A Study of Factors Related to Recurrent Stones after Surgical Treatment of Hepatolithiasis

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Purpose: Hepatolithiasis, situated in the proximal sites from common hepatic bile ducts, is a common disease in Korea. Operative procedure, especially hepatectomy, is more effective treatment for achieving complete removal of stones and biliary stricture. However the incidence of remnant or recurrent stones is still high. The aim of this study was to evaluate the factors related to the recurrence of stones after surgical treatment of hepatolithiasis.

Materials and Methods: From February 1999 to February 2009, we conducted a retrospective study of case records of 208 patients who underwent operation for hepatolithiasis at the Department of Surgery, Chonbuk National University Hospital.

Results: The male to female ratio of the patients was 1:1.97, with a mean age of 55 years. The hepatolithiasis was located in the left intrahepatic duct (145 cases, 69.7%), right intrahepatic duct (30 cases, 14.4%), and both (33 cases, 15.9%). Operative procedures were as follow: left lateral sectionectomy in 109 (52.4%), left hemihepatectomy in 26 (12.5%), posterior sectionectomy in 5 (2.4%), a right hemihepatectomy in 8 (3.8%), a choledocholithotomy in 38 (8.6%), a choledocho-enterostomy in 18 (8.6%), a choledochootomy in 1 (0.46%), a choledochal cyst excision in 1 (0.46%), no primary operation in 2 (0.9%). Complete stone clearance was achieved in 76% after operative treatment. But we observed remnant stones in 24% (50/208) of patients. Biliary stricture was significantly associated with remnant stones (p=0.000). In addition, the incidence of recurrent stones was 15.3% (32/208) of patients. Recurrent stones were associated with biliary stricture (p=0.001), hepatectomy (p=0.003), and bilateral location of stones (p=0.016). But cholangitis and remnant stones were not significant risk factors for recurrent stones (p=0.844, p=0.653). During the follow up period, the mortality rate that related to operative treatment was 0.96% (2/208).

Conclusions: In this study, biliary stricture, hepatectomy, and bilateral location of stones were associated with recurrent intrahepatic bile duct stones after operation for hepatolithiasis.