CAHE JC Critically Appraised Article Summary

Journal Club Details

Date of submission	March 2009
Journal Club location	Flinders Medical Centre
JC Discipline/s	Occupational Therapy
JC Facilitator	Emma Gillespie

Clinical Scenario

Does botox reduce tone and improve upper limb function in people with spasticity secondary to a stroke?

Review Question/PICO/PACO

P Post stroke patients who exhibit upper limb hypertonicity

I Botox

C Other forms of management

O Reduced tone and improved function

Article/Paper

Rosales RL, Chua Yap AS. Evidence based systematic review on the efficacy and safety of botulinum toxin-A therapy in post stroke spasticity. *Journal of Neurological Transmission* 2008; 115: 617-623.

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Article Methodology:	Systematic Review
Returned JC on:	2 March 2009
By CAHE staff member:	Lucylynn Lizarondo

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Ques No.	Yes	Can't Tell	No	Comments
1	✓			The review has a clearly focused question. *Population:* Studies that involved adult patients with hemiplegic stroke and moderate to severe spasticity as defined by Modified Ashworth Scale (MAS) were considered in the review; exclusion criteria were also clearly defined *Intervention:* Studies that reported the use of Dysport or Botox was included in the review *Outcomes:* change in MAS; percentage of patients with reduced spasticity score; improvement in Global Assessment Scale (GAS); adverse events
2	✓			The review included only randomised controlled trials and meta-analyses, which are the appropriate study designs for evidence of effectiveness. Is it worth continuing? YES
3	✓			The electronic search included a considerable range of bibliographic databases. The reviewers also screened for additional studies in the reference lists of the included studies. Manual search was done on key journals and textbooks, with the references mentioned likewise reviewed.
4	✓			Two independent reviewers appraised the validity of the included studies. Any disagreement was settled by a third party.
5	✓			Results from studies which looked at similar outcomes were pooled into meta-analysis. Test for heterogeneity was also done. The authors reported the factors that may have contributed to the heterogeneity of the studies.
6				The results were presented using odds ratio and confidence intervals. Bottom line result: Botulinum toxin A therapy is more effective than placebo in reducing upper and lower limb spasticity after stroke. It was well tolerated and was not associated with serious adverse effects.
7				The results of the systematic review can be considered precise, as the reported confidence intervals were narrow.
8				The results from this review seemed applicable to the local setting. However, the extent to which the results can be applied to the local setting is a decision that is best made by those dealing with each individual setting.
9				Whilst the review considered the most important impairment measures and adverse effects of botox, outcomes in terms of functional disability would have been more meaningful. Cost benefits from the intervention are also worth investigating.

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Ques No.	Yes	Can't Tell	No	Comments
10				There is robust evidence from good quality randomised controlled trials regarding the effectiveness and safety of BoNTA in reducing spasticity after stroke. However, there is limited information regarding the effects of long term use of BoNTA.

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