

INPLASY

Effects of Botulinum Toxin Injection on Cricopharyngeal Dysphagia

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - The review has not yet started.

Conflicts of interest - None declared.

INPLASY registration number: INPLASY202510071

Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 19 January 2025 and was last updated on 19 January 2025.

INTRODUCTION

Review question / Objective This study systematically evaluates effects of botulinum toxin injection on cricopharyngeal dysphagia, aiming at providing a reference and basis for clinical treatment of cricopharyngeal dysphagia.

Condition being studied Cricopharyngeal achalasia (CPA) is a common cause of dysphagia. Managements for CPA includes rehabilitation exercises, mechanical dilatation, cricopharyngeal myotomy, pharyngeal plexus neurectomy, and botulinum toxin A injection. Local injections of botulinum toxin type A into the cricopharyngeal muscle has been proposed as an less invasive method than surgical myotomy. At present, the clinical research on the application of botulinum toxins to treat cricopharyngeal dysphagia is increasing, but most of the published related research samples are small, and the

appropriate therapeutic dose, mode of injection, etc., has not been clarified.

METHODS

Participant or population Dysphagia patients who had cricopharyngeal dysfunction.

Intervention BTX-A was injected into the cricopharyngeus muscle.

Comparator BTX-A was injected into the cricopharyngeus muscle. BTX-A was compared with a control condition, or subjects received BTX-A and were assessed before and after treatment.

Study designs to be included Randomized controlled studies or observational studies. BTX-A was compared with a control condition, or subjects received BTX-A and were assessed before and after treatment.

Eligibility criteria Exclusion criteria

- (1) participants were < 18 years old.
- (2) The data required were not available after contacting the authors.

Information sources A systematic search will be conducted for articles published in PubMed, EMBASE, Web of Science, and the Cochrane Library before Jan 2025. Only English language articles will be included to ensure the quality of the studies.

Main outcome(s) Penetration-aspiration scale(PAS).

Quality assessment / Risk of bias analysis MINORS, JBI.

Strategy of data synthesis Assessment data, such as the mean, standard deviation and number of subjects, will be extracted for meta-analysis. Incomplete data will be augmented by contacting the corresponding author. All the statistical analyses will be performed using Reviewer Manager Software (RevMan) 5.4. Effect sizes for continuous data will be calculated using the standardized mean difference (SMD).

Subgroup analysis Subgroup analysis based on injection guidance and dose will be done.

Sensitivity analysis I² will be used to assess the heterogeneity among the different studies. If I² <50%, a fixed effect model will be used. If I² ≥50%, a random effect model will be used. Sensitivity analysis and subgroup analysis will be performed.

Country(ies) involved China.

Keywords Botulinum Toxin, Cricopharyngeal achalasia ,Dysphagia,Meta-analysis.

Contributions of each author

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