Endoscopic Papillectomy of Ampullary Lesions: Predictors of Recurrence and Adverse Events

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Introduction

- Endoscopic Papillectomy (EP) is an effective endoscopic modality for managing ampullary adenoma, early ampullary carcinoma, and piecemeal resection of large laterally spreading lesions.
- EP has a better safety profile compared to Whipple surgery or transduodenal ampullectomy.

Aim

- This study aims to evaluate predictors for recurrence and adverse events in patients who underwent EP for ampullary lesions.

Methods

- Retrospective analysis of all patients who underwent endoscopic snare papillectomy for an ampullary lesion.
- Between January 2006 and December 2021
- Completed univariate and multivariate analysis of multiple patient and procedure related variables to identify risk factors related to post-EP adverse events and ampullary lesion recurrence.

Characteristics	N = 51
Male, *n* (%)	29 (56.8)
Age, year, median (IQR)	65 (56-76)
Symptoms prior to EP, *n* (%)	22 (43.1)
Histology obtained prior to EP, *n* (%)	40 (78.4)
EUS prior to EP, *n* (%)	37 (72.5)
Anti-platelet/Anti-coagulation use, *n* (%)	14 (27.5)
Iron deficiency anemia, *n* (%)	15 (29.4)
Lesion size, mm, median (IQR)	15 (10.8-20)
Method of Resection	
En-Bloc, *n* (%)	38 (74.5)
Piecemeal, *n* (%)	13 (25.5)
Intraductal invasion, *n* (%)	8 (15.7)
Duodenal diverticulum, *n* (%)	4 (7.8)
Altered post-surgical anatomy, *n* (%)	2 (3.9)
Pancreas divisum, *n* (%)	3 (5.9)
Biliary sphincterotomy, *n* (%)	40 (78.4)
Pancreatic sphincterotomy, *n* (%)	11 (21.6)
Submucosal lifting prior to EP, *n* (%)	7 (13.7)
Pancreatic stent after EP, *n* (%)	46 (90.2)
Biliary stent after EP, *n* (%)	45 (88.2)
Final Pathology	
Adenoma, *n* (%)	39 (76.5)
Adenoma with high grade dysplasia, *n* (%)	5 (9.8)
Adenocarcinoma or NET, *n* (%)	3 (5.9)
Other (non-neoplastic), *n* (%)	4 (7.8)
Complete histological resection (R0), *n* (%)	23 (45.1)
Recurrence after technical success, *n* (%)	17 (33.3)
Overnight admission after EP, *n* (%)	24 (47.1)
ED visit within 30 days of index EP, *n* (%)	7 (13.7)
Post-ERCP pancreatitis, *n* (%)	7 (13.7)
Papillary stenosis, *n* (%)	2 (3.9)
Procedural bleeding requiring endoscopic clips, *n* (%)	9 (17.6)
Delayed bleeding, *n* (%)	7 (13.7)

Table 1: Baseline characteristics of patients who underwent endoscopic papillectomy. IQR: Interquartile Range. NET: Neuroendocrine Tumor. EUS: Endoscopic Ultrasound

Results

- Median follow-up: 228 days (IQR 40-795)
- Age, method of resection, lesion size, and intraductal extension were not associated with recurrence.
- Average (mean) time between EP and presentation of post-procedural bleeding is 2.86 days.
- Complete histologic resection (R0) is associated with no recurrence: OR=5.4, 95% CI: 1.4-20.8, P-value=0.014.
- Post-ERCP pancreatitis is associated with delayed bleeding: OR=7.5, 95% CI: 1.2-46.1, P-value=0.03.

Conclusions

- In patients who undergo EP for ampullary lesions, **R0 resection is associated with reduced risk of recurrence.**
- **Delayed bleeding occurs rather acutely post-EP and is associated with increased risk of post-ERCP pancreatitis;** thus closer post procedural follow up may be of benefit for those with higher risk of bleeding.