

Update on Botulinum Toxin in Pain Management

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Disclosures

- This talk is free from third party influence
- I have received an unrestricted educational grant from Allergan in the past
- I have attended Allergan sponsored educational events in the past

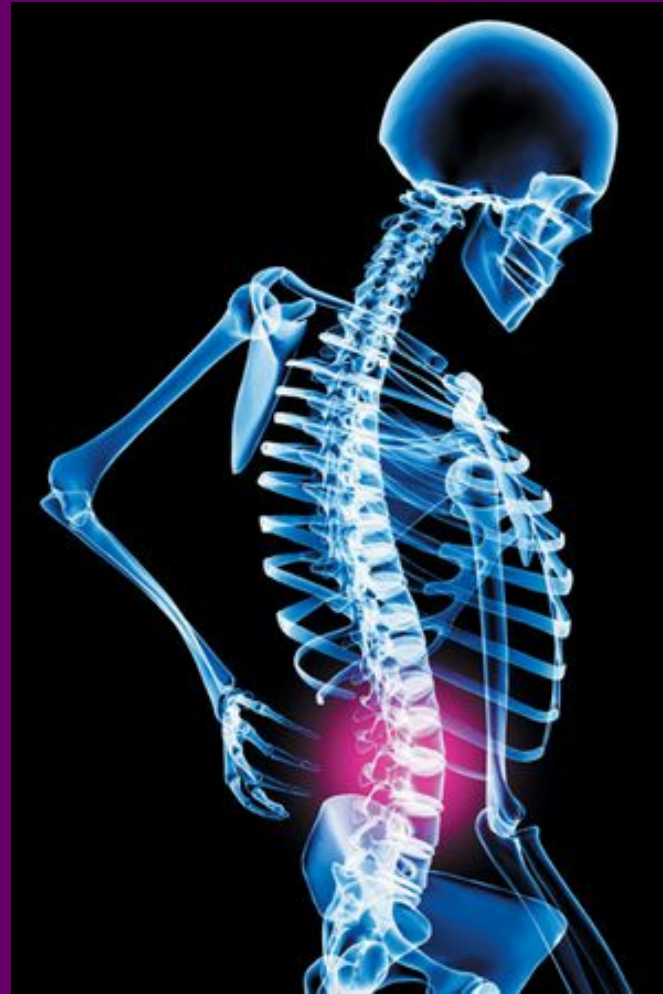
Botulinum My Experience

- 10 years of clinical practice using BTX
- Myofascial Pain (TrP) – 1999
- Myofascial Pain (Post) – 2001
- ***Dystonia / Spasticity– 2001***
- ***Thoracic Outlet Syndrome – 2002***
- ***Piriformis Syndrome – 2002***
- Epicondylar Pain – 2002
- Trigeminal / Diabetic Neuropathy - 2002
- Headaches - 2003

Botulinum Toxin

The Known

Back Pain



Foster et al. 2001

- 31 patients with lateralizing back pain
- Low back pain between L1-S1
- Duration of greater than 6-months
- Randomized to Botulinum Type A or Placebo
- Injection at L2 – S1 (40 units each site)
- Total of 200 units

Foster et al. 2001

	Botox	Placebo
N (start / finish)	15	16
Pre VAS	7.5 (6 – 10)	7.0 (5 – 10)
50% pain relief at 8-weeks	60%	12.5%
OLBPQ improved	66.7%	18.8%

Ney et al. 2006

- Open label, prospective study assessing repeat injections on low back pain in adults
- N = 60 (18 – F; 41 – M) (aged 18-80)
- Chronic stable low back pain > 6-months

Ney et al. 2006

- Botulinum Toxin A (100 units / mL)
- 4-5 injection sites per side
- Each site injected with 40-50 units (max 500)
- Determined at time of injection by pressure examination

Ney et al. 2006

Positive outcome	Time
60%	3 - weeks
58%	2 - months
16.6%	4 - months
8.3%	6 - months

