Inferior vena cava stenosis-induced sinusoidal obstructive syndrome after living donor liver transplantation

Batsaikhan Bat-Erdene¹, Sergelen Orgoi¹, Erdene Sandag¹, Ulzii-Orshikh Namkhai², Bat-Ireedui Badarch², Batsaikhan Batsuuri²

¹Department of Surgery, Mongolian National University of Medical Science, S.Zorig Street -3, Ulaanbaatar, Mongolia
²Department of General Surgery, First Central Hospital of Mongolia, S.Zorig Street-2, Sukhbaatar District, Ulaanbaatar, Mongolia

Introduction

Sinusoidal obstructive syndrome (SOS) was initially called veno-occlusive disease, which was based on the triad of jaundice/hyperbilirubinemia (>2mg/dl), painful hepatomegaly and ascites/weight gain. It was confirmed by the histologic findings which include fibrous obliteration of small hepatic veins by connective tissue and centrilobular hemorrhagic necrosis. The most frequent cause of SOS is the use of high-dose chemotherapy in recipients of hematopoietic stem cell transplantation. Herein, we describe a case of SOS following stenosis of the inferior vena cava after living donor liver transplantation.

Case report

A 34-year-old woman with hepatitis B virus-associated liver cirrhosis with model for end-stage liver disease score of 15 underwent LDLT operation using a right lobe graft from a 27-year-old living donor in year 2015. The cold and warm ischemic times were 130 minutes and 80 minutes, respectively. Serum total bilirubin increased to 25.4 mg/dl until post-operation day (POD) 7, and Gamma glutamyl transpeptidase (GGT) 247.6 mg/dl at POD 13. Doppler ultrasonography showed that right hepatic vein (RHV) outflow rate was 37 cm/sec and enhanced computed tomography (CT) at POD 14 revealed no vascular abnormality. The laboratory profiles showed total bilirubin decreased to 1.6 m/dl, but C-reactive protein (CRP) increased to 129 mg/dl. Abdominal drainage culture was Escherichia coli-positive, thus antibiotic was changed to Meropenem. Thereafter, CRP decreased 3.9 mg/dl and CT scan at POD 33 showed normal liver findings, thus she discharged from the hospital. Blood tacrolimus level was maintained around 10-14 ng/ml during the hospitalization.

Conclusion

One of its multifactorial etiologies is a decrease of hepatic venous outflow which is caused by graft liver infection and IVC stenosis.