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, slow-growing, malignant neuroendocrine tumors.
- Endoscopic resection is preferred for lesions <20mm, and case series have demonstrated the efficacy of advanced techniques, such as endoscopic mucosal resection [EMR].
- However, the efficacy of simple polypectomy has not been compared to EMR in terms of resection margin positivity and local recurrence rates.

Methods

- We performed a retrospective review of 33 patients who underwent endoscopic duodenal carcinoid resection 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 through manual chart review.
- The primary outcomes were resection margin positivity and local tumor recurrence. Wilcoxon rank-sum and Fisher's exact tests were used to compare continuous and categorical variables.

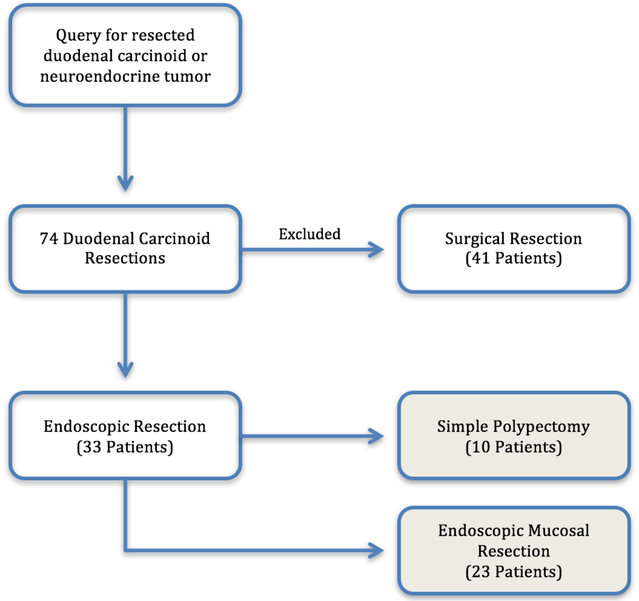
Results

- There was no significant difference in the pathology resection margins between simple polypectomy and EMR (86% positive versus 68% positive, respectively, p = 0.64).
- The number of patients with local recurrence on surveillance endoscopy was also similar between groups (14.3% simple polypectomy versus 17.7% EMR, respectively; p = 1.000).
- The median time to carcinoid recurrence was 2.3 months (IQR 1.2 – 5.4 months).

Patient Characteristics

Variable	Simple Polypectomy (N = 10)	EMR (N = 23)	p-value
EUS Performed, n (%)	3 (30)	20 (87)	0.002*
Depth of Involvement on EUS, n (%)			1.000
Lamina Propria	0 (0)	1 (7)	
Muscularis Mucosae	1 (50)	6 (43)	
Submucosa	1 (50)	6 (43)	
Muscularis Propria	0 (0)	1 (7)	
(Not reported)	1	6	
Resection, n (%)			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*
Resection Margins, n (%)			0.640
Negative	1 (14)	7 (32)	
Positive	6 (86)	15 (68)	
(Not reported)	3	1	
Local Recurrence, n (%)	1 (14.3)	3 (18)	1.000
(Unknown)	3	6	
Survival, n (%)	7 (78)	17 (94)	0.250
(Unknown)	1	5	
Total Follow-up Duration (months), median (IQR)	12.1 (2.8-37.4)	28.7 (8.2-54.0)	0.090
Time to Endoscopic Recurrence (months), median (IQR)	1.0 (1.0-1.0)	3.2 (1.4-7.6)	0.180
Negative Endoscopic Follow-up Duration (months), median (IQR)	15.7 (4.0-23.8)	22.2 (8.2-39.2)	0.400

Patient Flow Diagram



Conclusions

- Local recurrence after endoscopic resection of duodenal carcinoids is uncommon, despite high proportions of positive pathology margins.
- Simple polypectomy may be adequate treatment for very small duodenal carcinoids (< ~6 mm).
- Further studies are needed to validate these findings, and to define the upper limits of tumor size that can be treated with simple polypectomy.

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