Long term outcomes of abdominal wall closure with ePTFE Gore-Tex Mesh in pediatric liver transplantation

Jeong-Moo Lee, Jiyoung Kim, Nam-Joon Yi, Suk Kyun Hong, Kwangpyo Hong, Eui Soo Han, Kwang-Woong Lee, Kyung-Suk Suh

Division of Hepatobiliary, Department of Surgery, Seoul National University Hospital, Seoul, Korea

Background: Massive transfusion and transient portal vein clamping during liver transplantation may cause abdominal compartment syndrome (ACS) related with mesenteric congestion. Especially in pediatric cases, the risk of ACS is increased due to the large for size syndrome caused by organ size mismatch. In the area of general pediatric surgery such as correction of gastroschisis or omphalocele, abdominal closure for correction of defect using expanded polytetrafluoroethylene (ePTFE Gore-Tex) is the well-established method. The purpose of this study is to describe the ePTFE-Gore-Tex closure method in patients with or at high risk of ACS among pediatric liver transplant patients, and to investigate the long-term prognosis and outcomes.

Methods: From March 1988 to March 2018, 253 pediatric liver transplantation were performed in Seoul National University Hospital. We reviewed the cases who underwent abdominal closure with ePTFE Gore-Tex during liver transplantation retrospectively.

Results: Total 15 cases were performed abdominal closure with ePTFE Gore-Tex graft. We usually used 2 mm×10 cm×15 cm sized Gore-Tex graft for extending abdominal cavity. Median follow up was 144.8 months, there was no ACS after transplantation, but four cases of the patients underwent repetitive exploration due to bleeding or vessel occlusion. In repetitive surgery, we reduced every Gore-Tex that had already used in previous operation. There was no infectious complication related Gore-Tex implantation. In only one case, there was persistent abdominal pain due to nerve irritation by Gore-Tex. However, the pain was improved after applying opioid-based active pain control.

Conclusions: It is important to select appropriate method for preventing ACS in pediatric liver transplantation. Abdominal closure using ePTFE Gore-Tex could be a good option for the case who have high risk factor of ACS. In terms of long-term follow-up, this method is feasible and safe.

Corresponding author: Jeong-Moo Lee

E-mail: jmleetpl@gmail.com

© The Korean Society for Transplantation

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.