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### *Short Communication*

## **Monocyte-derived dendritic cells in children with chronic hepatitis C: correlation with interferon and ribavirin therapy**

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### **Abstract**

**Background and Objective:** Hepatitis C virus (HCV) infection is a major health problem worldwide. In children below 12 years, interferon (IFN) $\alpha$ -based therapies and ribavirin, still the standard of care therapy. We aimed to evaluate the dendritic cell (DC)s' functions in chronically infected HCV patients and its correlation with the response to therapy.

**Patients and methods:** This prospective study included 30 chronic hepatitis C (CHC) patients and 30 healthy age-matched and sex-matched controls. The first group received combined pegylated interferon- $\alpha$ -2b (Peg-IFN- $\alpha$ 2b)/ribavirin therapy for 48 weeks. A quantitative HCV-RNA PCR was performed for all patients before treatment and at 12, 24, 48, and 24 weeks after treatment. To clarify the functions of DCs, we induced maturation of peripheral DCs from blood samples of CHC patients and healthy controls using Resiquimod (R848). The functions of DCs were assessed by measurement of the levels of IFN- $\gamma$  and interleukin-10 (IL-10).

**Results:** Sixteen (53.3%) of the patients were treatment responders and the other 14 (46.4%) were nonresponders. The current study showed a statistically significant difference between CHC patients and the control group in IFN- $\gamma$  production, which was higher in the control group ( $1.53 \pm 0.38$  IU/ml) than in the CHC patients ( $1.19 \pm 0.21$  IU/ml); in contrast, IL-10 was higher in CHC ( $249.4 \pm 27.6$  pg/ml) than the control group ( $217.0 \pm 29.9$  pg/ml). However, there was no significant difference between treatment responders and non-responders in both IFN- $\gamma$  and IL-10 levels.

**Conclusion:** HCV infection is associated with impaired production of IFN- $\gamma$ , which may be an indication of a defect in DC function.

### **Biography**

Behairy E. Behairy has completed his PhD at the age of 36 years from Zagazig University, Egypt. He is the Head of pediatric Hepatology Department, National Liver Institute, Menoufia University, Egypt since 2000 up till now. He has published more than 44 papers in reputed journals and has been reviewer for 176 master and MD thesis. He is Member of Egyptian Society of liver diseases, Egyptian Society of pediatrics, Egyptian Society of blood diseases, Egyptian association for the study of GI & liver diseases, Society of friends of liver patients in Arab World and Menoufia Society for pediatric and neonatologist.

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