Response to comments on: Short-term outcome of botulinum neurotoxin A injection with or without sodium hyaluronate in the treatment of infantile esotropia - A prospective interventional study

Dear Editor,

We're thankful to the authors for their kind words of appreciation.[1] Our study was conducted to assess the effect of combining Botulinum neurotoxin A (BoNT –A) with Sodium Hyaluronate (SH) in Indian children below 1 year with a simpler technique of preparation of injection.[2] The concentration of SH was same as used by Chen *et al*.[3] We have demonstrated similar effectivity and address the concerns raised by the authors here.

Botogenie™ (*Biomed Private Ltd, India*) injection containing 50 units of botulinum toxin A was used. All preparations were made by the same investigator in the operation theatre in a sterile manner. For preparing the combination, 50 U vial was reconstituted with 1 ml 0.9% NS. 0.05 ml of this was combined with 0.1 ml sodium hyaluronate 1.4% (fixed volume ratio 1:2) to obtain 2.5 U in 0.15 ml toxin. For preparing injections without SH, 0.05 ml of reconstituted toxin was combined with 0.1 ml of NS to obtain similar concentration of 2.5 U in 0.15 ml. Reconstitution was done shortly before administration and stored in the refrigerator (4-6°C), if needed. As the amount injected was only 0.15 ml differentiation on the basis of viscosity was less likely and blinding of the surgeon was possible.

The following outcome measures have been described under methods section- (i) percent change in ocular deviation and ocular alignment at 6 months post injection and (ii) complications. The age group ≤1 year and a small sample size of 55 patients precludes the necessity of associated vertical deviation or dissociated vertical deviation (DVD) pre-injection. Besides, in this age group the accurate measurement of deviations is challenging. The photographic comparison of ocular deviation and palpebral fissure pre and post-injection is a more pertinent asset. The measurements in primary ocular direction were considered for comparison and corneal reflex-based assessment is the most useful mode in this age group. Besides, as described in table 1 under indication of botulinum toxin in infantile esotropia, the variability and unreliability of the measured ocular deviation is a common indication for injecting the toxin. Hence, the question of unreliable measurements stands null and void.

The *P* value applying Fischer Exact test for comparing the complications in the two groups is 0.014 which is statistically significant. This has been wrongly printed as 0.14. We are thankful to the authors for bringing out this typographical error.

Overcorrections are common post-toxin injection. We encountered such observations during our study. However, these overcorrections didn't last for more than 1 month. Since, the mean change in ocular deviation was the outcome measure, its plausible that these transient overcorrections didn't affect the result.

Sensory outcome assessment is invaluable in measuring the effect of intervention in strabismus patients. However, it is not difficult to understand that this is not possible in age group ≤1 year. Nevertheless, a good motor outcome in terms of ocular alignment is a predictor for a good sensory outcome and this was achieved in more than 70% children in both the groups.

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Conflicts of interest

There are no conflicts of interest.

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