

## PREDICTORS OF COMPLICATION RELATED TO PLASTIC BILIARY STENT PLACEMENT SECONDARY TO CHOLEDOCHOLITHIASIS: A SINGLE-CENTER RETROSPECTIVE COHORT STUDY

### Abstract

**Significance:** ERCP with plastic biliary stent placement is considered as an alternative to surgery in cases of failed removal of common bile duct stone. Current guidelines recommend stent evaluation within 3-6 months after stent placement to prevent complications. The primary aim of this study is to identify factors related to the development of complications such as stent migration, stent occlusion and cholangitis.

**Methods:** This is a single-center retrospective cohort study of patients who underwent ERCP with plastic biliary stent placement secondary to choledocholithiasis from January 1, 2010 to September 30, 2019 at University of the East Ramon Magsaysay Memorial Medical Center, Inc. Statistical comparisons were made using one variable Chi-square test and Student T-test ( $\alpha=0.05$ ). Correlational analyses were performed using Spearman's correlation and Multivariate logistic regression analysis.

**Results:** A total of 90 subjects were included in the study. Seventy-seven percent (77%) underwent elective stent evaluation, while 23% had on-demand stent evaluation either due to signs of sepsis or biliary obstruction. The mean interval duration to elective and on-demand stent evaluation were 6.4 months (SD=10.8, 95% CI 3.9-9.0) and 11.3 months (SD= 11, 95% CI 6.6-16), respectively. Several variables were analyzed to identify factors associated with the development of complications. Among these factors, stent placement of >3 months duration was found to be an independent predictor for developing stent-related complications (OR=6.48, 95% CI 1.4, 31.7,  $p < 0.05$ ).

**Conclusion:** Among patients with retained common bile duct stone, we recommend stent evaluation after 3 months of plastic biliary stent placement to prevent complications.

**Keywords:** stent evaluation, stent replacement, stent removal, biliary stent, common bile duct stone, choledocholithiasis