

vity in coalescence with slow waves (TTA-SW), which appears at 24 to 32 weeks of gestational age (wGA).

Objectives The present study investigated the influence of TTA-SW on the spatial organization of the early preterm brain network.

Methods High-Density EEG (HD-EEG) data were recorded from preterm infants (29–32 wGA) and functional connectivity (FC) was estimated from the scalp EEG.

Results TTA-SW, particularly in the theta band, induced increased FC between left temporal and left frontal areas and between left temporal and parietal areas with TTA-SW at the left temporal region, while FC was limited to the right temporal regions in the case of TTA-SW at the right temporal region. Regardless of the lateralization of TTA-SW, long-range FCs were observed between left frontal to left parietal areas, suggesting that these regions, together with the temporal region, provide a basis for coherent neuronal activation across distal cortical regions.

Conclusion TTA-SW dynamic features showed that brief phases of TTA-SW had an impact on both local and whole brain network organization, supporting the importance of TTA-SW as a biomarker of brain development.

Keywords Functional connectivity; Preterm; Theta temporal activity

Disclosure of interest The authors declare that they have no competing interest.

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The nerve conduction study is the key tool for the assessment of a peripheral neuropathy after carbon monoxide intoxication in a young adolescent mimicking a central presentation

R. Kammoun*, R.I.M.K.A. Ben Cheikh, R.I.M.K.A. Allaya*, R.I.M.K.A. Anane, R.I.M.K.A. Sakly

Service d'explorations fonctionnelles du système nerveux, CHU Sahloul, Sousse, Tunisia

* Corresponding author.

Adresses e-mail : rimkammoun@yahoo.fr (R. Kammoun), rimkammoun@yahoo.fr (R.I.M.K.A. Allaya)

Background Peripheral neuropathy after carbon monoxide (CO) intoxication is rarely reported. A peripheral nerve dysfunction mimicking a central presentation has never been reported.

Objectives To determine the place of nerve conduction studies (NCS) in the assessment of peripheral neuropathy following CO intoxication.

Methods We reported the case of a young patient aged 21 years who was addressed to the electrophysiological department Sahloul to perform NCS one year after a severe CO intoxication. He developed during his hospitalization, a left hemiparesis (lower and upper limbs). The NCS was not performed at this time. The diagnosis was rhabdomyolysis complicated by an acute renal failure due to CO poisoning in a patient with central nervous system complication. Actually the physical examination revealed the left hemiparesis with conserved or even exaggerated reflexes. These clinical features were compatible with a central dysfunction. However, when performing NCS on the left side, sural, superficial peroneal, ulnar, and median sensory nerve action potentials were unobtainable, as well as peroneal and tibial compound muscle action potentials. Such findings evoke a diffuse peripheral neuropathy with axonal dysfunction. This association was not reported after CO intoxication.



Results Although demyelinating neuropathy is the mostly common reported form of neuropathy after CO intoxication, axonopathy can also be occurred but needs more times to recover. Rhabdomyolysis and CO itself are the major factors leading to peripheral neuropathy.

Conclusion A peripheral neuropathy mimicking a central presentation can occur after CO intoxication. Clinicians should be aware of the major implication of the peripheral nervous system in this context.

Keywords CO intoxication; Neuropathy; Rhabdomyolysis

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Valeur pronostique du monitoring par électroencéphalographie d'amplitude dans le traumatisme crânien modéré à sévère pédiatrique

G. Loron^{1,*}, P. Venot¹, E. Druot², J. Beck¹, N. Bednarek¹

¹ CHU de Reims, Reims, France

² CHU Necker, Paris, France

* Auteur correspondant.

Adresse e-mail : gloron@chu-reims.fr (G. Loron)

Contexte Chaque année en France surviennent 4000 traumatismes crâniens pédiatriques modérés ou sévères, grévés d'une morbi-mortalité importante. La prise en charge initiale vise à limiter les lésions secondaires via un monitoring multimodal. L'EEG d'amplitude (aEEG) n'a pas été évalué dans cette indication.

Objectifs Évaluer les apports diagnostique et pronostique de la tendance aEEG dans le traumatisme crânien en réanimation.

Méthodes Nous avons rétrospectivement recueilli les données cliniques, électrophysiologiques et thérapeutiques, les imageries et le devenir des enfants hospitalisés en réanimation pédiatrique au CHU de Reims pour traumatisme crânien modéré ou sévère, entre le 01/01/2015 et le 31/08/2018, avec monitoring cérébral continu par aEEG. Nous avons caractérisé l'aEEG par période de 6 h selon : sa qualité, la classification d'Hellström-Westas, les valeurs moyennes des marges inférieure et supérieure, la présence de modulation, la détection de crises. Les corrélations électrocliniques ont été étayées par des tests de Student, χ^2 , Anova selon les variables considérées.

Résultats Quarante-et-un patients ont présenté un traumatisme crânien modéré ou sévère, dont 27 ont bénéficié d'un monitoring aEEG. En moyenne, l'enregistrement débutait dans les 4 premières heures pour 93 h. La présence d'une modulation avant 6 h et 12 h de vie était significativement associée à un meilleur devenir. La détection de crises convulsives n'était pas péjorative dans cette observation.

Conclusion Le monitoring aEEG est facilement réalisable dans cette population. La présence précoce d'une modulation des amplitudes est associée à un bon pronostic. Un travail prospectif est nécessaire pour évaluer l'apport d'un monitoring continu aEEG/EEG couplé.

Mots clés Electroencéphalogramme d'amplitude ; Monitoring ; Soins intensifs

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