

## Hepatitis C in Children: Comorbidities and Quality of Life

According to the CDC, hepatitis C virus (HCV) infection is a common chronic disease that currently affects about 3.2 million people in the United States,<sup>1</sup> and although less common it remains a significant health problem in children, according to the American Liver Foundation.<sup>2</sup>

On the second day at The Liver Meeting 2014, an annual meeting organized by the American Association for the Study of Liver Diseases, held in Boston, Massachusetts, from November 7th to 11th, 2014, 2 studies evaluated the impact of HCV infection and treatment in children.

Presented during the Behavioral, Quality of Life, and Practice Issues poster session, researchers studied family members, caregivers, and the children who were being treated for HCV infection, through an assessment packet that was given before and immediately after treatment, before the treatment outcome was known. According to the authors, earlier research has examined a wide range of patient psychosocial outcomes but little is known about the impact of HCV and the prolonged treatment on caregivers and families. Among the 10 children that were a part of the study, the average age of the patients was 11.62 years, and 6 were female. The psychosocial parameters evaluated included patient quality of life, parental distress related to the child's illness, and general family functioning.

At baseline, prior to treatment initiation, patients displayed poorer quality of life than population norms, caregiver distress was elevated, and the families were quite stressed. Following treatment, all 3 parameters worsened, say the authors, though family functioning was the only parameter that was statistically significant.

"We were examining the impact of only the currently approved treatment for HCV in children—pegylated interferon (subcutaneous weekly injections by a caregiver) and oral ribavirin—on patients, caregivers, and families," according to study co-author Rachel A. Annunziato, PhD, associate professor for clinical psychology, Fordham University, New York. "Results indicated that at baseline, caregivers were experiencing high levels of distress and family stress was elevated, while after treatment, family stress worsened." According to Dr Annunziato, their results can have implications for other treatments that involve frequent invasive procedures to be administered by caregivers, as families may benefit from additional support when facing similar grueling treatment regimens.

The second study, presented during the Viral and Autoimmune Hepatitis poster session, examined the influence of the viral infection on blood glucose and cholesterol levels, with the knowledge that HCV-infected adults are at a significantly higher risk of developing insulin resistance<sup>3</sup> and lower total cholesterol.<sup>4</sup> The collaborative study examined insulin resistance and total cholesterol in 88 HCV-infected and uninfected children and young adults, matched by age and body mass index (BMI). Children undergoing antiviral therapy or suffering from other chronic illnesses were not included.

According to the authors, HCV status was associated with an increased insulin resistance after adjusting for age, BMI, and gender, while total cholesterol was lower in HCV-infected children. The authors concluded that HCV infection is independently associated with increased insulin resistance and lower total cholesterol among children and young adults even after accounting for age, gender and BMI, which points to a virus-associated dysmetabolism. They go on to recommend that clinicians working with HCV-infected children should also screen their metabolic profile.

## References

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