CO39-008-f
Évaluation de la douleur en fonction de la technique de repérage lors des injections intramusculaires de toxine botulique chez l’enfant

M. Mottu-Bayon a,*, X. Derie b, C. Tessiot b, I. Richard c, M. Dinomais a
a CH de réadaptation Maubreuil, 31, boulevard Salvador-Allende, C.S. 404018, 44819 Saint-Herblain cedex, France
b Département de médecine physique et de rééducation pédiatrique, centre de rééducation les capucins, Angers, France
c LUNAM, département de Médecine Physique et de Réadaptation, université d’Angers, CHU d’Angers, 49933 Angers, France
* Auteur correspondant.
Adresse e-mail : marie.bayon@gmail.com

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 la 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’équipe 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

CO39-002-e
Assessment of executive functioning in children using an everyday life activity: A cooking task

V. Servant a,*, G. Abada b, A. Mintegui a, A. Mariller c, P. Notteghem a, E. Pineau-Chardon b, P. Pradat-Diehl a, M. Chevignard c

a SMAC, 1, cours Albert-Thomas, 69416 Lyon, France
b Service de rééducation des pathologies neurologiques acquises de l’enfant, hôpitaux de Saint-Sauveur, 14, rue du Val-d’Osne, 94410 Saint-Maurice, France
c Service de médecine physique et de réadaptation, groupe hospitalier Pitié-Salpêtrière, 47, boulevard de l’Hôpital, 75013 Paris, France
*Corresponding author.
E-mail address: servant.violette@voila.fr

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,
Wisconsin Card Sorting Test, Six Part Test), and parent-based questionnaires assessing executive functions in everyday life (BRIEF and DEX-C). The ecological task consisted of a cooking task, in which the child was asked to prepare two distinct recipes, in autonomy, while respecting instructions and rules. Analyses were performed with the non-parametric tests.

Results.– Neuropsychological assessment indicated mild to moderate executive deficits. The parent-rated questionnaires indicated that over 50% of patients suffered dysexecutive deficits in everyday life. In the cooking task, all the quantitative and qualitative variables were significantly impaired in the patient group (p < 0.001). Patients were slow and exhibited difficulties in on-line monitoring of the task. They displayed more purposeless actions and a dependency towards the examiner. Correlations of the number of errors with the neuropsychological tests and the dysexecutive questionnaires were low.

Conclusion.– This study confirms the important sensibility of this cooking task to better approach dysexecutive impairments in children with acquired brain injury, and suggests it is important to use dynamic naturalistic assessments along with neuropsychological tests and questionnaires.

References
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M. Toussaint-Thorin a,*, L. Watier b, A. Laurent-Vannier a, M. Bourgeois d, P. Meyer e, M. Chevignard

a Unité de MPR pédiatrique, hôpital Américain, CHU de Reims, 47, rue Cognacq-Jay, 51092 Reims cedex, France
b EA499, université Versailles-Saint-Quentin, France
c Hôpitaux de Saint-Maurice, France

*Corresponding author.
E-mail address: mathildetoussaint@hotmail.com

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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Presentation of the French National Reference Centre for Pediatric Stroke

M. Chevignard a,*, C. Vuillerot b, M. Kossorotoff b, Z. Zerah d, B. Husson f, G. Saliou e, T. Debillon c, C. Renaud b, S. Chabrier b

a Service de rééducation des pathologies neurologiques acquises de l’enfant, hôpitaux de Saint-Maurice, 14, rue du Val-d’Oise, 94410 Saint-Maurice, France
b Service de rééducation pédiatrique l’Escalet, hôpital Femme-Mère-Enfant, hospices Civils de Lyon, Lyon, France
c Service de neurochirurgie, hôpital Necker–Enfants-Malades, Paris, France
d Service de neuropédriatrie, hôpital Necker–Enfants-Malades, Paris, France
e Service de radiologie pédiatrique, hôpital Bicêtre, Le Kremlin-Bicêtre, France
f Service de radiobiologie, hôpital Bicêtre, Le Kremlin-Bicêtre, France
g Service de réanimation pédiatrique et néonatale, CHU de Grenoble, Grenoble, France
h Service de neuroradiologie, hôpital Bicêtre, Le Kremlin-Bicêtre, France

*Corresponding author.
E-mail address: m.chevignard@hopitaux-st-maurice.fr

Keywords: Childhood stroke; Neonatal stroke; National reference center; Diagnosis; Treatment; Rehabilitation

Each year, 500 to 1000 pediatric strokes occur in France. As the lesion occurs during the brain maturation process, consequences may only become apparent several years after the stroke when brain functions have reached complete maturation and environmental demands (including school) increase. An individual care plan focused on the child, adequate referral to multidisciplinary rehabilitation teams, extensive information and discussion between family, education and care teams are essential during the entire follow-up, taking into account the child’s and family’s opinion.

Under the 5-year stroke plan (stroke 2010-14), the Ministry of Health has approved a five-year National Reference Centre for Pediatric Stroke, multi-site, coordinated by the University Hospital of Saint-Etienne. The center involves the imaging department at Bicêtre Hospital (Assistance-Hospitals of Paris [AP-HP]), the pediatric neurosurgery and pediatric neurology departments at Necker-Enfants Malades Hospital (AP-HP), the pediatric and neonatal intensive care unit of the University Hospital of Grenoble, the Physical Medicine and Rehabilitation Pediatric departments at Hospices Civils de Lyon and Saint-Maurice Hospitals. The center’s missions are: to develop collaborative activities to bring together, coordinate and manage care pathways locally and nationally, in order to provide expertise for complex cases; to educate and inform all professionals involved in pediatric stroke to further shorten the diagnostic delay; to train and inform professionals, families and the general public about the consequences of pediatric stroke; to collect epidemiological data and to coordinate research in this field.

The center is now the first interlocutor of the ministry, the regional health agencies, the healthcare professionals involved pediatric stroke care, as well as patients’ representatives. Bi-monthly multidisciplinary video-conference meetings started early 2013 to discuss issues requiring expertise. A website is under construction.

For Physical Medicine and Rehabilitation, the center will be connected to the regions to discuss the organization of the optimal management of children who had a stroke, until adulthood. Working groups may be established to make a survey of what is done in each region and to formalize the care pathways of patients with pediatric stroke.

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