Hepatic Hematoma after Blunt Trauma
—A Case of Nonoperative Management to Prevent Liver Abscess Formation—

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ABSTRACT: In an eighteen-year-old boy with a high fever, an intrahepatic infectious hematoma following blunt hepatic trauma was treated twice with intrahepatic arterial injection chemotherapy in an attempt to prevent conversion of the hematoma to an abscess. A decrease in body temperature occurred after the arterial injections, and the hematoma was gradually diminished in size. In selected patients with blunt hepatic trauma, intrahepatic arterial injection chemotherapy seems to be an effective treatment for prevention of liver abscess formation.

KEY WORDS: hepatic hematoma, blunt trauma, nonoperative management, intraarterial chemotherapy, liver abscess

INTRODUCTION

Recently, the incidence of blunt hepatic trauma due to traffic accidents has increased. The diagnosis can be made using abdominal computed tomographic (CT) scans, but treatment is not always effective. A small group of patients who sustain blunt hepatic trauma may experience, not only hepatic capsular lacerations with intraperitoneal hemorrhage, but also subcapsular or intrahepatic hematomas. Some patients have been treated with nonoperative management. Blunt hepatic trauma is one main cause of pyogenic liver abscess, the mortality rate is high and surgical treatment is often required.

We now report the clinical course of a patient with a blunt hepatic trauma for whom we prescribed arterial injection chemotherapy to prevent liver abscess formation.

A CASE REPORT

An eighteen-year-old boy was admitted to Ueki City Hospital after being struck on the right side of the chest and upper part of the abdomen in a traffic accident on April 20, 1983. He complained of right chest pain and right upper abdominal tenderness and pain. On admission, his blood pressure was 180/100 mmHg, pulse was 84 beats per minute and body temperature was 37.8°C. There was tenderness and guarding in the upper abdomen. Posterior fractures of the right eighth and ninth rib and macroscopic hematuria during twelve hours were recognized. The hematocrit (Hct) was 48 per cent. The prescribed regimen included antibiotics, bed rest and intravenously administered fluids. On the second hospital day, the Hct reading fell to 40 percent and

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Fig. 1. Serial abdominal enhanced CT scans. a: pre-arterial injection (6th hospital day). b: 2 days after the second arterial injection of Cefoperazon (15th hospital day). c: 37 days after second arterial injection of Cefoprazon (50th hospital day). Photo a shows multiple irregular low density lacerations at the posterior inferior portion of the right hepatic lobe (arrows). Photos b and c show a rounded intrahepatic hematoma with lower density, as compared with the lacerations of a, and a decrease in size at the same portion of the liver.

32 percent during the ensuing 48 hours, and 260 cc of packed red blood cells were transfused. The white blood cell (WBC) count was 12,800 per mm³. The serum glutamic oxaloacetic transaminase (SGOT) value was 269 Karmen units (normal 8 to 40), the serum glutamic pyrubic transaminase (SGPT) value 259 Karmen units (normal 5 to 35), the lactate dehydrogenase (LDH) value 881 Wróblewski units (normal 5 to 400) and the alkaline phosphatase value 8.4 King-Armstrong units/100 ml (normal 4 to 14). Serial upper abdominal CT scans were carried out. The initial CT scans (on the sixth hospital day) showed multiple irregular low density areas in the posterior inferior portion of the right hepatic lobe (Fig. 1a). Daily administrations of antipyretics were prescribed from the fourth to the eighth day as he had a fever of 38.1°C on the third hospital day. His temperature remained above 38°C until the first transcatheter arterial injection chemotherapy on the eighth hospital day. From the day following the first arterial injection therapy, the temperature fell below 38°C, except for one day (the 11th hospital day; 38.1°C). On the 13th hospital day, another arterial injection was given. The temperature fell further, and dropped below 37°C after the 19th hospital day (Fig. 2). Cefotiam and Cefoperazon, which have a potent bacteriocidal effect and a broad spectrum of antibacterial activity, were given intraarterially. For the first arterial injection, the angiographic catheter was selectively placed into the right