Évaluation de la douleur en fonction de la technique de repérage lors des injections intramusculaires de toxine botulique chez l’enfant

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Mots clés : Toxine botulique ; Douleur ; Enfants ; Repérage ; Échographie

Introduction. – La toxine botulique est actuellement le traitement de référence de la spasticité focale chez l’enfant avec paralysie cérébrale. Les injections intramusculaires de toxine botulique sont particulièrement génératrices de douleur, spécialement au moment du repérage des muscles cibles et de l’injection. Le repérage du muscle par électrostimulation, technique la plus souvent employée, semble être un facteur algique. L’échographie est une technique récemment employée pour le repérage des muscles cibles. L’un de ses avantages pourrait être de moindre douleur provoquée lors du geste global. Le but de cette étude est de déterminer si une des deux techniques de repérage est moins douloureuse.

Matériel et méthodes. – Étude prospective monocentrique, réalisée de mai 2011 à octobre 2012, portant sur 107 séances d’injections intramusculaires de toxine botulique au niveau des membres inférieurs. L’évaluation de la douleur a été effectuée avec une échelle visuelle analogique (EVA) par l’enfant ou son entourage et avec la Face, Legs, Activity, Cry, Consolability (FLACC) par l’équipage soignante. Nous avons mesuré la différence (difFLACC) entre la FLACC avant et pendant le geste afin de s’affranchir de l’anxiété.

Résultats. – Le repérage par échographie seule a été réalisé chez 60 enfants, le repérage par électrostimulation seule ou électrostimulation associée à l’échographie chez 47 enfants. Le repérage échographique est moins douloureux que le repérage sous électrostimulation, avec respectivement EVA à 2,7 et difFLACC à 2,0 (échographie) et EVA à 4,5 et difFLACC à 3,2 (électrostimulation). Il existe une différence significative en faveur du groupe échographie seule par rapport à l’autre groupe (p < 0,05).

Conclusion. – Le repérage par échographie diminue la douleur globale provoquée lors des injections de toxine botulique chez l’enfant comparative- ment au repérage par électrostimulation. Cet avantage mérite d’être pris en compte dans le choix de la technique de repérage.

Pour en savoir plus

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Oral communications

English version

Executive functions disorders in children: What is new in assessment and intervention?

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Keywords: Executive functions; Child; Assessment; Rehabilitation; Intervention

Executive functions are a collection of related but distinct abilities that allow individuals to engage efficiently in intentional, goal-directed problem-solving actions and to adapt to new situations making them effective in the real world. They comprise of a number of cognitive functions, and they influence behavior regulation abilities and social cognition. There is no consensus model of executive functions; however Anderson [1] proposed an organization in four distinct but inter-related domains: attentional control, cognitive flexibility, information processing and goal formulation. Development is protracted until early adulthood [2]. Children are vulnerable to early brain lesions, and cognitive impairments can appear or worsen after a long delay, when environmental demands increase, and cognitive deficits become more obvious. Assessment of executive functions is complex, and usually performed through neuropsychological assessment. Tests have often been developed in adults and then adapted to children, and their French standardization and normalization is insufficient. A specific neuropsychological battery (Child Executive Functions [FEE]) is currently being validated in France. However, ecological validity of neuropsychological tests has been questioned. Those tests, performed in very structured environments, do not always reflect the actual difficulties the child encounters in everyday life. This has led to the development of ecological assessments, which allow to assess more precisely the impact of the dysexecutive syndrome on everyday life and school.

Finally, improving executive functions is extremely complex and there is a lack of validated rehabilitation methods. Even if it is possible to train component skills, their transfer to natural contexts and generalization to untrained activities has rarely been demonstrated. However, some general rehabilitation principles are recommended in children with a dysexecutive syndrome. In particular, it is important to use context-sensitive approaches, embedded in functional routines of everyday life and using meaningful activities rather than decontextualized exercises, and to get the parents and the “everyday people” surrounding the child to participate in the “cognitive coaching” of the child.

References
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Assessment of executive functioning in children using an everyday life activity: A cooking task

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Keywords: Assessment of executive functioning; Daily life; Children; Brain injury

Brain injury often leads to executive functions deficits, responsible for severe disabilities in daily life activities, incompletely assessed by neuropsychological paper-and-pencil tests. We designed an interactive ecological measure consisting of a cooking task, involving the child’s multi-tasking abilities, validated in adults with brain injury [1,2] and later adapted for children [3].

Aims. – To confirm ecological validity and sensibility of this ecological task, and to estimate its concurrent validity with cognitive tests of executive functioning.

Method. – We included 49 patients who had sustained moderate to severe acquired brain injury, aged 8 to 20 years, and 26 matched controls. We assessed executive functioning with cognitive tests (Trail Making Test, Tower of London, 139
Incidence and risk factors of post-traumatic epilepsy in children: A French prospective cohort (TGE cohort)

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Keywords: Post-traumatic epilepsy; Incidence; Sever traumatic brain injury; Complications; Child; Risk factors

Acquired brain injury in children often result in severe cognitive and behavioral impairments. They are significantly worsened by associated epilepsy. In the literature, the incidence rates of post-traumatic epilepsy in children and adults with traumatic brain injury (TBI) vary between 8 and 30% [1].

Objective. To explore incidence and risk factors of post-traumatic epilepsy in a prospective cohort of children with severe accidental TBI.

Methods. - Mono-centric prospective cohort study. Children, aged 0 to 15 years, consecutively admitted in the intensive care unit of the paediatric neurosurgery department–Necker Hospital for severe accidental TBI were included. Data on TBI severity, initial intensive care monitoring, and the onset of post-traumatic epilepsy were prospectively collected over two years. The following risk factors were taken into account in the analysis: Glasgow coma scale, length of coma, presence of a penetrating skull fracture, hypo-perfusion brain, early seizures.

Results. - Eighty-one children were included. There were 65 survivors [66% males: mean age 8.12 years (DS = 4.6)]. Five children developed a post-traumatic epilepsy, the incidence was 7.7% [95% CI 0.9%–14.4%]. They developed epilepsy within the first 12 months post-injury. Only one of those five children had presented early seizures. Among the risk factors studied only the duration of coma was significantly associated with the onset of post-traumatic epilepsy (p = 0.02). Mean coma duration was 11 days (range: 5–16) in the subgroup with post-traumatic epilepsy versus 5 days (range: 1–25) in children without epilepsy.

Discussion. – Post-traumatic epilepsy occurred after severe pediatric TBI, but the incidence is low. To our knowledge, this is the first study reporting data from a prospective cohort of children with severe accidental TBI. Our findings about the risk factors of post-traumatic epilepsy onset are consistent with data from the literature, as TBI severity is the most frequently reported factor.

Reference
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