

OUTCOMES OF INTRA-DETRUSOR INJECTIONS OF BOTULINUM TOXIN IN PATIENTS WITH SPINA BIFIDA: A SYSTEMATIC REVIEW

Hypothesis / aims of study

The aim of this study was to conduct a systematic review of current evidence regarding the efficacy of intra-detrusor injections of Botulinum Toxin A (BTX-A) in spina bifida patients with neurogenic detrusor overactivity (NDO) refractory to antimuscarinics.

Study design, materials and methods

A research has been conducted on Medline and Embase using the keywords: ("spina bifida" OR "myelomeningocele" OR "dysraphism") AND "toxin". The search strategy and studies selection were performed using the PICOS method (Patient (P), Intervention (I), Comparator (C) Outcome (O) and Study design (S)). Data extraction was performed by two independent reviewers.

Results

A total of 12 published series were included (n= 293patients). All patients were < 18 years old and all but one had open spina bifida (only one case of closed dysraphism); they were all on clean intermittent catheterisation. There was no randomized study comparing BTX-A versus placebo. Commonly injected doses of BTX-A were inbetween 10 to 12 U/Kg with a maximum of 360 U. Most studies reported a clinical improvement with resolution of incontinence in 32 to 100% of patients and aurodynamic improvement with a decrease in maximum detrusor pressure ranging from 32 to 54%, an increase of maximum cystometric capacity from 27 to 162% and an improvement in bladder compliance of 28 to 176%. Two studies suggested lower efficacy in patients with low compliance bladder compared to those with isolated detrusor overactivity. There were no significant complications related to BTX-A injections.

Interpretation of results

Intradetrusor injections of BTX-A seem an effective treatment of NDO in children with spina bifida but could be less effective in spina bifida patients with a low compliance bladder.

Concluding message

Intradetrusor injections of BTX-A seem an effective treatment of NDO in children with spina bifida but this assumption is not supported by high level of evidence studies and there is currently no published data concerning adult patients. Intradetrusor injections of BTX-A could be less effective in spina bifida patients with a low compliance bladder.

Disclosures

Funding: none **Clinical Trial:** No **Subjects:** NONE