

A new diagnosis system for evaluating the severity of autism in children

Applications

Applications for this technology are found in centers for autistic children. It consists in creating a system to evaluate the severity of autism in children based on GI disturbances, secretory IgA and fecal Calprotectin, as well as gut microbiota profile.

Problem addressed

Autism spectrum disorders (ASD) refers to a group of heterogeneous and complex neurodevelopmental disorders characterized by impaired social interactions and communication skills as well as restricted, repetitive, and stereotyped patterns of behavior, interests, and activities. ASD has grown into a constant challenge for many countries such as Lebanon representing a serious public health concern due to its increasing prevalence rates and severity of symptoms. The high disease burden of ASD not only leads to significant financial cost to the society, but also has tremendous negative impacts on the lives of the autistic individuals and their families. Along with significant psychiatric symptoms, ASD is often characterized by a number of medical comorbidities, the most prominent of which implicate the GI environment, immuno-inflammation pathways, and nervous system. Problem behavior such as aggression, self-injury, social withdrawal, as well as sleep disturbances and irritability may be behavioral manifestations of GI difficulties especially in children unable to communicate their discomfort.

Technology

The role of microbiota in health is complex, with the disturbance of its quantities in the body being linked to multiple psychiatric diseases, including autism. Various immuno-inflammatory biomarkers including Fecal Calprotectin (FC) and Secretory Immunoglobulin A (SIgA) levels have been investigated and shown to correlate with acuteness of ASD symptoms. This technology consists in a new diagnosis system for the evaluating the severity of autism in children.

Advantages

- Fast and Non-invasive and Better reliability
- Avoid taking unnecessary medication

Inventors

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