Ney et al. 2006

- Initial response was predictive of repeat benefit

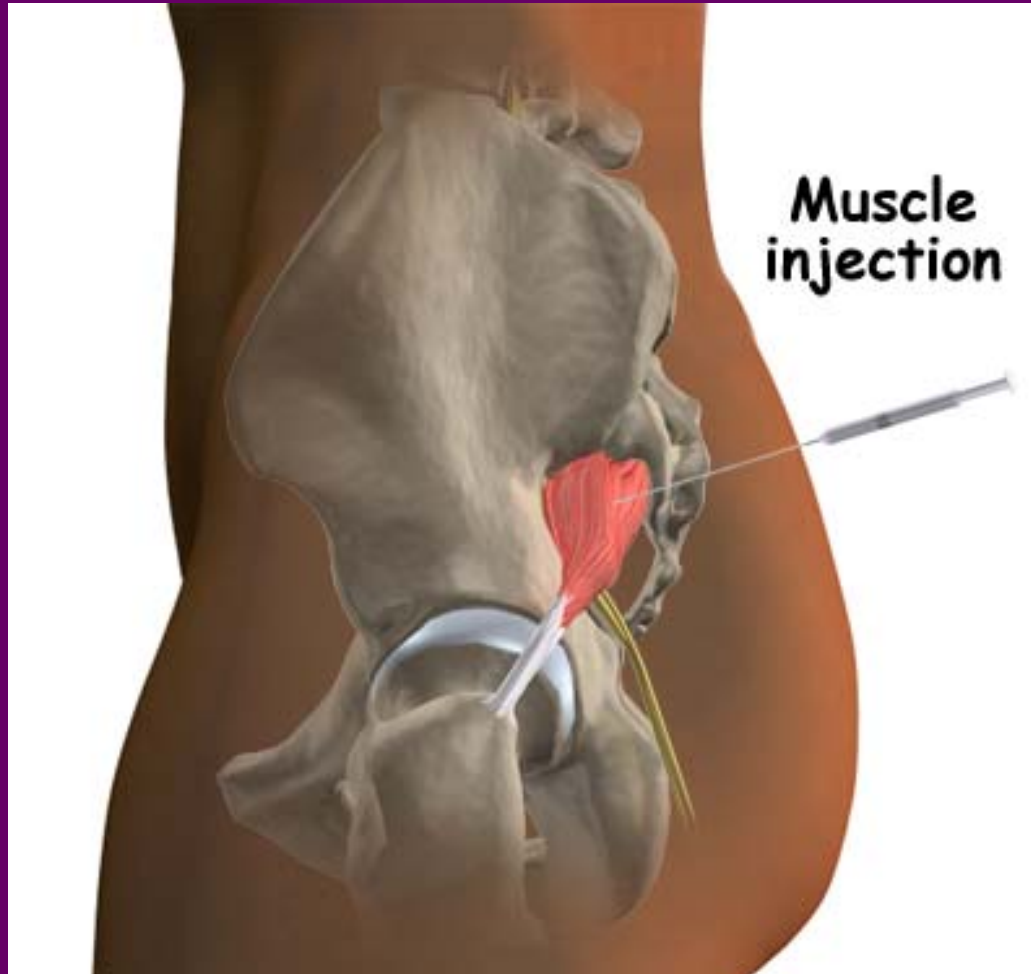
Bottom Line for the Back

- Botulinum Toxin Type A is ...
 - Beneficial in 50 – 60 % of individuals with chronic low back pain (lateralizing or non-lateralizing)
 - Results in 2-4 month symptomatic reduction by at least 50%
 - Positive response predicts repeat benefit for at least 6-months

My Experience

- Low back pain without facet OA (BnScn)
- Minimal pain amplification
- Medically reasonable to trial Botulinum toxin A
- 200 units for lateralization
- 200 – 400 for bilateral pain
- Follow the L2 – S1 protocol

Piriformis Syndrome



Childers et al. 2002

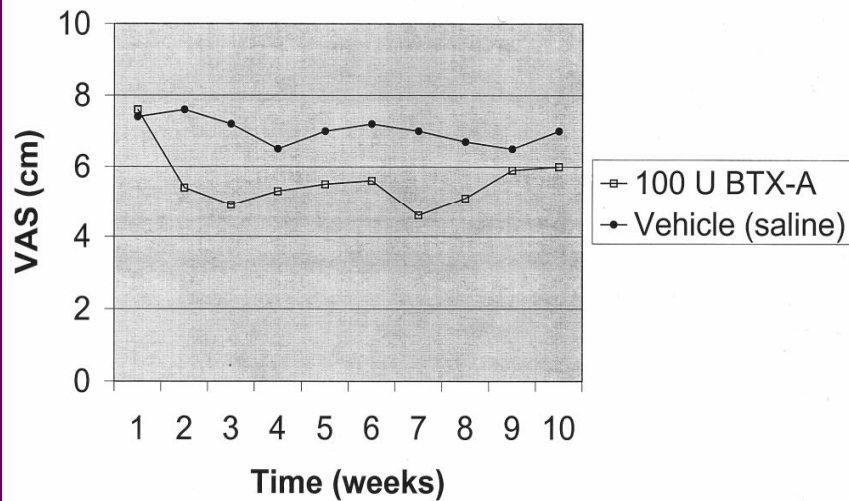
- Double blind, single group crossover trial
- Buttock, hip and leg pain ≥ 3 months
- Aggravated by sitting, leg crossing and stairs
- VAS 5/10
- Pain with palpation

