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2nd International Conference on

Central Nervous System and Therapeutics

June 10-11, 2019 | Edinburgh, Scotland

Early childhood vaccines and regressive Autism: Is there a connection?

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Regressive autism may be defined as a rapid-onset loss of previously acquired milestones in central nervous system (CNS) development that occurs usually within the first several years of life and may also be associated with seizures or other abnormal CNS activity. Clinically, this abnormal response to vaccination is termed "vaccine encephalopathy", in which developmentally normal infants or children display a sudden developmental regression, reduced developmental progression and/or seizures with rapid onset following vaccine administration. That the dramatic CNS changes associated with regressive autism so rapidly follow the administration of vaccines is highly suggestive of a causative connection which, however, has been disputed by some reputable epidemiological studies. The Quantitative Threshold Hypothesis (QTE) proposes that autism results from the accumulated exposure to genetic and environmental causes that impinge upon immunological factors linked to CNS development to produce a critical incidence threshold for Autism Spectrum Disorder (ASD). The proposed connection between vaccines and regressive autism is based on an application of this model, in which at-risk individuals may develop regressive autism and associated sequelae in response to vaccine administration if this causes an individual to cross the threshold boundary for CNS impairment. The physiological basis of the proposed vaccine/autism connection results from the fundamental association between vaccine-induced programming of adaptive immune system responses and its direct dependence upon innate immune system inflammatory responses to the vaccine. In some at-risk individuals predisposed to neuroinflammation due to the combined effects of genetic and environmental immuno-stimulatory risk factors, the threshold to immunopathology resulting in neuroinflammation and impaired neural function may thus be induced by vaccine administration. This paper will present risk-factor assessment parameters that can be used preventively to identify children for whom vaccine protocols should be adjusted to reduce the incidence of regressive neurological impairment.

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