Double 7-french Versus Single 10-french Plastic Stent for Palliation in Distal Malignant Biliary Obstruction

Sankana Pirunsarn¹, Chaipichit Puttapitakpong¹, Krit Opuchar¹, Kamin Harinwan¹, Sakkarin Chirapongsathorn¹, Theeranun Sappajit¹

¹Division of Gastroenterology and Hepatology, Department of Medicine, Phramongkutklao Hospital, Bangkok 10400, Thailand

Background: In patients with unresectable malignant distal bile duct obstruction, self-expandable metallic stent provides better long term outcome than plastic stent, but not everyone can afford it. Initial insertion of a 10-French plastic stent is recommended if patient life expectancy is shorter than 4 months. However, there has been no study to compare the efficacy between a 10-French and two 7-French plastic stents.

Objective: To compare duration of stent patency between double 7-French and single 10-French plastic stents for palliation in distal malignant biliary obstruction.

Methods: We conducted a prospective study in patients with unresectable distal malignant biliary obstruction in a university hospital from December 2016 to November 2017. Patients were randomized to double 7-French or 10-French plastic stent groups. Primary outcome was stent patency within 90 days. Secondary outcomes were rate of complication such as obstructive jaundice, acute cholangitis, stent migration, and patient survival in both groups.

Results: In total, thirty five patients were included. There were 21 patients in the single 10-French plastic stent group (60%) and 14 patients in the double 7-French plastic stent group (40%). There were 21 males and 14 females (median age 76 years). Tumor types included cholangiocarcinoma (46%), pancreatic cancer (40%), ampullary cancer (11%), and others (3%). Median stent patency was 52 days and 40 days for single 10-French stent and double 7-French stents, respectively (P = 0.986). There was not significant difference in complication rate such as obstructive jaundice (19% versus 28.6%, P = 0.433), acute cholangitis (42.9% versus 57.1%, P = 0.273), stent migration (0% versus 7.1%, P = 0.379), and 90-day mortality rate (28.6% versus 57.1%, P = 0.091) between the single 10-French stent group and the double 7-French stents group.

Conclusion: Double 7-French plastic stents do not prolong patency, lower complication rate, and lengthen patient survival than single 10-French stent. (clinicaltrials.in.th: TCTR20170828001)

Keywords: Malignant CBD obstruction, Malignant distal CBD stricture, Double plastic stent, Palliative CBD stent