



Title	Clinical Implications of Serum Mac-2 Binding Protein in Patients After Living Donor Liver Transplantation for Biliary Atresia
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## **Abstract**

**Background:** Patients who undergo pediatric living donor liver transplantation (LDLT) sometimes develop graft fibrosis. Recently, Mac-2 binding protein glycosylation-modified isomer (M2BPGi) was developed as a new marker of hepatic fibrosis progression. We performed this study to examine the relationship between serum M2BPGi levels and liver histological findings in patients after LDLT for biliary atresia (BA).

**Methods:** Patients aged <19 years who underwent LDLT for BA at our institution and followed for at least 1 year after LDLT were eligible. There were 56 patients in this study. Pathological findings of the last available biopsy were assessed. Portal vein (PV) stenosis was confirmed with angiography. M2BPGi levels were compared with pathological fibrosis scores and PV stenosis findings.

**Results:** The mean age at transplant was 4.3 years. The mean observation period was 8.6 years. In terms of the degree of liver fibrosis, F0 was observed in 7 patients, F1 in 36, and F2 in 13. The median serum M2BPGi value was 0.8 COI (Cut Off Index) overall and 0.60 COI for F0, 0.74 COI for F1, and 1.07 COI for F2. The mean M2BPGi value in F2 was higher than that in F0 ( $p=0.016$ ) and F1 ( $p=0.012$ ). Mean serum M2BPGi values were 1.57 COI (0.29 COI) in patients with PV complications ( $n=5$ ) and 0.72 COI in patients without PV complications ( $n=51$ ) ( $p=0.0001$ ).

Conclusions: M2BPGi is a novel marker for liver fibrosis in patients after pediatric LDLT. It is especially useful for follow-up of pediatric patients after LDLT to support liver biopsy interpretation.