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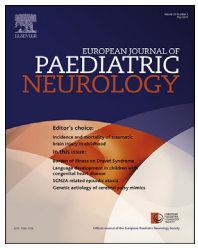

Editorial

Commentary on gait deviations in patients with Dravet syndrome: A systematic review

Dravet syndrome is a severe epileptic encephalopathy which reveals itself when the child has their first seizure in their first year of life, and subsequent control of the seizures is problematic.[1] The child will have had typical development prior but once seizures commence, motor delay gradually occurs with communication abilities affected, and cognitive and behavioural difficulties emerging. Therefore the management of Dravet syndrome is not just seizure control but also includes these co-morbidities which impact on the child's life and that of their family.[2] More attention is now being directed to how families cope in their daily lives with these multiple aspects of Dravet syndrome.[3]

Today there is recognition that the child with Dravet syndrome exhibits gait deviations which can impede their ability to participate in family/community activities which involve walking. Many teenagers require a wheelchair to cover community distances and walking is limited to their home or immediate environs.[4,5] The cause(s) for this deterioration in gait remain unknown. This is an important area of research for patients with Dravet syndrome and in the last decade there has been more interest in the published literature regarding this concerning aspect of function for these patients.

Wyers et al. have found that the current research into gait in Dravet syndrome, is tending to show the gait deviations of crouch and lever arm dysfunction, predominately at the level of the foot and tibia, but the time of development of these deviations remains unclear.[6] However this research is based on the publication of three refereed papers, three conference abstracts and three short communications, with six of these using the same two cohorts, three exclusively with adults with Dravet syndrome and all cross sectional studies. The authors have shown that there is a need for more robust studies in gait deviations in this patient cohort including longitudinal studies so that the natural history of gait for these patients is documented.

The authors have been realistic in their comments regarding the lack of strength testing or three dimensional (3D) gait analysis studies in the literature, showing that they understand the cognitive and behavioural difficulties that these patients exhibit which makes participation in strength testing and 3D gait analysis challenging and at times limited or impossible. Three dimensional gait analysis provides an objective documentation of gait but as the authors indicate other methods should also be explored as technology continues to be developed that may be more suitable for characterising gait in Dravet syndrome.

Understanding the physiological causes leading to the gait deviations would be the ideal so that preventive measures could be directed to these. In the absence of this knowledge, management of the gait deviations needs to be promoted. Interventions based on orthopaedic surgery, orthotic prescription and physiotherapy are considered by the authors but as they state there is no evidence for the effectiveness of these interventions in this patient population.

Wyers et al. provide a considered summary of the research into gait in Dravet syndrome at this time from which future studies can find direction to the benefit of this patient population.

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Jill Rodda
Melbourne Health, 300 Grattan Street, 3050, Parkville, Victoria, Australia
The University of Melbourne, 3010, Parkville, Victoria, Australia
E-mail addresses: Jillian.Rodda@mh.org.au, jrodda@unimelb.edu.au

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