Editorial

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Special Issue Pediatric Functional Neurosurgery

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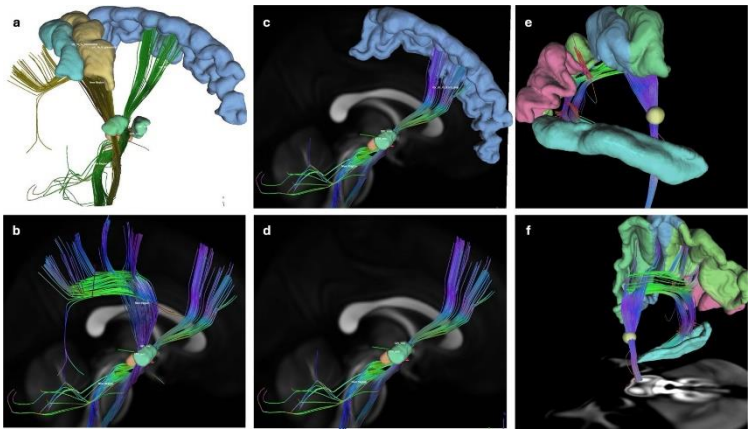

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Dear Colleagues,

Pediatric functional neurosurgery encompasses a range of surgical interventions aimed at addressing complex neurological disorders in children, with the goal of improving function and quality of life. This field has made significant advancements in recent decades, with innovative techniques and technologies broadening its scope and efficacy. While conditions such as epilepsy, spasticity and movement disorders are well-established indications for functional neurosurgical interventions in children, emerging applications in neuropsychiatric and developmental disorders are under active investigation.

This Special Issue aimed to collect clinical and pre-clinical studies exploring the application of functional neurosurgical techniques in pediatric populations. We have received works focusing on novel indications, upcoming technologies, refined methodologies, and long-term outcomes in the management of neurological and neuropsychiatric disorders, including well documented case reports.

Barbosa et al have contributed with their experience with pallidotomies, intraventricular baclofen and combined selective dorsal and ventral rhizotomies in the management of severe spasticity and dystonia in children. Furlanetti et al have also contributed with an interesting case report and review of the literature on the application of combined limbic and sensorimotor pallidotomies in the management of Lesch-Nyhan syndrome. In line with this, Gregorio et al presented an interesting report and review on the application of intraventricular baclofen for the management of pelvic pain associated with spasticity in the context of cerebral palsy. Furlanetti et al and Arias et al discussed safety and efficacy of deep brain stimulation or pallidotomy combined with intrathecal baclofen in the management of severe refractory spasticity and dystonia in cerebral palsy, showing that in such cases multimodal neurosurgical techniques may be required to provide better quality of life for patients and caregivers. Bulhoes et al addressed the current utility of selective peripheral neurectomies in the management of spasticity and dystonia should still be considered in cases of focal or segmental clinical manifestations. Khairani et al closed-up the special issue reporting their experience with vagal nerve stimulation in the treatment of severe refractory status epilepticus.

We hope this very interesting articles will contribute to a deeper understanding of the mechanisms, challenges, and future directions in pediatric functional neurosurgery and help define its evolving role in treating the most challenging conditions affecting the developing brain.

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Guest Editors

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