Cognitive function and endogenous cytokine levels in children with chronic hepatitis C

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Abstract:

Little is known about how hepatitis C (HCV) infection affects cognitive function in children. The aim of the study was to assess the impact of HCV infection on cognitive function of children with normal liver functions and their relationships to endogenous IFN-a, IL-6 and TNF-a. IFN-a, IL-6 and TNF-a were measured and the Arabic version of the Stanford–Binet test used to assess cognitive functions in 35 children with HCV infection and 23 controls. Serum levels of IL-6 and IFN-a were significantly higher in patients compared to controls. There was a significant effect on vocabulary, comprehension, and abstract visual reasoning, quantitative reasoning and bead memory tests, as well as total short-term memory and intelligence quotient in patients compared to controls. There was a significant positive correlation between IFN-a and IL-6. Also there were significant negative correlations between IFN-a and Abstract visual reasoning test, Quantitative reasoning test, Bead memory test, Total short-term memory and Intelligence quotient; and between IL-6 and Abstract visual reasoning test, Quantitative reasoning test and Intelligence quotient. There was no significant correlation between TNF-a and any of the cognitive functions. Cytokine levels were not related to demographic characteristics of the patients or viral load (PCR). Children with chronic hepatitis C infection in its early stages showed signs of cognitive impairment, with the memory tasks being mostly affected. There was a significant correlation between endogenous cytokines and cognitive impairment in these children. Further studies are needed to define the effect of successful antiviral treatment.

Keywords:

children, cognitive function, cytokines, hepatitis C

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