Graft-versus-host disease after ABO incompatible living donor liver transplantation

Hyo Jung Ko, Jae Ryong Sim, Tae Beam Lee, Byung Hyun Choi, Kwangho Yang, Je Ho Ryu
Division of Hepato-Biliary-Pancreatic Surgery and Transplantation, Department of Surgery
Pusan National University Yangsan Hospital, KOREA

**Background**

Graft versus host disease (GVHD) is a rare and fatal complication following liver transplantation. The incidence is about 1%, but because of difficulties in diagnosis and treatment, the mortality rate is more than 80%. Sporadic cases have been reported after cadaveric donor liver transplantation; however, the actual incidence and the characteristics of GVHD after living donor liver transplantation (LDLT) remain unknown.

We herein report a patient who developed fatal GVHD following ABO incompatible LDLT.

**Case Presentation**

A 51 year-old hypertension, diabetic man, with chronic hepatitis B related liver cirrhosis, underwent ABO incompatible (ABOi) LDLT in 31st January 2018. He presented 36 days after LT with diarrhea, fever and maculopapular rash appeared on the patient's face, limbs, and trunk three days later. We examined the computed tomography (CT) abdomen for suspicions of CMV enteritis, reading was diffuse wall thickening of small bowel with target enhancement. (Fig 1.)

Esophagogastroduodenoscopy (EGD) showed erythematous gastritis, but mucosal biopsy revealed apoptosis of epithelium and confirmed erythematous gastritis, but mucosal biopsy revealed apoptosis of epithelium and confirmed erythematous gastritis. But mucosal biopsy revealed apoptosis of epithelium and confirmed erythematous gastritis, but mucosal biopsy revealed apoptosis of epithelium and confirmed erythematous gastritis. Figure 2 shows endoscopic biopsy of the esophagus.

We performed a skin biopsy and histopathology confirmed the diagnosis of cutaneous GVHD. The biopsy revealed apoptosis of keratinocytes and lymphocytic infiltration. His skin rash and desquamation was improved, skin biopsy was performed again, resulting in chronic inflammation with dermal fibrosis. Although confirming that he recovered from GVHD through skin biopsy, thrombocytopenia persisted and ICU care was maintained due to poor general condition. CT scanning of brain was performed because seizure was caused. (Fig 3.)

![Figure 2. Endoscopic biopsy](image)

![Figure 1. CT abdomen 3 phase](image)

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**Conclusion**

The diagnosis and treatment of GVHD after liver transplantation are difficult because the early symptoms are nonspecific, and no standard treatment is available.

We suggest that GVHD is suspected or confirmed, and infection is ruled out, specific treatment should be initiated as soon as possible, including immune-stimulants, reducing immunosuppression, using antihuman T-lymphocyte immune globulin, preventing infection, and supportive therapy.

**Reference**