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**Definition of the optimal candidates for intra-detrusor injections of
botulinum toxin in patients with spinal dysraphism:
can we predict the future by looking at the past?**

Annalisa Inversetti¹, Alessandro Larcher², Anna Locatelli^{1,3}, Jan Deprest⁴⁻⁷

¹ Obstetrics and Gynecology Unit, Carate Brianza Hospital, Italy.

² Unit of Urology, Division of Experimental Oncology, URI - Urological Research Institute, IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan, Italy

³ Obstetrics and Gynecology Unit, School of Medicine and Surgery, University of Milano Bicocca, Milan, Italy.

⁴ Academic Department Development and Regeneration, Cluster Woman and Child, Biomedical Sciences, Faculty of Medicine, Catholic University of Leuven, Leuven, Belgium

⁵ Center for Surgical Technologies, Faculty of Medicine, Catholic University of Leuven, Leuven, Belgium

⁶ Division Woman and Child, Fetal Medicine Unit, Clinical Department of Obstetrics and Gynecology, University Hospital Gasthuisberg, Leuven, Belgium

⁷ Institute of Women's Health, University College London Hospitals, London, UK

Corresponding Author:

Annalisa Inversetti, MD
Obstetrics and Gynecology Unit
Carate Brianza Hospital
Via Mosè Bianchi 9, 20871, Carate Brianza, Italy
Tel: +39 0362 9841 203
E-mail: annainve@gmail.com

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To the Editor

We read with interest the original investigation by Peyronnet *et al.*¹ reporting improved urodynamic outcomes after intra-detrusor botulinum toxin A injections in adult patients diagnosed with spinal dysraphism¹.

Patients diagnosed with neurogenic bladder owing to spina bifida are a peculiar population that has been scarcely investigated, and the potential clinical benefit recorded in the study -namely 62% success rate after the first injection- deserves special attention. However, more than one patient out of three experiences failure after the first injection and in such cases subsequent management of can be problematic, since it is difficult to assess whether success can be achieved and how many cycles are required to do so.

Under this light, the most intriguing step of the analysis by Peyronnet *et al.* is the identification of the optimal candidates for intra-detrusor botulinum toxin A injections. The multi-institutional nature of the study allowed for an adequate sample size to justify such predictive analysis and the Authors should be applauded for this important strength of the study. Older patients, female with good bladder compliance resulted the best responders, whereas neither the sensory-motor level of the spinal cord injury nor the type of dysraphism -categorized as open vs. close- resulted associated with treatment outcomes. This finding can be regarded as controversial, since the above-mentioned factors represent established predictors of other relevant functional outcomes and quality of life indicators of patient diagnosed with spina bifida (e.g. motor function², cognitive outcomes³, fecal continence⁴).

To treat the consequences of a disease that was diagnosed 30 years before - on the average¹- is not only a challenging clinical scenario, but also poses a relevant issue in a research setting: accurate data collection about the classification of the dysraphism might be almost impossible, as shown by the 49% rate of missing information about the sensory-motor level of the spinal cord injury¹.

Does a patient with a large defect have the same success probability of a patients with a very small one? Do cases previously treated with perinatal repair

respond in the same way as those who were never surgically treated? Similarly, when surgical repair is contemplated, will the outcome be comparable in case of pre-natal or post-natal repair^{5,6}? To answer these critical questions is not a simple task and requires a data collection system capable to bridge the temporal gap between diagnosis and treatment of the spinal injury and management of the urologic symptoms.

These considerations do not diminish the high quality of the report; instead, are intended to point the lack of details considered key in perinatal spinal dysraphism investigations (size of the defect, timing of diagnosis, indication and timing of intervention)⁷, owing to the focus on an adult perspective. Such effort could be extremely useful when, in a near future, it will be possible to evaluate urodynamic outcomes and select for intra-detrusor botulinum toxin A injections also patients treated with prenatal spinal surgery⁶.

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