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Autism spectrum disorder from valproic acid

Introduction: Autism spectrum disorder (ASD) is a behaviorally defined brain disorder affecting approximately 1 in 150 children. Autistic children exhibit impoverished verbal and non-verbal communication skills and reduced social interactions. Several studies have shown that *in utero* VPA (valproic acid) exposure may link to an increased risk of ASD, where, for example, it has been reported that the rate of ASD in the children of VPA-treated mothers may be roughly eight times larger than that of the general population. The purpose of the study is to observe whether VPA can influence the speed of postnatal maturation *in vivo* and whether this can be associated with structural and behavioral characteristics related to autism.

Methodology: Although the effects of VPA have been tested in rodents for many years, only relatively recently it has been used to model ASD in rodents for studying ASD-like behavioural features such as social play behaviors.

Findings: We found that VPA treated animals can exhibit gross cortical hypertrophy and a reduced predisposition for social play behavior.

Conclusion & Significance: Structural and behavioral findings from this research suggests that alteration of the developmental time course in certain high-order cortical networks may play an important role in the neurophysiological basis of autism.

Biography

Sharmila Alam is a Neuroscience Researcher from 2006 to 2010 in University of Calgary, Canda. She obtained MSc in Biochemical Engineering from the same university. During her research, she worked with animal models (rat and mice) with neurological diseases to look for potential treatments. She has several publications in different journals. Her inquisitiveness to find out the hidden mechanism, hope to find a cause and cure that can improve the quality of life of millions of people and her passion for science keeps her going.

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