

Sleep Related Breathing Disorders in Children with Epilepsy - A Case Series

Mariangela Gulisano* and Renata Rizzo

Department of Experimental and Medical Sciences, Catania University, Via Santa Sofia, Catania, Italy

*Corresponding author: Mariangela Gulisano, Department of Experimental and Medical Sciences, Catania University, Via Santa Sofia, Catania, Italy, Tel: +393287380316; E-mail: mariangelagulisano@gmail.com

Received date: Nov 21, 2017; Accepted date: Mar 30, 2018; Published date: Apr 10, 2018

Copyright: 2018 © Gulisano M, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Citation: Gulisano M, Rizzo R (2018) Sleep Related Breathing Disorders in Children with Epilepsy - A Case Series. J Child Adolesc Behav 6: 372. doi: 10.4172/2375-4494.1000372

Introduction

The prevalence of sleep related breath disorders (SRBDs) in children affected by epilepsy is debatable. While some authors did not report any difference in the rate of SRBD between children with epilepsy and the healthy population, other authors reported a statistically higher incidence in children with epilepsy. SRBDs affect 0.7-3% of children in the general pediatric population, and the prevalence of SRBD reported in children with epilepsy is 6-80%, including sleep breathing disorders in 20-80% and obstructive sleep apnea in 6-60%. A widely used and validated instrument to evaluate SRBDs is the Pediatric Sleep Questionnaire (PSQ), developed by Chervin et al. in 2000 [1]. This is a 22-item parent-completed questionnaire with a sensitivity of 81% and specificity of 87% for the diagnosis of SRBDs, with a suggested cut-off of ≥ 0.33 . Moreover, the PSQ is able to identify symptoms related to poor quality of sleep, such as day time sleepiness (≥ 2 of 4 symptoms reported in items B1, B2, B4, B6) and ADHD symptoms (≥ 3 of 6 symptoms reported in items C3, C5, C8, C10, C14, C18) [2].

Case series

We report a case series of 15 patients (5 women, 10 men), mean age 8.1 (standard deviation 3.7) years, affected by epilepsy, pharmacologically treated, with seizures under control, and the absence of any crises in the previous six months. All patients presented with normal intelligence quotients and were also evaluated with the Conners rating scale and DSM-5 criteria for ADHD. All parents completed the PSQ, with the following results: 6 out of 15 (40%) showed a total scale score ≥ 0.33 , suggestive of SRBDs; moreover, the same patients showed excessive daytime sleepiness. Of the 15 patients, 7 (46.6%) showed ADHD symptoms (confirmed with Conners scale and DSM-5 criteria) and, finally, 4 out of 15 (26.6%) showed SRBDs, awake sleepiness, and ADHD symptoms.

Discussion

There is a complex relationship between sleep breathing disorders and epilepsy in children, with reciprocal interactions. Only a few

groups (approximately 12, to our knowledge) have studied this association, and the results are controversial due to heterogeneous populations, subjective measures, and small patient numbers, among other factors. Recently, an observational pilot study was performed by Urquhart and colleagues (2016), which reported a SRBD prevalence of 55% in children with epilepsy [3].

In conclusion, we suggest that clinicians should incorporate the diagnosis of sleep disorders in the examination of pediatric patients affected by epilepsy for various reasons:

- The risk of the consequence of sleep disorders, especially breathing disorders with particular attention to sudden unexpected death (suggested level of evidence in the literature is 4 or 5),
- The impact of sleep disorders on seizures and cognitive functions, and
- The effect of sleep disorders on daily life owing to daytime sleepiness and ADHD symptoms

Clinicians should evaluate the utility of therapy for both disorders, in order to reduce complications and improve the quality of life in these patients. Further studies are required to evaluate SRBD in pediatric epilepsy.

References

1. Gogou M, Haidopoulou K, Eboriadou M, Pavlou E (2015) Sleep apneas and epilepsy comorbidity in childhood: a systematic review of the literature. *Sleep Breath* 19: 421-432.
2. Chervin RD, Hedger K, Dillon JE, Pituch KJ (2000) Pediatric sleep questionnaire (PSQ): validity and reliability of scales for sleep-disordered breathing, snoring, sleepiness, and behavioral problems. *Sleep Med* 1: 21-32.
3. Urquhart DS, Kehinde OO, McLellan AE (2016) Observational pilot study of reported symptoms of obstructive sleep apnoea in children with epilepsy. *Dev Med Child Neurol* 58: 1063-1108.