

Surgical Treatment for Rectal Carcinoid Cancer: Trans-Anal Excision Versus Low Anterior Resection with Total Mesorectal Excision



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Background

The biological behavior of rectal carcinoids has yet to be fully appreciated due to the rarity of the disease and thus, the optimal surgical treatment remains controversial. Oftentimes, primary tumors less than 2 cm are assumed to be indolent and treated by trans-anal excision. We hypothesized that rectal carcinoids are more malignant than previously described and small tumors warrant more aggressive surgery than what has been traditionally recommended.

Methods

The charts of 62 consecutive rectal carcinoid patients seen at our institution between 10/2006-8/2011 were retrospectively reviewed. The primary tumor size, extent of disease, surgical history, and basic survival data was collected for analysis.

Lymph Node Metastasis

Primary Size*	N=	% With Lymph Node Metastasis	Patients With Positive Nodes: Dead/Total (% Deceased)
0-1	26	2/26 8%	1/2 (50%)
1.1-2	13	9/13 69%	2/9 (22%)
2.1-3	5	4/5 80%	2/4 (50%)
3.1+	12	7/12 58%	3/7 (43%)
Multiple	4	2/4 50%	1/2 (50%)

*Primary size was not available in two patients
Table illustrating the percent of lymph node metastasis from rectal carcinoids and survival data based on the size of the primary tumor.

Depth of Tumor Invasion*

Extent of Disease (#Alive/#Dead)	Mucosa and Submucosa (T1)	Muscularis propria (T2)	Through muscularis propria to pericolic/perirectal tissues (T3)	Directly invades other organs and/or perineural invasion (T4)
Local	20 (20/0)	1 (1/0)	1 (1/0)	0 (0/0)
Regional	1 (1/0)	1 (1/0)	1 (1/0)	0 (0/0)
Distant	9 (7/2)	4 (4/0)	3 (1/2)	8 (5/3)

*Data not available for 13 patients
Table illustrating the depth of tumor invasion for rectal carcinoids based on the extent of disease. (Local: confined to the primary; Regional: positive lymph nodes; Distant: metastatic disease)

Factors Affecting Survival for Patients with Distant Disease (n=27)

Primary Tumor Size	n=	Type of Resection	Survival # Dead/Total # (%)
0-1 cm	1	Local n=1	1/1 (100%)
		Local followed by radical: --	--
		Radical: --	--
1.1-2 cm	9	Local: n=2	0/2 (0%)
		Local followed by radical: n=5	1/5 (20%)
		Radical: n=2	1/2 (50%)
2.1-3 cm	4*	Local: --	--
		Local followed by radical: n= 1	0/1 (0%)
		Radical: n=2	1/2 (50%)
3.1+ cm	11*	Local: n=1	1/1 (100%)
		Local followed by radical: n= 3	0/3 (0%)
		Radical: n=6	2/6 (33%)
Multiple	2	Local --	--
		Local followed by radical: --	--
		Radical: n=2	1/2 (50%)

*A patient in this group did not undergo any surgeries
Table illustrating the type of surgical resection that was performed on various sizes of rectal carcinoids. (Local: Transanal excision or rectal carcinoid/polypectomy during colonoscopy only; Local followed by radical: Initially a local excision was performed, the patient underwent a radical excision at a later time; Radical: First procedure was a TME, LAR or some other invasive, segmental, intra-abdominal resection.

Results

Thirty-two patients had localized disease and three patients had lymph node metastasis without distant metastasis. All 35 patients are alive. Twenty-seven patients had distant disease. Four patients had only a local excision of their rectal carcinoid; two of these patients have died. Nine patients had an initial local excision, followed by a radical excision; one patient has died. Twelve patients had an initial radical resection; five of these patients have died. Two patients did not undergo any surgical procedures; both have died. The primary tumor size and chances of lymph node metastases for all 60 patients are as follows: <1 cm: 2/26 (8%); 1.1-2 cm: 9/13 (69%); 2.1-3 cm: 4/5 (80%) and >3 cm: 7/12 (58%); multiple: 2/4 (50%).

Conclusion

Rectal carcinoids are more malignant than previously portrayed. Primary tumors greater than 1 cm have a much higher rate of lymph node metastasis than previously reported. We believe that tumors larger than 1 cm should have a Low Anterior Resection (LAR) with Total Mesorectal Excision (TME) as their initial definitive treatment. For tumors less than 1 cm, surgical treatment should be individualized.