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Endoscopic Management of Biliary and Pancreatic Pathologies in Roux-en-Y Gastric Bypass Patients: Development of a Treatment Algorithm Based on 9-Year Experience

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Abstract

Background: Management of biliopancreatic pathology in Roux-en-Y gastric bypass (RYGB) patients is challenging despite the availability of multiple approaches like single-balloon enteroscopy-assisted ERCP (SBE-ERCP), laparoscopy-assisted ERCP (LA-ERCP), and EUS-directed transgastric intervention (EDGI). We evaluated the outcomes of the interchangeable combination of endoscopic procedures to treat biliopancreatic pathology in RYGB patients.

Materials and methods: This is a monocentric retrospective study of consecutive RYGB patients with biliopancreatic pathology between June 2014 and September 2023. Primary endpoints were technical success, adverse events (AE), and parameters of endoscopic procedures according to etiology. A clinically useful management algorithm was developed.

Results: A total of 102 patients with RYGB (73 women; mean age 55 ± 10 years) were included. A total of 113 SBE-ERCP (in 90 patients), 26 EDGI (in 23 patients), and 2 LA-ERCP (in 2 patients) were performed. Technical success of SBE-ERCP was lower compared to EDGI (74.4% vs 95.1%, $p = 0.002$). The AE rate was lower using SBE-ERCP compared to EDGI (12.4% vs 38.5%, $p = 0.003$). Two sub-groups based on etiology were identified as "common bile duct stone" (CBDS) and "Other." In the CBDS group, the mean number and time of procedures were lower in SBE-ERCP as the first-line technique compared to first-line EDGI (1.1 vs 2.7, $p < 0.00$ and 91 ± 20.7 min vs 161 ± 61.3 min, $p < 0.00$).

Conclusion: A combination of endoscopic procedures can achieve high technical success in managing biliopancreatic pathology in RYGB patients with an acceptable AE rate. In the case of CBDS, SBE-ERCP appeared to be a good first-line single-step option. For other indications, EDGI should be proposed as the first line.

Keywords: EDGI; EUS-transgastric ERCP; Laparoscopy-assisted ERCP; Roux-en-Y gastric bypass; Single-balloon enteroscopy-assisted ERCP.

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