HHS Public Access

Author manuscript

Liver Transpl. Author manuscript; available in PMC 2015 May 11.

Published in final edited form as:

Liver Transpl. 2014 October ; 20(10): 1280. doi:10.1002/lt.23946.

Delineating Definitions and Risk Factors for Metabolic Syndrome After Pediatric Liver Transplantation

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TO THE EDITORS:

We read with interest the recent article by Kosola et al.[1] Their cross-sectional study of a Finnish cohort confirms that posttransplant metabolic syndrome (PTMS) is quite common after pediatric liver transplantation. However, we feel that their conclusion—metabolic syndrome occurs at the same rate in pediatric liver transplant recipients and the general pediatric population—oversimplifies their data and obscures potentially important insights into PTMS after pediatric liver transplantation.

Kosola et al.[1] report that 2% to 18% of the general Finnish pediatric population has metabolic syndrome,[2] and they conclude that their cohort's PTMS prevalence of 14% is equivalent.[1] The former estimate comes from the Cardiovascular Risk in Young Finns Study, which involved a population-based cohort. However, the study that they cite used 2 definitions of metabolic syndrome: a pediatric-specific version with a 2% to 3% prevalence and a modified adult version with an estimated prevalence of 11% to 18%.[2] It is not clear which definition more closely matches that used by Kosola et al. and, therefore, whether the prevalence of metabolic syndrome is actually the same or 5 times higher in pediatric liver transplant recipients.

Kosola et al.'s data suggest 2 risk factors that may substantially affect the prevalence of PTMS after pediatric liver transplantation: age and weight status.[1] They diagnosed PTMS in 5% of their subjects who were 16 years or younger but in 17% of their subjects who were older than 16 years. Among children who were 10 years or older, approximately 30% had at least 2 components of PTMS, whereas the rate was 0% for children < 10 years old. Prospective studies are needed, but we suspect that the prevalence of PTMS will increase and surpass the prevalence in the general population as these children age further.

Kosola et al.'s data also suggest that overweight/obese pediatric liver transplant recipients may be at increased risk for PTMS in comparison with overweight/obese children in the general population.[1] There were 13 overweight/obese subjects, and 38% had PTMS. In

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contrast, the prevalence of metabolic syndrome in overweight/obese children in the general Finnish population is 14.8%.[2]

The authors could consider matching a cohort from the Cardiovascular Risk in Young Finns Study by age, sex, ethnicity, and weight status to their subjects to provide more robust data on the relative metabolic syndrome risk.

We agree with Kosola et al.[1] and with recent guidelines from the American Association for the Study of Liver Diseases and the American Society of Transplantation[3] that pediatric liver transplant recipients should be screened for PTMS and proactively managed to prevent future complications. However, we caution against prematurely concluding that the risk of metabolic syndrome is not increased in children after liver transplantation or that general pediatric guidelines will be adequate for managing this population. More data are needed to refine PTMS prevention and management strategies for pediatric liver transplant recipients.

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