How to manage the remnant pancreas after laparoscopic distal pancreatectomy

Masafumi Nakamura

Kawasaki Medical School, Japan

Pancreatectomy is associated with high rate of morbidity and pancreatic fistula (PF) is the most frequent and serious complication. Also laparoscopic distal pancreatectomy (LDP) is associated with high rate of PF. Therefore, peri-operative management of pancreatic stump should be adjusted according to the risk of PF. Meanwhile, long-term follow-up need attention to the histology of the tumor and deterioration of diabetes. We present risk factors of PF in our cases, intra-operative prevention method of PF and post-operative treatment according to the type of closing method of pancreatic stump. We also show our strategies for long-term follow-up.

Risk factors of PF and closing method: BMI and thickness of pancreas were risk factors of PF in our series. Pancreatic stumps of low risk patients are simply closed by linear stapler, meanwhile pancreatic stumps of high risk patients are invaginated into Roux-en-Y loop.

Peri-operative treatment of remnant pancreas: Pancreatic stump of low risk patients are not anastomosed and under influence of duodenal hormones. Therefore, patients start a meal after adequate reduction of the drain amylase. Pancreatic stump of high risk patients are invaginated, so patients can start a meal in a few days after operation. Intra-abdominal drains are placed until 4POD or the day when drain amylase is under 1,000 units. CT scan tomography is routinely performed for patients who underwent spleen preserved LDP.

Long-term follow up (physiological): DP patients are at a high risk of glucose metabolism disorder than that of pancreatoduodenectomy (PD) patients according to the oral glucose tolerance test after operation. We need to check the serum glucose concentration and HbA1c periodically. We also need attention to a malnutritional fatty liver for patients with reduced exocrine function of the remnant pancreas.

Long-term follow up (oncological): Patients with invasive cancer need adjuvant chemotherapy ASAP and screening of recurrence in short interval. Patients with borderline tumors, especially NET, SPN and IPMN, need very long-term follow up. The period for NET and SPN is at least 10 years. Patients with IPMN need follow up for whole life-time to check-up recurrence of IPMN and development of ductal carcinomas in the remnant pancreas.