BOTULINUM TOXIN INJECTION IN CROCODILE TEARS SYNDROME: WHAT DO WE DO AND WHAT WE KNOW?

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Background and Aims

Crocodile tears syndrome (CTS) is a rare sequela of peripheral facial palsy (PFP) causing excessive lacrimation during mastication, deglutition or salivation. CTS occurs from the misdirection of regenerating salivary nerve fibers and innervation of the lacrimal gland post-PFP, affecting the patient's quality of life. Transconjunctival injection of botulinum toxin (TIBT) type A has been growing as an option, although still rarely implemented and with no standardized protocols available. We aim to review the current literature on TIBT on CTS in adults, using 2 clinical cases, reviewing clinical evaluation, therapeutical goals establishment, injection protocols and possible complications.

Methods

Case 1: right PFP sequelae following temporal bone trauma. Case 2: left PFP sequelae post-Ramsay-Hunt syndrome. Both with facial asymmetry and CTS worsened by mastication. Goals for TIBT: facial symmetry; reduce lacrimation. We conducted a literature review on Pubmed using the keywords "crocodile tears syndrome"; "toxin injection"; "facial palsy"; articles released in the last 10 years and including studies describing CTS, TIBT protocols in adults, its effect and possible complications.

Results

We identified 4 articles. All recommended anamnesis and systematic clinical evaluation, including pre- and post-procedure Schirmer test and establishing therapeutical goals. The authors used onabutulinumtoxinA or incobotulinumtoxinA, with doses ranging from 1 to 10U (maximum of 20U), most commonly 4 or 5U, with epiphora resolution within a week. Some authors recommended starting with a lower dose and if necessary, reinjecting in 2 to 3 weeks to avoid overdosing. Reinjection intervals ranged between 3 to 6 months. Despite relatively painless and safe, potential but temporary side effects included palpebral ptosis, hematoma, xerostomia, diplopy, among others.

Conclusion

TIBT has been shown to be effective and safe, however with possible complications, therefore careful clinical assessment, establishing clear treatment goals and using an adequate protocol (based on the best clinical practice) is essential for therapeutical success and patients' well-being.

Keywords: Crocodile, tears, syndrome;, Botulinum, toxin