

INTRATHECAL BACLOFEN VERSUS INTRAMUSCULAR BOTOX FOR CRPS RELATED DYSTONIA

EXECUTIVE SUMMARY:

Overview of general results, summarized in bullet points below.

INTRATHECAL BACLOFEN (ITB)

- Studied in CRPS since 2000.
- Results generally very good for dystonia, pain, or both. The best- designed study on dystonia showed excellent results.
- Doesn't work for everyone (of course.)
- Dose and duration must be sufficient.
- Careful monitoring for complications.

INJECTED BOTOX

Pub Med only has two relevant studies.

- Of these two studies, one says it's useless for dystonia, one says it's great for pain.
- One study for allodynia: it's no good.
- One study for improving stellate ganglion block: it's excellent.

I haven't looked outside of pub med. I'd be interested to see more solid data about it. This seems pretty poor.

STUDIES AND RESULTS:

Results of individual studies, broken out by medication and usefulness, listed chronologically with newest first.

INTRATHECAL BACLOFEN: USEFUL STUDIES

Spinal cord stimulation and intrathecal baclofen therapy: combined neuromodulation for treatment of advanced complex regional pain	http://www.ncbi.nlm.nih.gov/pubmed/24108194 Goto S1, Taira T, Horisawa S, Yokote A, Sasaki T, Okada Y. (Tokyo Women's Med. Univ.)	Pain relief of more than 50% was observed in the upper extremity of 1 patient and one of more than 30% was observed in 2 patients. The mean pain reduction rate in all 4 patients was 28.9% before and 43.8% after treatment. >>>All patients, including those without any	Sample = 4 outcome: substantial improvement of dystonia.	2013
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<p>syndrome.</p> <p>NOTE: This study uses <u>both</u> SCS and ITB.</p>		<p>improvements in VAS score, showed decreased postural abnormalities after combined SCS and ITB therapy. Improvement in postural abnormalities, such as fixed dystonia or paroxysmal tremor-like movements, resulted in overall pain relief by reducing pain fluctuations.</p>	<p>Significant relief of pain.</p>	
<p>Efficacy of intrathecal baclofen on different pain qualities in complex regional pain syndrome.</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/23223108</p> <p>van der Plas AA1, van Rijn MA, Marinus J, Putter H, van Hilten JJ.</p>	<p>Using a linear mixed model analysis and controlling for global dystonia severity and the use of supplemental analgesics, we found a significant improvement in global intense pain, sharp pain, dull pain, and deep pain during the first 6 months. After this period, the scores leveled off despite further improvement of dystonia and continued ITB dose escalation.</p>	<p>Sample = 42</p> <p>outcome: significant improvement of pain for six months. Leveled off after that.</p>	<p>2013</p>
<p>Complex regional pain syndrome with associated chest wall dystonia: a case report.</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/21943053</p> <p>Irwin DJ1, Schwartzman RJ.</p>	<p>Treatment was initiated with intrathecal baclofen and the patient had symptomatic relief and improvement of dystonia.</p>	<p>Sample = 1 [case report]</p> <p>outcome: improvement</p>	<p>2011</p>
<p>Intrathecal baclofen for dystonia of complex regional pain syndrome.</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/19232828</p> <p>van Rijn MA1, Munts AG, Marinus J, Voormolen JH, de Boer KS, Teepe-Twiss IM, van Dasselaar NT, Delhaas EM, van Hilten JJ.</p>	<p>Intention-to-treat analysis revealed a substantial improvement in patient and assessor-rated dystonia scores, pain, disability and quality-of-life (Qol) at 12 months. The response in the dose-escalation study did not predict the response to ITB in the open-label study [no placebo effect; it either works or it doesn't] ... Dystonia, pain, disability and Qol all improved on ITB and remained efficacious over a period of one year. However, ITB is associated with a high complication rate in this patient group, and methods to improve patient selection and catheter-pump integrity are warranted.</p>	<p>Sample = 42, 36</p> <p>outcome: substantial improvement in dystonia and pain x 12 months. No apparent placebo effect.</p>	<p>2009</p>

Intrathecal baclofen: a useful agent in the treatment of well-established complex regional pain syndrome.	http://www.ncbi.nlm.nih.gov/pubmed/11799510 Zuniga RE1, Perera S, Abram SE.	In six women, bolus injections of 50 and 75 microg of baclofen resulted in complete or partial resolution of focal dystonia of the hands but little improvement in dystonia of the legs. During continuous therapy, three women regained normal hand function, and two of these three women regained the ability to walk (one only indoors). In one woman who received continuous therapy, the pain and violent jerks disappeared and the dystonic posturing of the arm decreased. In two women the spasms or restlessness of the legs decreased, without any change in the dystonia.	Sample = 7, 6 outcome: substantial improvement upper body; slight improvement lower body.	2000
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INTRATHECAL BACLOFEN: STUPID STUDY

The lack of efficacy of different infusion rates of intrathecal baclofen in complex regional pain syndrome: a randomized, double-blind, crossover study.	http://www.ncbi.nlm.nih.gov/pubmed/21332937 van der Plas AA1, Marinus J, Eldabe S, Buchser E, van Hilten JJ.	WHY: "Patients were eligible if they experienced no beneficial response to ITB on dystonia despite a minimum dose of 600 µg/day, or because side effects limited dose escalation."	Soooo... why would you experiment with ITB on these individuals if you already know that it does not work on these individuals?
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INJECTED BOTOX: USEFUL STUDIES

Responsiveness to botulinum toxin type A in muscles of complex regional pain patients with tonic dystonia.	http://www.ncbi.nlm.nih.gov/pubmed/24532257 Schilder JC1, van Dijk JG, Dressler D, Koelman JH, Marinus J, van Hilten JJ.	Contrary to the prevailing opinion, BoNT-A has a normal, although perhaps slightly lower efficacy in CRPS patients with dystonia.	Sample = 34	2014
Intramuscular botulinum toxin in complex regional	http://www.ncbi.nlm.nih.gov/pubmed/21927045	pain decreased by 43%. 97% patients had significant pain relief. One had transient neck	Sample = 37	Sept-Oct 2011 (duplicate study pub. May 2011,

<p>pain syndrome: case series and literature review.</p>	<p>Kharkar S1, Ambady P, Venkatesh Y, Schwartzman RJ.</p>	<p>drop. LIMITATIONS: .. retrospective study, it lacks a control group - placebo effect cannot be eliminated. Does not provide information on efficacy after 4 weeks. CONCLUSIONS: Intramuscular injection .. beneficial for short term relief of pain caused by CRPS. The incidence of complications was low (2.7%).</p>		<p>slightly different authors)</p>
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INJECTED BOTOX: INTERESTING BUT NOT VERY RELEVANT STUDIES

<p>Botulinum toxin A for treatment of allodynia of complex regional pain syndrome: a pilot study.</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/20609130 Safarpour D1, Salardini A, Richardson D, Jabbari B.</p>	<p>None of the patients with allodynia showed a significant response after treatment. The treatment was painful and poorly tolerated.</p>	<p>Sample = 14</p>	<p>2010</p>
<p>Sympathetic block with botulinum toxin to treat complex regional pain syndrome.</p>	<p>http://www.ncbi.nlm.nih.gov/pubmed/19334078 Carroll I1, Clark JD, Mackey S.</p>	<p>BTA profoundly prolonged the analgesia from sympathetic block in this preliminary study.</p>	<p>Sample = 9</p>	<p>2009</p>