Case Report

Urgent Splenectomy after Partial Splenic Embolization in Liver-Transplanted Patient: A Case Report

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1. Introduction

Approximately 20–30% of patients who receive a liver transplant due to hepatitis C virus hepatopathy develop cirrhosis before 5 years, and up to 14% experience a serious relapse in the first year after transplantation [1–3]. Hypersplenism in these patients results in decreased platelet levels, which does not allow treatment with pegylated interferon (Peg-IFN) and ribavirin because these drugs are associated with hematological toxicity, especially thrombocytopenia in the case of Peg-IFN. Partial splenic embolization (PSE) is an effective alternative to splenectomy in these patients to correct platelet levels if antiviral treatment is necessary [4–7].

2. Case Report

We describe a 51-year-old male who received a liver transplant secondary to HCV liver cirrhosis. Immunosuppression received was Tacrolimus 6 mg/12 h and Methylprednisolone 20 mg. During the postoperative period the patient presented with right pleural effusion, mild renal failure, and mild preservation injury with minimal graft dysfunction compatible with preservation cholestasis.

Three months after liver transplantation a serious HCV relapse was detected by the presence of serious lobular hepatitis in a liver biopsy, with a total bilirubin of 6 mg/dL, HCV viral load of 100,000,000 UI/mL, and hyperglycemia associated with the relapse. Platelet levels were 44,600 cells/mm³ (see Table 1).

To correct the blood platelet levels prior to antiviral treatment, splenic embolization was performed for approximately 90% of the parenchyma, preserving only a central hilar area and another area in the upper pole (see Figure 1). The technique was distal superselective catheterization of the splenic artery through the femoral artery with the injection of particles of polyvinyl alcohol in solution with penicillin, gentamicin, and iodinated contrast. The patient was discharged 6 days after embolization, after a period of time without complications.

Three days later, the patient arrived at the emergency department with a fever of 38.5°C and diffuse abdominal pain, primarily in the left upper quadrant. An urgent CT scan showed free fluid in the pelvis and paracolic gutters,
Table 1: The evolution of blood platelet levels.

|                              | Platelets (cells/mm³) |
|------------------------------|-----------------------|
| Prembolization levels (70 days post-transplant) | 44,600                |
| Postembolization levels (15 days post-PSE)       | 318,000               |
| Postsplenectomy (38 days after splenectomy)      | 466,000               |

Figure 1: Splenic arteriography.

Figure 2: CT scan.

were gradually normalized, reaching the following levels:

AST = 43, ALT = 16, FA = 202, and GGT = 296.

3. Discussion

The morbidity of PSE is well known. Almost 100% of patients develop the so-called "postembolization syndrome" (fever, abdominal pain, nausea) caused by splenic infarction and the release of proinflammatory cytokines. Other "minor" complications were pleural effusion, the development of neutrophilic ascites, which is usually transient and responsive to diuretic therapy, and splenic or portal thrombosis. The most serious complications are the development of splenic abscess and distal pancreatitis. Splenic abscess formation is not a infrequent and severe complication of PSE that occurs in 5–15% of PSE. Like other complications, abscess formation is related to the volume of parenchyma that is embolized, occurring with volumes greater than 70%. The treatment of choice is urgent splenectomy; though medical treatment support, antibiotics, and occasional percutaneous drainage can be attempted in patients with major functional impairment, it often provides worse results [8–10].

Between May 2002 and March 2012, 74 PSEs have been performed in our centre, including 18 procedures in transplant patients. The patient presented here is the only case of splenic abscess, and the only one who has required surgery after complications of PSE, assuming 1.4% for total PSE and 5.6% among transplant patients.

Conflict of Interests

The authors state that they have no conflict of interests.

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