

Media Release

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Half of all young children with a rare inherited liver disease need a liver transplant

(Geneva, 11 May, 2018) An international research team has today reported the first results of a study investigating the natural history of progressive familial intrahepatic cholestasis (PFIC) – a rare genetic liver disease that predominantly affects children. Most alarmingly, the team reported that, by the age of 10 years, approximately half of the children with two different forms of PFIC had already received a liver transplant.

The study¹ presented today at the 51st Annual Congress of the European Society for Paediatric Gastroenterology Hepatology and Nutrition, was undertaken by the NAPPED (**NA**tural course and **P**rognosis of **PFIC** and **E**ffect of biliary **D**iversion) Consortium – an international study group whose aim is to characterise globally the natural history of two types of PFIC: PFIC₁ (FIC1 protein deficiency) and PFIC₂ (BSEP protein deficiency). These conditions result from inherited genetic mutations that lead to impaired bile flow through the liver (cholestasis), resulting in the accumulation of bile, progressive liver damage and, potentially, end-stage liver disease and death². Children with PFIC may benefit from medical treatment with ursodeoxycholic acid (UDCA) or from surgical biliary diversion techniques, however, many children require a liver transplant at a young age².

“PFIC₁ and PFIC₂ are very rare conditions and, because of this, very little is known about their natural history, the impact of different genetic mutations on phenotype, and the overall effectiveness of the treatment options available,” said Daan van Wessel from the University Medical Center Groningen in The Netherlands, who presented the study findings in Geneva today. “The NAPPED Consortium, which involves 28 specialist centres across the world, hopes to better define the natural course of disease, the outcomes of different treatment options, and, hopefully, find biomarkers that can help target treatment for these conditions more effectively.”

The study involved a retrospective analysis of data from 42 children with PFIC₁ and 184 children with PFIC₂. Children in the PFIC₁ group attended their first specialist centre at a median age of 6 months (range: 0 months to 201 months); and 33% of these had already received UDCA treatment. Children in the PFIC₂ group attended their first specialist centre at a median age of 9 months (range: 0 months to 195 months) and 47% had received UDCA. By the age of 5 years, 27% and 36% of children with PFIC₁ and PFIC₂, respectively, had already received a liver transplant and, by 10 years of age, 49% and 52% of children, respectively, had been transplanted.

The results of this study also shed important new light on the benefits of surgical biliary diversion in children with PFIC – a procedure used to reduce the amount of bile entering the liver². Although the procedure did not appear to reduce the need for liver transplantation in children with PFIC₁, among those with mild or moderately severe PFIC₂ mutations, surgical biliary diversion led to a 63% increase in the percentage of children surviving with their own livers compared with those who did not have the procedure (hazard ratio: 0.37; 95% confidence interval: 0.24-0.68; p=0.001).

“This study has demonstrated for the first time that surgical biliary diversion is a highly effective treatment option for children with mild or moderate PFIC2 mutations. Present data on PFIC1 are still inconclusive, but we expect to assess the value of surgical biliary diversion for PFIC1 shortly, based on the ongoing collection of patients’ data” said Daan van Wessel. “We hope this information will help healthcare professionals to inform the children and their parents about their possible prognosis and enable clinicians to select treatment options more rationally based on the evidence. The current data also provide strong support for the recent development of oral drugs that accomplish similar effects as surgical biliary diversion” he adds.

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Notes to Editors

For further information, or to speak to an ESPGHAN expert please email Luke Paskins at luke@spinkhealth.com or James M. Butcher at media@espghan.org or call the ESPGHAN Communications Team on +44 (0) 1444 811 099.

The following ESPGHAN experts are available for interview:

- Senior author of the abstract and Chair of the ESPGHAN Hepatology Committee - Henkjan Verkade, Professor of Pediatrics at the University Medical Center Groningen, Netherlands
- Hepatology representative on the ESPGHAN Public Affairs Committee - Dominique Debray, paediatric hepatologist at the Necker Children’s University Hospital, Paris, France
- Lead Researcher -Daan van Wessel from the University Medical Center Groningen, Netherlands

About the presenter

Daan van Wessel is a researcher at the University Medical Center Groningen in the Netherlands. His focus is on rare paediatric liver diseases and the improvement of patient care and outcomes.

About ESPGHAN

The European Society for Paediatric Gastroenterology Hepatology and Nutrition (ESPGHAN) is a multi-professional organisation whose aim is to promote the health of children with special attention to the gastrointestinal tract, liver and nutritional status, through knowledge creation, the dissemination of science based information, the promotion of best practice in the delivery of care and the provision of high quality education for paediatric gastroenterology, hepatology and nutrition professionals in Europe and beyond. Find out more by visiting www.espghan.org

About the 51st Annual Meeting of ESPGHAN

The 51st Annual Meeting of ESPGHAN is taking place from Wednesday 9 to Saturday 12 May 2018, in Geneva, Switzerland.

Every year the ESPGHAN meeting attracts over 4,500 key opinion leaders in the field of Paediatric Gastroenterology, Hepatology and Nutrition from over 90 countries across Europe and all five continents, turning it into the largest conference of its kind worldwide.

References

1. van Wessel, D., Thompson, R., et al. The natural course of FIC1 deficiency and BSEP deficiency: initial results from the NAPPED-consortium (NATural course and Prognosis of PFIC and Effect of biliary Diversion). Presented at the Annual Meeting of the European Society for Paediatric Gastroenterology, Hepatology and Nutrition. Geneva, Switzerland, 11 May, 2018.
2. Mehl, A., Bohorquez, H., et al. Liver transplantation and management of progressive familial intrahepatic cholestasis in children. *World J Transplant.* 2016;**6**(2):278-90.