

SEIZURE DISORDERS

EPILEPSY ASSOCIATION WITH INFANTILE AUTISM

The prevalence and types of epilepsy and other CNS diseases among 118 individuals diagnosed as children (median age 4 years) with infantile autism (IA) and 336 matched controls from the general population were determined in a longitudinal study at Bispebjerg University Hospital, Copenhagen, and Glostrup University Hospital, Denmark. The average observation time was 30.3 years (range, 27-30 years), and mean age at follow-up was 42.7 years (range, 27-57 years). The prevalence of epilepsy (mostly generalized) was 24.6% in the IA group compared to 1.5% in the controls ($p<0.0001$). Cerebral palsy was significantly more frequent among subjects with IA than controls ($p=0.02$) but the frequency was low. Other CNS diseases showed no increased frequencies among subjects with a history of IA. Low intelligence, but not gender, was a risk factor for epilepsy in IA. Among 83 with $IQ<70$, 26 (33.7%) had epilepsy cf 3/34 (8.8%) with $IQ>69$, $p=0.02$. Among 33 females with IA 10 (30.3%) had epilepsy; for 85 males with IA 19 (22.4%) had epilepsy ($p=0.48$). Epilepsy is a common comorbid disorder in IA. (Mouridsen SE, Rich B, Isager T. A longitudinal study of epilepsy and other central nervous system diseases in individuals with and without a history of infantile autism. **Brain Dev** May 2011;33:361-366). (Respond: Dr SE Mouridsen, Centre for Child and Adolescent Psychiatry, Bispebjerg University Hospital, DK-2400 Copenhagen, Denmark. E-mail: Svend.Erik.Mouridsen@regionh.dk).

COMMENT. This study confirms previous reports of the comorbidity of epilepsy and autism. The risk of epilepsy is correlated with the level of IQ, the high proportion of patients with cognitive impairment and IA contributing to the high level of comorbidity. A common neural substrate or susceptibility for epilepsy and autism is suggested.

Correlation between EEG abnormalities and symptoms of autistic spectrum disorder (ASD). (Yasuhara A. **Brain Dev** Nov 2010;32(10):791-798). Epilepsy was diagnosed in 37% of 1014 autistic children treated and followed for more than 3 years in Osaka, Japan. Autistic children with a lower IQ had a higher incidence of epilepsy. Epileptiform discharges occurred in 85.8% (870/1014) patients, most frequently frontal (65.6%). The EEG findings are considered important in the management of ASD.

The pathophysiology of epilepsy in autism is discussed in a study of 80 cases of idiopathic autism with epilepsy compared to 87 cases without epilepsy (Nomura Y et al. **Brain Dev** Nov 2010;32(10):799-804). Ages of onset of epilepsy were 7 months to 30 years, with peaks at 3.2 and 16.7 years. EEG central focus appeared earlier than frontal focus. Hypofunction of the brainstem monoaminergic system is considered the initial pathomechanism of autism. This is followed by dysfunction of the dopamine (DA) system, and disinhibition of the thalamo-frontal pathway causing epileptogenesis in the frontal cortex.