to 2.6) and lidocaine was 5.5 mg/kg (range 4.1 to 8). The plasma concentrations will be presented. Mean change in mean arterial pressure of 18% and no episodes of oxygen desaturation.

DISCUSSION: We described an effective, well-tolerated method of airway topicalisation using an atomiser. There were good intubating conditions at 18 minutes despite no sedation. We will discuss the measured serum local anesthetic levels.

REFERENCE:

1. Anaesth Intensive Care 1997 Aug; 25(4):369-71.
2. Anesth Analg 1986 Apr;65(4): 389-91.
3. Europ J of Anaesthesiology 1992(9) 393-397.
4. Thorax 1982; 37:68-71.

Table 1: Grimacing scoring

0: No grimace = no reaction

1: Minimal grimace = a single change in the facial expression

2: Mild grimace = grimacing facial expression

3: Moderate grimace = severe facial grimacing without reflex head movement

4: Severe grimace = severe facial grimacing with discomforting head movement

5: Defensive movement = severe facial grimacing with defensive head and limb movement