

Hepatic Artery Thrombosis in Live Liver Donor Transplantation: How to Solve—A Case Report

S. Rodrigues*, A. Martins, and E. Barroso

Hepato-Bilio-Pancreatic and Transplantation Centre of Curry Cabral's Hospital, Lisboa, Portugal

ABSTRACT

The decrease in the number of cadaveric donors has proved a limiting factor in the number of liver transplants, leading to the death of many patients on the waiting list. The living donor liver transplantation is an option that allows, in selected cases, increase the number of donors. One of the most serious complications in liver transplantation is hepatic artery thrombosis, in the past considered potentially fatal without urgent re-transplantation. A white male patient, 48 years old, diagnosed with hepatocellular carcinoma in chronic liver failure caused by hepatitis B virus, underwent living donor liver transplantation (right lobe). Doppler echocardiography performed in the immediate postoperative period did not identify arterial flow in the right branch, having been confirmed thrombosis of the right hepatic artery in CT angiography. Urgent re-laparotomy was performed, which consisted of thrombectomy and re-anastomosis of the hepatic artery with segmental splenic artery allograft interposition. The patient started anticoagulation and antiplatelet therapy with acetylsalicylic acid. Serial evaluation with Doppler echocardiography showed hepatic artery patency. At present, the patient is asymptomatic. One of the most devastating complications in liver transplantation, and particularly in living liver donor, is thrombosis of the hepatic artery; thus, early diagnosis and treatment is vital. The rapid intervention for revascularization of the graft avoids irreversible ischemia of the bile ducts and hepatic parenchyma, thus avoiding the need for re-transplantation.

BECAUSE of the success of the transplantation program, more patients are included in the waiting list for this procedure. Unfortunately, there has been a growing shortage of deceased donors, which leads to increased time on waiting list for transplantation. An option to increase the number of donors is, in selected cases, liver transplantation from a living donor [1–4].

One of the most feared complications of liver transplantation is hepatic artery thrombosis, occurring in about 3% to 9% of orthotopic liver transplants, which can have devastating consequences, ultimately leading to the retransplantation. We present a case report of a patient who underwent live liver donor transplantation, with thrombosis of the hepatic artery that underwent urgent revascularization surgery.

CASE REPORT

A white male patient, 48 years old, diagnosed with hepatocellular carcinoma in chronic liver failure caused by hepatitis B virus in the

context of blood transfusion, underwent living donor liver transplantation (right lobe from the brother). The surgery was performed without complications.

Doppler echocardiography was performed in the immediate postoperative period, and hepatic artery flow was not seen.

The patient underwent CT angiography that confirmed thrombosis of the right hepatic artery.

Urgent re-laparotomy was performed, which consisted in thrombectomy of the right hepatic artery, section of a segment of splenic artery, and re-anastomosis of the hepatic artery with segmental splenic artery allograft interposition. The surgery was carried out without complications, and the patient started anticoagulation and antiplatelet therapy with acetylsalicylic acid, which the patient maintains (Fig 1).

Doppler echocardiography was performed immediately after surgery and showed hepatic artery patency.

*Address correspondence to Susana Rodrigues, MD, Av do Bocage, n° 44 2° esq, 2830-246 Barreiro, Portugal. E-mail: susana.ccr@gmail.com

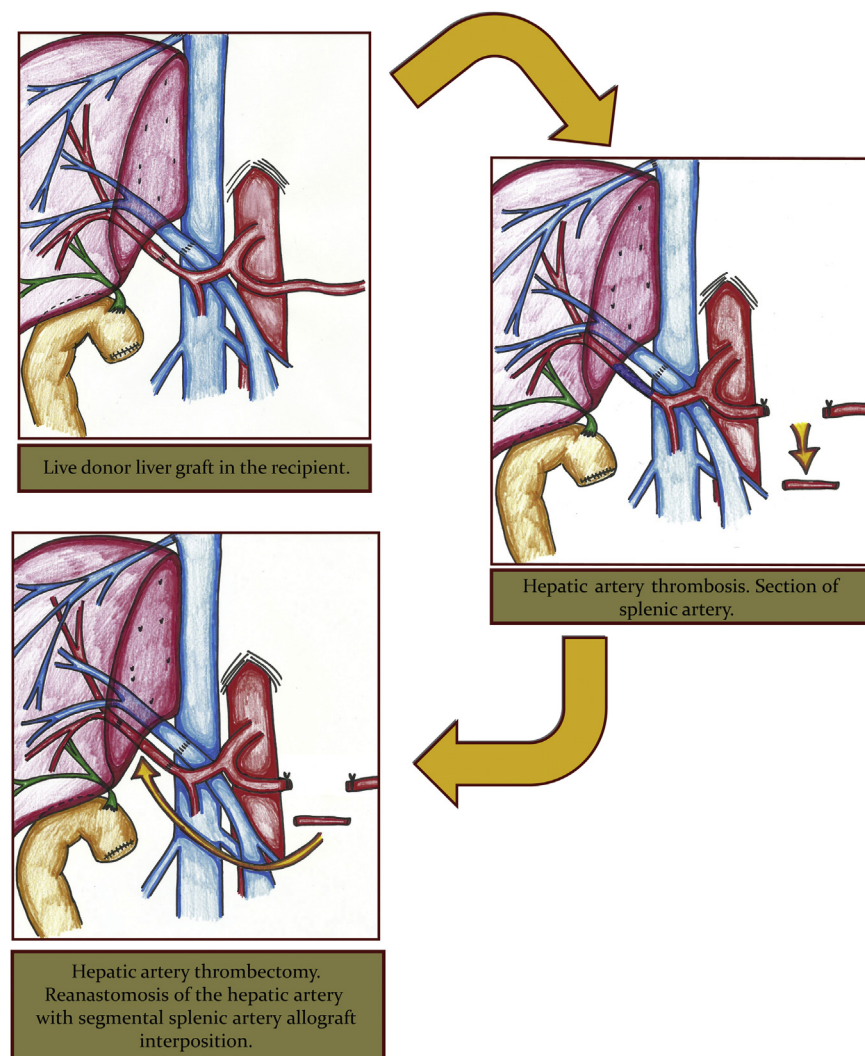


Fig 1. Surgery for revascularization of the thrombosed hepatic artery.

Serial evaluation with Doppler echocardiography showed hepatic artery patency.

At present, the patient is in the 7th month after transplant, and he is asymptomatic.

DISCUSSION

Thrombosis of the hepatic artery remains one of the most devastating complications in liver transplantation, particularly in the living liver donor. Different therapeutic options are available, and we believe that early diagnosis is vital for the success of the treatment.

The rapid intervention for revascularization of the graft avoids irreversible ischemia of the bile ducts and hepatic parenchyma, thus justifying maximum efforts to save the graft and avoiding the need for re-transplantation in an era of organ shortage.

This case illustrates one option for revascularization of the graft that we think may be useful in selected patients.

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