Hord AH, Rooks MD, et al. Intravenous Regional Bretylium and Lidocaine for Treatment of Reflex Sympathetic Dystrophy: A Randomized, Double-Blind Study. Anesth Analg 1992;74:818-821.

Reviewed, no change to conclusions Feb 2017

Design: Randomized crossover trial

Brief summary of findings:

- 12 patients with RSD (sex and age not reported) with temporary symptom relief from stellate or lumbar sympathetic blocks were treated at Emory University in Atlanta
- Patients were excluded if they had used tricyclic antidepressants, phenothiazines, sympathomimetic or sympatholytic agents, digitalis, or MAO inhibitors, or had had sympathetic blockade in the 2 weeks before the study
- Other exclusion criteria were previous surgical sympathectomy, psychiatric disorders, unstable angina, recent MI, second or third degree heart block, malignant ventricular arrhythmias, renal failure, hypotension, heart failure, pheochromocytoma, or pregnancy
- Each patient received 4 IV regional blocks: two with 40 ml of 0.5% lidocaine (60 ml in the lower extremity), and two with lidocaine plus 1.5 mg/kg of bretylium; the order of treatments was randomly assigned, and the investigators and patients were blind to the injectate
- Only 7 of the 12 patients completed the study; one patient discontinued after getting complete pain relief from the bretylium (remaining asymptomatic 2 years after treatment), 3 discontinued after lack of pain response from lidocaine, one was prescribed atenolol for mitral valve prolapse, and one did not return her pain diary
- Main outcome was the number of days with more than 30% pain relief
- For lidocaine alone, the mean duration of pain relief was 2.7 days; for lidocaine plus bretylium, the duration was 20 days (range, 3 to 69 days)
- For patients who received two injections of bretylium, there was no difference in the duration of pain relief after the first and second injections (19.7 vs. 20.3 days)
- After bretylium, the skin temperature in the treated limb increased an average of 2.64° C above baseline
- One patient had orthostatic hypotension after bretylium, which responded to 500 ml of Ringer's lactate

Authors' conclusions:

- IV regional bretylium in combination with lidocaine provides significant short-term pain relief when compared with lidocaine alone
- An assessment of long-term effectiveness of bretylium is still needed

Comments:

- Many basic pieces of information (sex and age; duration of symptoms) are lacking, making it unclear who would be appropriate for bretylium
- The study is very small, and only 7 of 12 patients completed the study; this makes it impractical to estimate the frequency of adverse effects (since it would appear that only 9 patients had even one bretylium injection)
- In spite of limitations, the study suggests that IV regional bretylium may have a short term effect on RSD pain; further randomized trials would be required, but have not been done as of May 2011

Assessment: Inadequate for evidence of the benefit of bretylium for CRPS (very small study with incomplete description of participants and low completion rate)