Qeios

Peer Review

Review of: "Mitochondrial Dynamics in Regressive Autism & the Surprising Link to Genius"

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1. Independent researcher

The author needs to be complimented for an introspective and original work on an entity with multiple grey areas. The strengths of the article are as follows:

(a) Choice of the topic, which is relevant and contemporary. With the increase in the number of children with Autism Spectrum Disorder, the article will definitely interest both young as well as experienced readers from diverse fields such as neurobiology, pediatric neurology, developmental pediatrics, as well as neurological rehabilitation

(b) The proposed mitochondrial basis for causation of the phenomenology of autism seems intuitively plausible. The author manages to maintain a simplistic approach and a smooth, logical flow of ideas throughout the article to put forth the hypothesis.

(c) The presentation style is lucid and progresses from known to unknown.

(d) References are updated and relevant.

There are certain observations in the manuscript which are as follows:-

(a) Though the unifying model of mitochondria seems intuitively appealing, the article does not put forth adequate hard evidence to support the role of mitochondria in the brains of individuals who have overdeveloped abilities. The reviewer, however, agrees that literature pertaining to the same is scanty and the same may be highlighted by the author.

(b) The role of epigenetics cannot be underestimated in the etio-pathogenesis of the entities being considered by the author. There is only a passing mention of epigenetics by the author.

(c) There is a significant role of intercellular and intracellular signalling in the development of autism (Jiang CC, Lin LS, Long S, *et al.(2022).* " Signalling pathways in autism spectrum disorder: mechanisms

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and therapeutic implications."*Sig Transduct Target Ther* **7**, 229 (2022). https://doi.org/10.1038/s41392-022-01081-0).

(d) The authors may highlight the possible roles (of tools such as modern imaging technology and AI-based modelling) in studying the role of mitochondrial functioning in the brains of individuals with autism.

Overall, the author needs to be complimented for an insightful work on an entity with multiple unanswered questions.

Declarations

Potential competing interests: No potential competing interests to declare.