

TITLE: TREATMENT OF ACUTE TOXICITY AFTER RAPID INTRAVENOUS ROPIVACAINE AND BUPIVACAINE IN THE CONSCIOUS DOG

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The aim of the study was to evaluate a regimen of treatment for acute toxicity resulting from rapid iv administration of ropivacaine (R) and bupivacaine (B).

Two groups of six beagle dogs received rapid iv injections of R or B on 2 occasions, in a blinded random fashion. On day one, the convulsive dose (CD) was given. Two times the CD [2xCD] was given 48 hours later.

B (4.3 mg/kg) and R (4.9 mg/kg) caused overt seizures and significant ($p < 0.05$) increases in heart rate and mean arterial blood pressure. There was no difference between drug groups. Seizures were abolished by iv thiamylal 10 mg/kg. Intubation and mechanical respiration with O_2 enriched air with no other treatment resulted in rapid and complete recovery in all dogs.

All dogs receiving 2xCD of B or R were

treated with thiamylal and O_2 therapy. B (8.6 mg/kg) caused 2 deaths. Both dogs developed hypotension, respiratory arrest, ventricular tachycardia and ventricular fibrillation which were resistant to pharmacologic and mechanical interventions. Remaining dogs recovered without incident.

In one dog, 2xCD of R (9.8 mg/kg) produced mild hypotension which was treated with epinephrine, and then nodal tachycardia which was successfully treated with bretylium. Another dog had two, 1 second bursts of PVCs requiring no treatment. All dogs given 2xCD R survived.

Efforts to rapidly treat toxicity resulted in a decreased number of deaths in both groups when compared to dogs in which no therapy was instituted.¹ (Table)

	Untreated Dogs (Deaths)	Untreated Dogs (Arrhyth)	Treated Dogs (Deaths)	Treated Dogs (Arrhyth)
B	83%	83%	33%	33%
R	17%	33%	0%	33%

Early treatment of systemic toxicity resulted in the survival of all dogs receiving R. However, resuscitative efforts were ineffective in 33% of dogs receiving B.

References

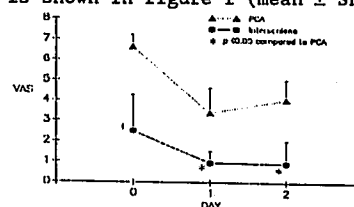
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TITLE: CONTINUOUS INTERSCALENE ANALGESIA VERSES PATIENT CONTROL ANALGESIA FOR SHOULDER SURGERY

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Shoulder surgery results in severe, often intractable that may hinder the mobilization of the joint. Retrospective data documented higher postoperative narcotic requirements in patients treated with intramuscular narcotics than in patients treated with continuous interscalene infusion of bupivacaine (IS). We present the preliminary result of a prospective, randomized, nonblinded trial comparing patient control analgesia (PCA) with morphine for post operative pain. Morphine requirements in the two groups were documented. **Methods:** Patients for shoulder surgeries were enrolled after an informed consent and randomized to PCA and IS groups. In the IS group catheters were placed in the interscalene groove guided by a nerve stimulator at the end of surgery but while patients were still anaesthetized. Intravascular placement was ruled out by aspirating the catheter and injecting 2 cc's of .25% bupivacaine with 1/200,000 epinephrine. 20 cc's of the solution was then injected followed by a continuous infusion of .125% bupivacaine with 1/400,000 epinephrine at 7-8 cc's/hr. Placement of the catheter was confirmed on the x-ray of the neck after injecting 15 cc's of the radio contrast dye. The PCA group received intravenous morphine till

they were comfortable and then demand morphine 2 mg up to every 6 minutes. Visual analogue pain score (VAS) was documented every 8 hours for 48 hours. Total morphine requirement over the 48 hour period was also recorded. Unpaired t-test was used to compare the results in the two groups, $P < 0.05$ was considered significant. **Results:** The results on five patients in the IS group and 3 patients in the PCA group is shown in figure 1 (mean \pm SD).



Patients in the IS group demonstrated a significantly better pain relief. They also required much less morphine (5.8 ± 6.3 vs 111.3 ± 16.5 mg, $p < .05$). Three patients in the IS group developed hoarseness while two complained of hoarseness. Two patients in the PCA group developed urinary retention. Contrast x-rays showed a good outline of the brachial plexus sheath in all patients. **Conclusion:** 1) IS appears to be a superior modality of pain therapy. 2) It reduces the morphine requirements significantly. 3) Use of a nerve stimulator results in a high rate of successful catheter placement in the brachial plexus sheath. **References:** Acta Anaesthesiol Scan 1987;31:276-278