

and, consequently, its impact on the quality of life of patients with PD.

Keywords Parkinson's disease; Balance; Quality of life; Rehabilitation; Virtual reality

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

<https://doi.org/10.1016/j.neucli.2019.10.112>

Alcoholic cerebellar degeneration: A case report



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Introduction Alcohol-induced cerebellar degeneration is the commonest type of acquired toxic ataxia. The onset of the cerebellar symptoms usually occurs at middle age, with a significant history of chronic alcohol abuse. Permanent cerebellar deficits are observed among alcoholics, and they persist even with alcoholic abstinence. The cerebellum is the structure that controls the stability of the gaze, chronic cerebellar diseases and acute alcohol intoxication affect cerebellar function. Ataxia and nystagmus are neurological manifestations present in this disease. To verify vestibulocochlear disorders observed in a case of alcohol-induced cerebellar ataxia.

Material and method It is a clinical case study of alcohol-induced cerebellar ataxia. The patient featured troubled walking (wide-based gait, preserved tactile sensitivity, hyperesthesia of the lower limbs, nystagmus, dysmetria, mild dysdiadochokinesia, numbness in the distal phalanges of the upper limbs, and uncoordinated movement).

Results The patient evidenced bilateral hearing loss from the frequency of 3 kHz and absence of ipsilateral reflexes; magnetic resonance imaging (MRI) showed atrophy of the Cerebellar Vermis; scale for the assessment and rating of ataxia (SARA) scored 15; brainstem auditory evoked potential test (BAEP) evidenced diffused dysfunction of the auditory pathways; balance testing showed labyrinthine hypofunction with presence of bidirectional nystagmus, featuring central vestibular disorder and the falls efficacy scale (FES-1-Brazil) evidenced abnormalities.

Conclusion The patient started treatment using B12 vitamin, thiamine, and physical therapy. Currently, despite reported balance improvement, he needs ambulation support. He features nystagmus, bilateral dysmetria, mild dysdiadochokinesia, continuous tinnitus in his left ear, blurred vision, and neck pain while moving it.

Keywords Alcohol; Imbalance; Ataxia; Brain; Neurodegeneration; auditory

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

<https://doi.org/10.1016/j.neucli.2019.10.113>

Identification and new methods for quantifying new biomarkers of posturo-locomotor instability in a rodent model of acute peripheral vestibulopathy



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Introduction Unilateral vestibular lesion results in a typical syndrome characterized by postural imbalance, alteration of locomotion and gaze stabilization as well as cognitive and neurovegetative disorders. One of the main difficulties encountered in the development of new anti-vertigo drugs is the lack of sensitivity in the evaluation of this syndrome. The use of a dynamic weight-bearing device has revealed postural alterations in rats with unilateral vestibular neurectomy (UVN) on the left side (Tighilet et al., 2017). With a new version of this device, we can quantify additional parameters of postural and locomotor equilibrium. The objective of this study is to use this device to set new parameters on our rat model of vestibular pathology.

Material and methods We extracted different biomarkers from this device: the support surface, the weight distribution of rats when they are static or dynamic, and the successive positions of rat's barycenter.

Results Before UVN, rats show a symmetric distribution of their weight along the lateral axis. In the acute phase after UVN, rats distribute more weight on the right when they are static and then they put more weight on the left side. After UVN, the support surface of the rats increases, and the barycenter distribution show a higher dispersion.

Discussion/conclusion This study provides new information on the postural balance pattern observed after vestibular loss in rats. These data show a new way of quantifying the postural deficit associated with vestibular damage and the compensatory strategies adopted. These results could guide us on the validation of pharmacological compounds favoring the balance recovery.

Keywords Vestibular syndrome; Postural deficit; Balance pattern; Compensatory strategies

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

<https://doi.org/10.1016/j.neucli.2019.10.114>

Altération des réponses posturales lors d'un déséquilibre suite à une lésion de la moelle épinière incomplète



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Introduction Les personnes ayant une lésion de la moelle épinière incomplète (LMÉi) présentent des réactions posturales altérées. Pour comprendre les mécanismes neuronaux sous-jacents, la modulation de l'excitabilité spinale lors de perturbations a été analysée.