

Hepatopancreatoduodenectomy for cholangiocarcinoma

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Introduction

Cholangiocarcinomas often exhibit an extensive ductal spread invading from the hepatic hilus to the lower bile duct, and such tumors can be completely resected only by hepatopancreatoduodenectomy (HPD). Early experiences with HPD were associated with high mortality and morbidity, leading to an underestimation of the survival benefit of HPD. In this lecture, we outline our experiences with HPD as a treatment for cholangiocarcinoma and appraise the clinical significance of this challenging procedure.

Patients and Methods

We retrospectively reviewed the medical records of 93 patients with cholangiocarcinoma who underwent HPD from January 1992 to September 2012. There were 65 men and 28 women, with a mean age of 66 ± 10 years (range, 25 to 82 years). Of these, 91 (97.8%) underwent preoperative biliary drainage, including percutaneous transhepatic biliary drainage in 56, endoscopic naso-biliary drainage in 32, endoscopic biliary stent in 2, and self-expanding metallic stent in 1. Main tumor location was perihilar in 69 and distal in 22. The remaining 2 patients were the case of recurrent distal cholangiocarcinoma after bile duct resection with cholangiojejunostomy.

Results

The type of hepatectomy was right hemihepatectomy in 57, left trisectionectomy in 14, left hemihepatectomy in 13, right trisectionectomy in 3, and other hepatectomies in 6; overall, major hepatectomy was performed in 87 patients (93.5%). and combined vascular resection was performed in 26 patients (30.6%). Combined vascular resection was performed in 35 (37.6%) patients, including portal vein resection alone in 24, hepatic artery resection alone in 4, and simultaneous portal vein and hepatic artery resection in 7 (so-called Hepato-ligameto-pancreatoduodenectomy; HLPD)

The operating time was 764 ± 143 minutes (range, 530 to 1380 minutes), and blood loss was 2725 ± 2104 mL (range, 683 to 12688 mL). Pancreatic fistula occurred in 67 (72.0%) patients, including ISGPS-Grade A in 1, Grade B in 58, and Grade C in 8. Liver failure, defined as a maximum serum total bilirubin level of >10 mg/dL, was observed in 10 (10.8%) patients. Two (2.2%) patients died of postoperative complications. One non-survivor was a 68-year-old woman who underwent right hepatectomy and PD. Her postoperative course was

nearly satisfactory, but she complained of severe upper abdominal pain on day 54 after surgery. Urgent re-laparotomy was conducted for jejunal perforation, but she died of multiple organ failure on day 79 after surgery. Another case was a 60-year-old man who underwent right hepatectomy and PD with portal vein resection and reconstruction. On day 1 after surgery, urgent re-laparotomy was performed to remove a portal vein thrombus. However, he died of multiple organ failure 15 days after the initial surgery. The remaining 91 patients were discharged from the hospital in good condition.

The overall survival rate for the 93 patients was 54.4% at 3-year, 40.0% at 5-year, and 30.0% at 10-year; actually, 14 patients survived for more than five years. The rate of survival for the 67 patients with pM0 disease who underwent R0 resection was the most favorable, with 5- and 10-year survival rates of 62.0% and 52.7%, respectively.

Conclusions

HPD is technically demanding and associated with high morbidity. However, this surgery can be performed with low mortality and offers a better probability of long-term survival in selected patients. As hepatobiliary surgeons, we should consider HPD to be a standard procedure for laterally-advanced cholangiocarcinomas that are otherwise unresectable.