Childers et al. 2002

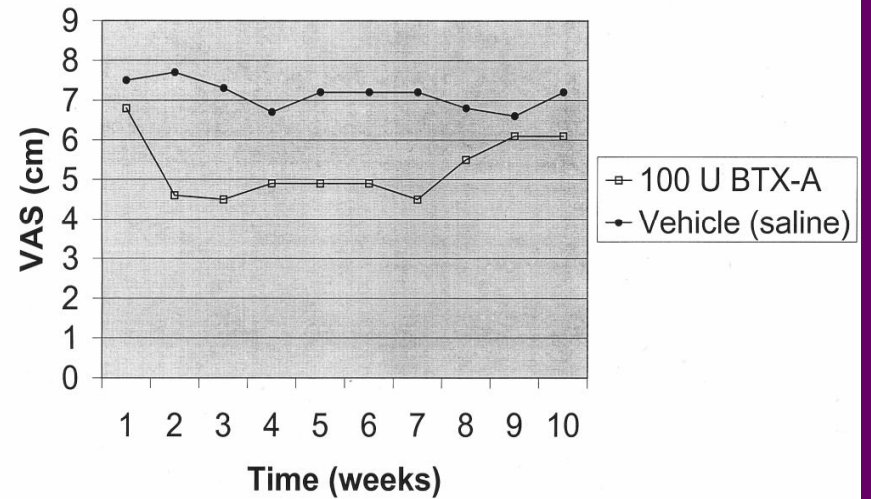
- Injection with 100 units of Botulinum type A (100 units / mL)
- 9 of 10 enrolled completed a 20 week study protocol

Childers et al. 2002

A Pain Intensity



B Distress



My Experience

- Buttock greater than back pain
- L5 / S1 dermatome referral without root impingement
- Minimal pain amplification
- Positive response to CT-guided diagnostic injection

Myofascial Pain



Early Studies

- Chesire et al. 1994
 - Wheeler et al. 1998
 - Freund et al. 2000
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- Positive results
 - Small studies
 - Worth a look

Trigger Point?

- Ferrante et al. 2005
- N = 132
- Randomized, double blind, placebo controlled trial
- Trigger point injection
- No significant benefit (trend was present)
- What about **postural injections?**

My Experience

- Focal pain:
 - Cervicoscapular
 - Trapezius
 - Levator Scapulae
- Minimal pain amplification
- Sleep disorder managed
- Partial response to some form of localized treatment (needling)
- 50% chance of responding for 4-8 weeks

Thoracic Outlet Syndrome



Thoracic Outlet Syndrome

- No quality literature to answer this question
- Clinically:
 - Attempt to relax scalene (anterior)
 - May be diagnostic
 - May be therapeutic

My Experience

- Selection Criteria
 - Focal pain in scalene area on exam
 - No other cause
 - Minimal pain amplification
 - Predictable response to testing
 - Positive response to:
 - 3-month self-directed exercise program (literature based)
 - Pain modulator

My Experience

- When I follow strict criteria, my response rate is high $\sim >70\%$ for an improvement in pain and function for 3-4 months.
- $\sim 2/3$ for repeat injection with long term symptom decrease

Other Areas

- Lateral Epicondylalgia
 - Wong et al. 2005 (+)
 - Placzek et al. 2007 (+)
 - Hayton et al. 2005 (-)
 - Keizer et al. 2002 (+)
- Joint OA
 - Small studies more data needed
- Neuropathic pain
 - Numerous pilot studies and case reports

Other Areas

- Patellofemoral Pain
- Plantar Fasciitis
- Painful Muscle Ball Following Tears

- Etc. Etc. Etc.

Botox Bottom Line

Positive	Mixed	Insufficient
LBP	MPS	Joint OA
Piriformis	Whiplash	Plantar Fascia
Epicondylalgia	Headache	PFP
	Migraine	Neuropathic Pain
		TOS

Things To Consider

- Safety
- Cost of alternate treatments
- Personal outcomes
- Return to work
- Return to function
- Supportive evidence of outcome

Thank you and enjoy our City

