

Childhood obesity linked to increased risk of hepatocellular carcinoma in adulthood

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Childhood obesity is a widespread global epidemic (1) and in parallel with non-alcoholic fatty liver disease (NAFLD)(2) is now the leading cause of liver disease among children. New data presented today at the International Liver Congress™ 2012 furthers this concern by showing that childhood obesity is positively linked with developing hepatocellular carcinoma (HCC) - the most common form of liver cancer(3) - in adulthood.(4)

The Danish study monitored birth weight and BMI at school age of 165,540 men and 160,883 women born between 1930 and 1989. The study authors calculated and compared the risk of developing HCC from the 252 participants that had developed HCC at follow-up. At age 7 the risk of developing HCC increased by 1.12 per unit of increase in BMI; however, at age 13 this risk increased to 1.25. Therefore, as units of BMI increased into adulthood, so did the risk of developing HCC. This was consistently similar across the sexes and ages.

EASL Scientific Committee Member Dr. Frank Lammert commented: "Childhood obesity not only leads to the development of many adverse metabolic conditions, such as Type 2 Diabetes and heart disease, but also [fatty liver disease](#), which may subsequently result in liver cancer. The importance of maintaining a healthy childhood BMI cannot be underestimated. These alarming study results point to a potential correlation between childhood obesity and development of liver cancer in adulthood."

Other factors in the development of liver cancer include alcoholic conditions, infection by hepatitis B and C and other liver diseases.(5) Results did not change when participants with these co-morbidities were removed from the study, indicating that [childhood obesity](#) was the major factor in the development of HCC. Only around 10-20% of liver cancers can be removed completely with surgery and if this is not successful the disease is usually fatal within 3-6 months.(3) Therefore prevention is the best protection against the development of [liver cancer](#).

This study was funded by and carried out as part of the FLIP (Fatty Liver Inhibition of Progression) consortia, built around practising clinical hepatologists, basic scientists and two industrial partners who focus on research into the underlying mechanisms and management of patients with NAFLD. The aim of the FLIP project is to understand and prevent the progression of NAFLD into more severe conditions, such as cirrhosis and [hepatocellular carcinoma](#). The project is supported by the European Commission through the Seventh Framework Programme for Research and Development and has been running since January 1st 2010.

More information: References:

1. WHO 2012, www.who.int/dietphysicalactivity/childhood/en/
2. Angulo P, Nonalcoholic fatty liver disease. N Engl J Med 2002;346:1221-31
3. Hepatocellular carcinoma, ADAM Medical Encyclopedia 2011
4. Berentzen TL et al (2012) Childhood body size and the risk of hepatocellular carcinoma. Abstract presented at the International Liver Congress™ 2012.
5. El-Serag HB, Hepatocellular Carcinoma. N Engl J Med 2011;365:1118-1127

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