Intraventricular baclofen for multifocal spasticity or dystonia: Preliminaries results

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Introduction.—Intrathecal baclofen (ITB) therapy is an effective treatment for multifocal spasticity. However, this treatment does not always properly handle spasticity in the upper limbs (UL), or dystonic movements. Recently, intraventricular baclofen (IVB) therapy has been proposed [1] for the treatment of intractable spasticity or dystonia. This therapeutic raises some questions at least about posology and complications of such technique.

Aim.—The aim of this preliminary study was to identify the daily dose of baclofen infusion, the effects and the complication of IVB therapy.

Method.—Series of five adults and one child with spastic quadriplegia (five with cerebral palsy, and one after brain traumatic injury). We report the evaluation of spasticity before/after IVB assessed by the Ashworth scale, postoperative complications and the mean daily dose of IVB infusion.

Results.—Four subjects were previously treated with ITB which did not allow a good control of spasticity in their upper limbs. One subject received IVB for severe dystonia. Two subjects were not implanted with ITB before. No intraoperative complication was found. Two catheters were repositioned precisely in the third ventricle due to poor initial efficiency of IVB. One was explanted due to infection. The result on lower limbs spasticity was as good with IVB than with ITB. However, there was a greater improvement in spasticity in UL with IVB compared to ITB. The average daily dose was 420 μg/24 h compared to the ITB average dose of 400 μg/24 h. Significant control of dystonic movements was observed.

Conclusion.—The IVB appears to have significantly better efficacy on spasticity of upper limbs, with a tolerance equal to the ITB delivery. These promising results require further investigation. This technique seems to be particularly useful in patients with dystonia or having a spine making lumbar access difficult.

Reference

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Pain assessment during injection sets of botulinum toxin for upper limb spasticity treatment

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Introduction.—Injection sets of botulinum toxin are painful. What is the part due to the four times of the technique: skin breaking, electrical stimulation for localization, injection, needle withdrawal? Although clinically important, this question has been little addressed. This was the objective of this study.

Method.—Prospective study including 26 patients (16 M/10 W, age 61.4 ± 14years) treated without analgesia by Botox® or Dysport® for upper limb spasticity (5th injection set in average), 9.1 years after a stroke. Pain intensity was assessed using a verbal scale from 0 to 10, after each of the 4 steps (skin breaking, electrical stimulation, product injection, withdrawal of the needle) of every injection. Sensory loss was quantified using Semmes-Weinstein filaments. Statistics were nonparametric and data expressed as follows: average [95% LCL and UCL].

Results.—The average number of muscles injected per patient was 3.4 and the average number of injections per muscle 1.6. Electrical stimulation was the most painful time (4.4 [3.3–5.4]; P < 0.001), followed by skin breaking (3.1 [2.1–4.1]; P < 0.01). Pain at injection was not negligible (1.6 [0.9–2.3]), greater than pain accompanying the withdrawal of the needle (0.8 [0.3–1.4]; P < 0.05). No significant correlation was found between pain intensity and clinical characteristics of patients, including sensory loss.

Discussion.—This study specifies the nature and intensity of pain during treatment by botulinum toxin without analgesia of the upper limb spasticity in adults with stroke. The penetration of the product into the muscle and the withdrawal of the needle may be painful. Stimulation time is the most painful, followed by skin breaking. These findings argue for analgesia associated with an adaptation and a learning of therapeutic techniques in order to reduce pain.

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