Subcutaneous Injection Of Botulinum Toxin For Brachioradial Pruritus: A Case Report

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Case Description

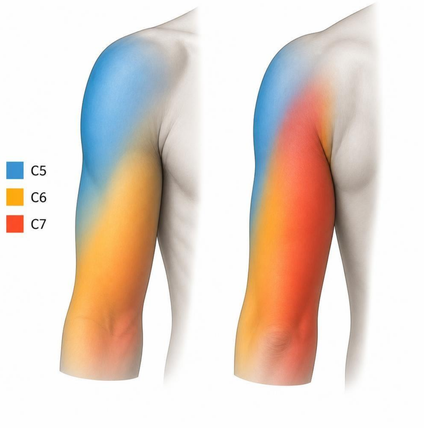
A 58-year-old female presented with chronic pain and a 2-month history of progressively worsening burning and itching sensation in a C5-C6 dermatomal distribution consistent with brachioradial pruritus, a neuropathic itch syndrome. These symptoms drastically interfered with sleep and ADLs despite various topical and immunomodulatory treatments. A total of 3 fluoroscopy-guided interlaminar cervical epidural steroid injections for mild cervical spinal stenosis provided only temporary partial relief. Due to lack of consistent and lasting benefit from current and prior treatments, the patient agreed to trial subcutaneous botulinum toxin injections.

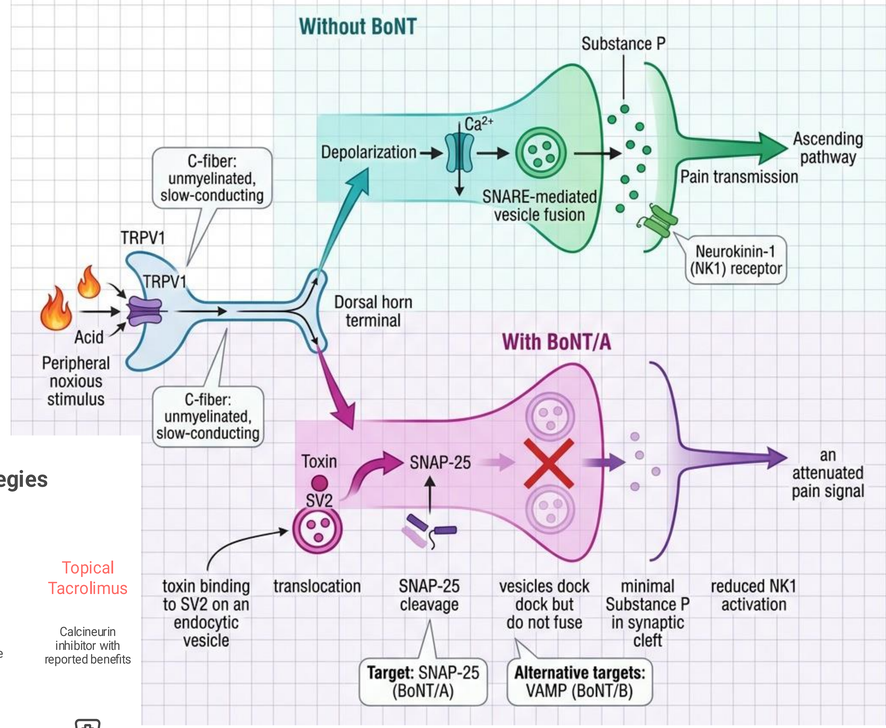
Background

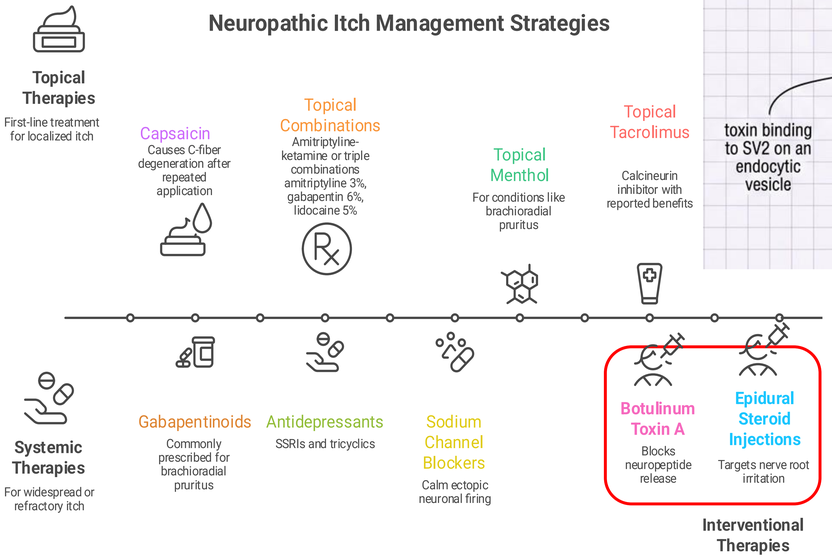
- Despite its relative rarity, brachioradial pruritus is recognized as one of the most common neuropathic itch syndromes
- Often affects women more than men with case series documenting 72-81% female predominance[1,2]
- Due to excess peripheral firing or dampened central inhibition of itch pathway neurons[3]
- Botulinum toxin A is an off-label treatment option resulting in blockade of neuropeptide release from C-fibers[3]

Methods

- 70 total units of Onabotulinum toxin A (Botox), 5 units per site, into the subcutaneous tissue overlying three different muscle groups utilizing the following anatomic landmarks:
  - Anterior deltoid – 2 sites, bilaterally
  - Biceps brachii – 3 sites, bilaterally
  - Brachioradialis – 2 sites, bilaterally
- Most recently, subsequent injections have involved 16 sites on the right arm and 14 sites on the left arm with 5 units injected intradermally for a total dosage of 150 units.







Results

- At 5 week follow up:
  - 85% overall improvement in symptoms
  - Complete resolution of itch symptoms with exemption of transient mild itching episodes
  - Visual analog Scale (VAS) scores improved from a 6-8/10 to a 0-2/10
  - Restoration of normal sleep patterns and return to daily activities lead to improved function and quality of life
- At 11 weeks post-injection, the patient reported continued relief, as above, as well as requested to decrease her gabapentin dose
- Duration of effect lasts for at least 10 weeks.

Discussion

- Evidence of botulinum toxin for brachioradial pruritis and other neuropathic itch conditions is limited as there is no FDA approved indication
- Subcutaneous injection of Botulinum toxin may be a viable durable treatment option for refractory neuropathic itch conditions
- Further research with a more structured experimental design and longer follow up period will help determine therapeutic effect and treatment dosing
- Increasing units has not correlated with increased relief thus far.

References

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