Letter to the Editor

Coronary revascularization after liver transplantation

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Liver transplantation as an effective procedure in end-stage liver disease has created an increasing pool of patients developing systemic atherosclerosis and coronary artery disease (CAD).

A 55-year-old man with a 20-year history of type II diabetes treated with insulin and chronic bronchitis, reversible strokes, 6-year history of hypertension, esophageal varices, porto-caval anastomosis for an end-stage liver disease secondary to hepatitis B, underwent orthotopic liver transplantation in January 1994; 6 months later, the cholecoductus was dilated and stented. Triple immunosuppressive therapy (cyclosporine, azathioprine, and prednisone) occurred between 1994 and 1996, while in January 1997 a monotherapy with Cya (3 mg/kg per day of Neoral) was started. At that time the patient presented unstable angina followed by acute antero-lateral myocardial infarction which was treated with thrombolytic therapy. Three months later re-infarction occurred; angiography revealed a triple vessel disease of the marginal branch, left anterior descending artery, and intermedium artery. An attempt of angioplasty was unsuccessfully performed on the left descendent but the patient presented severe bradiarrhythmia, left anterior branch block and complex ventricular extrasystoles clinically associated with vagal syncope. The patient was scheduled for CABG; at admission chronic renal failure was present (creatinine 3.2 mg/dl, urea 102 mg/dl), the patient was in class IIIa (NYHA). A III–IV respiratory class due to chronic bronchitis was present. Bleeding time was 4.5 min and Quick time was 69%. Anesthesia and cardiopulmonary bypass (CPB) was routinely conducted. The internal mammary artery was anastomosed on the intermediate artery because of the small diameter of the left anterior descendent (LAD), saphenous grafts were used on marginal branch and LAD. Cross-clamp time was 89 min. Separation from CPB was successfully accomplished. Extubation occurred on the first post-operative day. Urine output was 1.5 ml/kg per day maintained with furosemide infusion; postoperative blood loss was 1000 ml. On the second postoperative day resulted a significant macroematuria, polyuria and severe anemia (haemoglobin = 6.6 g/dl) patient was transfused with four units of packed cells and eight of fresh frozen plasma. An abdominal echo showed a bladder clot. The renal function test revealed an exacerbation of the existing chronic renal failure. On the 5th postoperative day the patient presented fever (39.5°C) and Enterobacter cloacae was isolated from blood culture; appropriate therapy with i.v. piperacilline was given, but on the 7th postoperative day urinary culture resulted positive for Candida albicans and an antymycotic treatment was adjuncted. Immunosupressive therapy was maintained throughout hospitalization. The hospital stay was of 16 days (5 days in ICU). Early postoperative liver function showed transient impairment (Table 1). After 3 months the patient was re-evaluated with echocardiograms showing an ejection fraction of 50% and a good ventricular wall motion; the tread mill test was negative and the scintigraphy stress test (99 TC) revealed a small still ischaemic defect of the apex. Liver function tests were ameliorated.

Recently the experiences involving successfull coronary artery bypass grafting in liver transplant recipients have been reported [1–3]. There are 23 reported liver transplanted patients who have undergone cardiac operations. Our patient presented no episodes of coagulopathy, no unusual or excessive clotting factor or platelet requirements, and no difficulties with reversing heparinization at the conclusion of the surgical procedure. Long-standing symptomatic cardiac improvement and preservation of liver and renal function has been evident in all reported patients [1–3]. In conclusion, previous liver transplantation should...
not be a contraindication to cardiac surgery and providing appropriate immunosuppressive treatment, this pool of patients may undergo such a surgery for the same indications as the rest of the general population.

References

