Imaging for early detection of autism in children

Technology #2581

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Diagnosis of autism using magnetic resonance imaging: Current autism diagnosis methods are subjective processes typically based on behavioral observations taken at relatively late stages in a child’s development. This is largely due to a general definition of autism that comprises a broad range of symptoms, many of which are detected through assessments of a child’s speech and social skills. A method by which autism could be objectively detected at an early stage of life would facilitate earlier, more effective, treatment regimes.

Autism diagnosis based on functional images of a child's brain during auditory stimulation: This invention describes an imaging method for early, objective diagnosis of autism in children possibly as young as 2-3 years of age. It utilizes a combination of widely accepted imaging techniques to generate functional images of a child’s brain during auditory stimulation. Images taken from autistic individuals exhibit several distinct traits when compared to control individuals known to be non-autistic. The technique is ideal for very young individuals who may not have established speaking ability as it uses a series of familiar auditory stimuli to assess brain response.

Applications: • This invention can be used as an objective, early diagnostic imaging method for detecting autism in children. • This invention can also be used to track disease progression and treatment efficacy through multiple imaging sessions.

Advantages: • An early autism diagnosis method that does not require the child to have speaking / social abilities • Objective autism diagnosis method that relies on established brain imaging techniques • No side effects associated with imaging sessions because imaging modality does not use radiation • Enables tracking of disease progression and treatment effectiveness through multiple imaging sessions


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