

**Reuben SS, Rosenthal EA, et al. Surgery on the Affected Upper Extremity of Patients with a History of Complex Regional Pain Syndrome: The Use of Intravenous Regional Anesthesia with Clonidine. J Clin Anesthesia 2004; 16:517-522.**

Design: Randomized clinical trial

Population/sample size/setting:

- 84 patients (67 women, 17 men, mean age 50) with a history of CRPS operated on for upper extremity conditions in Springfield, MA
- CRPS had been treated at the same facility, and symptoms (except for limited range of motion) had resolved prior to time of surgery (median time between resolution of symptoms and surgery was 7 to 8 months)
- Operations included carpal tunnel release (n=34), tendolysis (n=22), tendon release (n=14), capsulotomy (n=7), arthrodesis (n=5), and excision of neuroma (n=2)
- CRPS criteria included sensory changes (allodynia and hyperesthesia), vasomotor changes, sudomotor changes, 1 degree C temperature difference between extremities, limited active range of motion, and diffuse edema

Main outcome measures:

- All procedures were done with intravenous regional anesthesia (IVRA) using 40 ml containing 200 mg lidocaine and 1 ml of either saline or clonidine
- Randomized to saline (n=42) or clonidine (n=42)
- Patients were followed by a blinded clinician for recurrence of CRPS at 1, 3, and 12 months postoperatively
- No complications occurred at the time of surgery
- Mean tourniquet time was 51 minutes in the saline group and 48 minutes in the placebo group
- Recurrence of CRPS was common in the saline group (n=31) and uncommon in the clonidine group (n=4)

Authors' conclusions:

- IVRA with clonidine and lidocaine can significantly reduce recurrence rate of CRPS in the setting of upper extremity surgery
- Optimal time between resolution of CRPS and surgery is yet to be established

Comments:

- A few details are sparsely described: exclusion criteria are not stated, randomization method not clear, and time of recurrence of CRPS is not stated
- However, the large effect size is not likely to have arisen because of obvious sources of bias

Assessment: Adequate for evidence that IVRA with lidocaine and clonidine results in lower risk of recurrence of CRPS than lidocaine alone in the setting of upper extremity surgery