

Overtube-Assisted ERCP in Patients with Altered Surgical Anatomy: A Single Center Experience

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Abstract

Introduction: Conventional ERCP with a duodenoscope in patients Roux-en-Y and post-Whipple surgical anatomy is technically challenging and in some cases not feasible. Overtube-assisted techniques including double-balloon ERCP (DB ERCP) and Spirus overtube-assisted ERCP (Spirus ERCP) using a forward-viewing endoscope can allow for deep intubation of the afferent limb facilitating pancreatobiliary intervention in these patients.

Aims and Methods: To assess the efficacy and safety of overtube-assisted ERCP in patients with altered surgical anatomy; a retrospective review of our single center experience with overtube-assisted ERCP procedures in patients with altered surgical anatomy (Roux-en-Y or post-Whipple) between March 2007 and October 2008.

Results: A total of 13 patients (7 female, 6 male) and 21 procedures were identified. Within this group, 13 patients had DB ERCP (18 procedures) and 3 patients had Spirus ERCP (3 procedures) performed. Post-surgical anatomy included Roux-en-Y gastric bypass (8 patients), Whipple (2 patients), Roux-en-Y partial gastrectomy (1 patient), Roux-en-Y post-orthotopic liver transplant (1 patient), and pylorus-preserving Whipple (1 patient). Successful selective cannulation of the duct of interest was achieved in 12/21 cases (57.1%). A total of 20 procedures required therapeutic intervention. Among these cases, we achieved a successful therapeutic result in 12/20 cases (60%). Spirus ERCP was performed in 2 patients who had a prior failed DB ERCP with a comparison of Spirus ERCP and DB ERCP (see table). Successful selective cannulation and therapeutic intervention were achieved in all 3 Spirus ERCP cases. Spirus ERCP were longer than DB ERCP cases; however, this was not statistically significant ($p=0.39$). Complications were seen in 3/21 cases and included one case of post-ERCP pancreatitis (DB ERCP), one case of respiratory instability (DB ERCP), and one case of non-pancreatitis abdominal pain (Spirus ERCP). There were no perforations and no deaths.

	All Patients	DB ERCP	Spirus ERCP
# Patients	13	12	3
# Procedures	21	18	3
Cannulation Success	12/21 (57.1%)	10/18 (55.6%)	3/3 (100%)
# Procedures in Which Intervention Indicated	20	17	3
Therapeutic Success	12/20 (60%)	10/17 (58.8%)	3/3 (100%)
Mean Total Procedure Time (Minutes)	84.3 +/- 39.4	79.2 +/- 34.1	116.7 +/- 59

Conclusion: Overtube-assisted ERCP is feasible and safe in patients with altered surgical anatomy. The use of the Spirus overtube may facilitate pancreatobiliary intervention in patients that fail DB ERCP. Although these procedures are time consuming, the development of better accessories may improve efficacy of these procedures.