TITLE: EVALUATION OF THE EFFICACY OF 3% BISULFITE-FREE NESACAINE-CE ADMINISTERED AS A SINGLE DOSE EPIDURALLY FOR POST PARTUM TUBAL LIGATIONS

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Introduction. 2-chloroprocaine is a potent rapid acting ester local anesthetic. Previous case reports and studies[1-4] have implicated the antioxidant bisulfite as having the potential to create irreversible neurologic blockade. The purpose of this study was to demonstrate the anesthetic characteristics of epidurally administered bisulfite-free Nesacaine-CE®.

Methods. After Institutional Review Board approval and written informed consent was obtained, 74 ASA class I or II patients between 18-40 years patients were enrolled. Sixty (60) patients completed the study. Premedication drugs were limited to Bicitra 30cc, Reglan 10mg and Fentanyl 50 ucg preoperatively. Post block, up to 50:50:N_2O:O_2 could be used for patient anxiety or mild discomfort. Nesacaine-CE® was administered epidurally in 5ml increments to a total volume of 20-30cc with the patient in the sitting position. Post injection sensory blockade (Allis clamp) and motor blockade (foot and leg movement) were assessed at 2, 5, 10, 15, 20 minutes or until a stable sensory level was obtained. Assessment continued until there was a full regression of sensory level and full return of motor power with delineation of the time to a two dermatome regression in sensory level. Routine vital signs were recorded.

Results. Demographic data yielded a mean age of 28 ± 5 years; mean height of 62.5 ± 2.5 inches; weight 154 ± 31 lbs. Preload was 1248ml ± 316ml of Plasmalyte A. Fourteen patients were excluded for excessive surgical time or inadequate level of block. In these patients 42/60 and 53/60 had a T6 or higher level at 10 minutes and 15 minutes respectively. Two dermatome sensory regression time was 62 ± 18 minutes. Complete sensory regression time was 101 ± 19 minutes. Complete motor block regression time was 74 ± 24 minutes. In those patients receiving more than 20ml of the study drug, the sensory levels were higher and of longer duration. No subarachnoid injections occurred. There was no neurologic complications.

Discussion. This bisulfite-free formulation appears clinically different in onset time from old formulations with 0.2% or 0.07% bisulfite. At the onset of the study it was demonstrated that if the drug was not fractionally injected in less than 4-5 minutes and the patient immediately placed supine or slightly head down, that a low or inadequate sensory level for surgery was obtained. When 25-30ml of solution was injected in 4-5 minutes and the patient placed in a Trendelenberg position, the level obtained was more consistantly in the T6-T4 range. We conclude that clinically, the bisulfite-free formulation fixes faster so that slightly larger volumes are required for abdominal surgical anesthesia levels.

References.

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