C-51

Endoscopic Resection of Duodenal Carcinoid Tumors: A Single Center Comparison Between Simple Polypectomy and Endoscopic Mucosal Resection

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BACKGROUND: Duodenal carcinoids are rare neuroendocrine tumors with malignant potential. Endoscopic resection is preferred for lesions <20mm, and case series have demonstrated the efficacy of advanced endoscopic resection of these lesions. However, simple polypectomy has not been compared to these techniques. We postulated that smaller carcinoids might be adequately treated with simple polypectomy versus endoscopic mucosal resection (EMR).

METHODS: We performed a retrospective review of 33 patients who underwent endoscopic duodenal carcinoid resection (10 simple, 23 EMR) at the Hospital of the University of Pennsylvania between 1/1/2006 and 6/15/2017. Sociodemographic, clinical, pathology, and endoscopy report data were collected for each patient. The primary outcomes were resection margin positivity and local tumor recurrence. The Wilcoxon rank-sum test and Fisher's exact test were used to compare continuous and categorical variables, respectively.

RESULTS: There were no significant group differences in demographics or tumor functionality. EMR achieved more en bloc resections (87% versus 50%, p = 0.036). Lesions managed with simple polypectomy had a smaller median

gross specimen size (6.0mm vs. 8.0mm, p = 0.043) and median pathologic tumor size (3.0mm vs. 6.0mm, p = 0.010). There was no significant difference in the pathology resection margins between simple polypectomy and EMR (86% versus 68% positive, p = 0.64). The number of patients with local recurrence on surveillance endoscopy was also similar (14.3% versus 17.7%, respectively; p = 1.000), with a median time to recurrence of 2.3 months (IQR 1.2 – 5.4 months). The median follow-up time in patients without local recurrence was 21.4 months (IQR 7.1 – 39.6 months).

CONCLUSION: Our study suggests that simple polypectomy may be adequate treatment for small duodenal carcinoids. Further studies are needed to validate this premise, and to define the upper limits of tumor size that can be managed with simple polypectomy techniques.

Table 1:

Endoscopic Resection and Outcomes Data

Variable	Simple Polypectomy (N = 10)	EMR (N = 23)	p-value
EUS Performed	3 (30%)	20 (87%)	0.002*
Type of Resection			0.036*
En Bloc	5 (50%)	20 (87%)	
Piecemeal	5 (50%)	3 (13%)	
Tumor Size (mm), median (IQR)	3.0 (2.0, 4.0)	6.0 (4.0, 8.0)	0.010*
Gross Size (mm), median (IQR)	6.0 (4.0, 8.0)	8.0 (6.0, 12.0)	0.043*
Positive Resection Margins	6 (86%)	15 (68%)	0.64
Local Recurrence	1 (14.3%)	3 (18%)	1.00
Survival	7 (78%)	17 (94%)	0.25
Total Follow-up Time (months), median (IQR)	12.1 (2.8, 37.4)	28.7 (8.2, 54.0)	0.09

*** Statistically significant at the alpha = 0.05 level**