Epilepsy Comorbidity of Autism in Children

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Editorial

Autism Spectrum Disorder (ASD) is a group of developmental disorder in children characterized by social interaction difficulties, verbal/nonverbal communication disturbance and stereotyped behaviors. ASD can be found in most countries all over the world, while the prevalence differs among areas. The association between autism and epilepsy has been recognized for a long time, yet the basis of association is little understood [1]. One of the main reasons comes from the fact that various diagnostic subtypes exist in many reports of epilepsy with ASD [2].

The prevalence of epilepsy among all children is estimated as 2-3%, compared to 10-30% in autism [3,4]. In a retrospective review of Electroencephalography (EEG) data and review of medical charts, up to 40% of children with pervasive developmental delay were diagnosed with epilepsy [5]. A meta-analysis of epilepsy in autism from 10-14 studies (1963-2006) found that 21.4% of individuals with an intellectual disability had epilepsy, while 8% of those without an intellectual disability had epilepsy [6]. Therefore, epilepsy in autism was associated with intellectual disability and the prevalence of epilepsy paralleled the intellectual disability. A similar report showed that autistic children without additional neurological disorders have a much lower (approximately 6%) rate of epilepsy [7]. The risk for epilepsy in ASD was significantly higher for females from several studies [1,6,8]. A followed-up study for 150 childhood diagnosed ASD postulated two findings shared by ASD & epilepsy: Abnormalities in minicolumn architecture and GABA neurotransmission. Both ASD & epilepsy are associated with the excitatory to inhibitory imbalance of the cortex, causing high prevalence of epilepsy in ASD and increased prevalence of ASD in individuals with epilepsy [16].

References


