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Short Communication

# Neurophysiology of Infants with Autism

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A critical challenge in child psychiatry is the demand for the early detection of autism. Although autism spectrum disorder (ASD) affects 1 in 68 children, the average age of diagnosis in the United States is not until 4 years or older. The recent diagnostic criteria are hampered by the reliance on behaviorally explained impairments in social interaction and communication, along with the occurrence of constricted interests and repetitive behaviors. (Diagnostic and Statistical Manual of Mental Disorders, which are not available in the first 2 years of life. Behavioral symptoms at the first year of life are not particular to ASD,3-5 and the symptoms that are diagnostic of ASD gradually unfold in the second year of life. The enduring literature of infant sibling studies of autism indicates that diagnostic symptoms, such as social behavior, are normal at 6 months of age and unfold and turnup over the first 2 to 3 years of life. One of the most compatible findings from early studies of brain development in ASD has been that head size is normal at birth, but by 2 to 3 years of age, brain size is remarkably enlarged. For example, a retrospective head circumference and eventual brain imaging study found indirect evidence that brain extension was not present at birth but emerged at the end of the first and second year of life. On the basis of diffusion tensor imaging (DTI) tractography, HR-ASD infants have been announced to have abnormalities in white matter (WM) authoritative structure as early as 6 months of age in multiple fiber tracts across the brain. Neuroscience findings serve to illuminate the development of ASD over time. To date, research has shown that anomalous brain activity and atypical brain morphology during infancy appear to underline the demonstration of ASD symptomatology. Deviant brain growth in ASD occurs during a critical age period of occurence when the formation and connectivity of cerebral circuits are at their prime, in the most fruitful and optimum stage of synaptic activity.

Despite contradictory and unequivocal findings, data intersect towards the existence of brain regions that grant to the lack of social skills and social prioritizing skills seen in ASD. Autism spectrum disorder (ASD) is a comparably common, neurodevelopmental disorder with onset of symptoms in the first few years of life. ASD is set apart by difficulties in social communication and repetitive or constricted interests and behaviors. ASDs have high heritability and an obscure a etiology in many cases ASD is diagnosed in around 1% of the population [3, 4] and was once considered to be a infrequent psychological disorder due to poor parenting. Subtle differences in both behavior and brain structure have been come up within the first 12 months in infants who are recently diagnosed with ASD. What is not known is whether any of these subtle differences can be used as an early biomarker to recognize infants at-risk of a later ASD diagnosis. appealing behavioral, electrophysiological, and functional neuroimaging methods during the first few years of life in individuals at risk of ASD is crucial. Several specific systems and corresponding anatomical regions have been posited to encompass the neural underpinnings for social behavior. These systems are exhibited in Figure 1 and include: biological motion approach, linked to the superior temporal sulcus face perception, linked to the fusiform gyrus, or fusiform face area the action-perception system, associated to the inferior frontal gyrus and inferior parietal lobe approach of emotional states and emotional experience, related to the amygdala (AMY) and limbic system visual perception of the human body, associated to the extrastriate body area in lateral occipitotemporal cortex.

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