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## IMPROVED STAGE-SPECIFIC SURVIVAL AND SUPERIOR MARGIN NEGATIVITY FOR RECTAL ADENOCARCINOMA AT ACADEMIC COMPREHENSIVE CANCER INSTITUTIONS.

GS6

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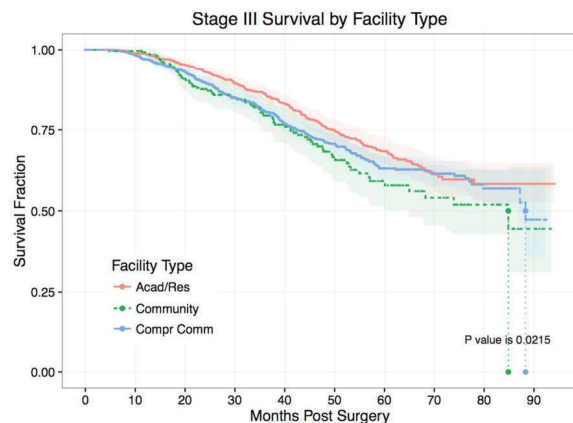
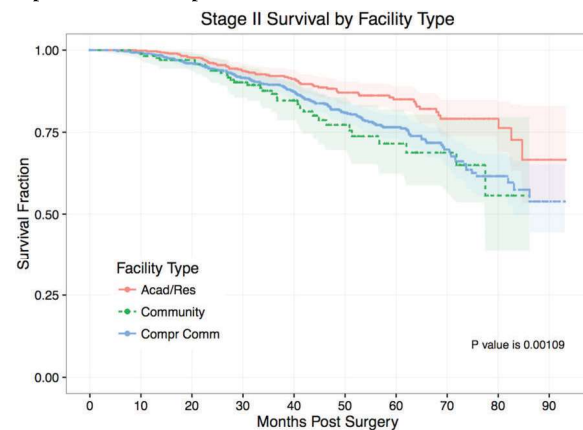
**Purpose/Background:** Rectal adenocarcinoma is predominantly managed at three institution types, defined by the American College of Surgeons Commission on Cancer Program: academic comprehensive cancer institutions (AC), comprehensive community programs (CC), and community centers (CO). AC and CC participate in clinical research and are involved in over five hundred newly diagnosed cancer cases per year. CO provide care for one hundred to five hundred new cases yearly. The classification of AC includes National Cancer Institute-designated cancer centers and mandates multidisciplinary postgraduate resident education. In this study, we aim to compare short and long-term outcomes among these institution types.

**Methods/Interventions:** A retrospective review of the National Cancer Database from 2008-2014 was performed identifying patients who underwent neoadjuvant chemoradiation, surgical management, and adjuvant chemotherapy for pathologic stage II and stage III rectal cancer. Cases were stratified based on institution types. Multivariate analysis was used to compare outcomes by institution type, and a Cox proportion hazard model was used to estimate long-term overall survival by institution.

**Results/Outcome(s):** Of 8,367 cases, 3,270 (39%) were treated at AC, 4,181 (50%) were treated at CC, and 916 (11%) at CO. Minimally invasive (laparoscopic or robotic) proctectomy was more prevalent at AC and CC compared to CO (AC 42%, CC 42%, CO 27%). Over this six-year study period, each AC-designated institution managed an average of approximately 15 cases of pathological Stage II/III rectal adenocarcinoma, each CC-designated institution individually managed approximately 8 cases and each CO-designated institution managed approximately 3 cases. Mean time between diagnosis and operative intervention was longest for AC ( $141.5 \pm 40.2$  days) compared to CC ( $129.9 \pm 35.0$  days) and CO ( $132.6 \pm 36.2$  days), ( $p < 0.01$ ). Compared to CC, AC demonstrated superior overall negative margin rates (OR 1.31, 95% CI 1.07-1.61,  $p < 0.01$ ) and superior negative circumferential margin rates (OR

1.33, 95% CI 1.04-1.72,  $p < 0.05$ ). Compared to AC, both CC (1.28, 1.10-1.49,  $p < 0.01$ ) and CO (OR 1.45, 1.16-1.80,  $p < 0.01$ ) demonstrated higher 5-year death hazard rates. Patients with pathological stage II and Stage III disease treated at AC demonstrated superior 5-year overall survival compared to CC and CO - Stage II (AC 85%, CC 77%, CO 72%,  $p < 0.01$ ), Stage III (AC 68%, CC 63%, CO 59%,  $p < 0.05$ ).

**Conclusions/Discussion:** Rectal cancer care at academic comprehensive cancer institutions is associated with superior margin negativity and improved overall and stage-specific survival. As we move forward with the National Accreditation Program for Rectal Cancer (NAPRC), these best practices must be considered and replicated when possible.



Stage II and Stage III Survival by Facility Type

**GS5 Quality of life and functional outcomes of laparoscopic vs. open IPAA**

Variable	Open IPAA (n=404)	Laparoscopic IPAA (n=404)	P value
<b>Overall CGQOL</b>			
1 y, n=312	0.7 ± 0.2	0.8 ± 0.2	0.001
3 y, n=263	0.8 ± 0.2	0.8 ± 0.2	0.94
5 y, n=255	0.8 ± 0.2	0.7 ± 0.2	0.99
<b>Energy level</b>			
1 y, n=312	6.9 ± 2.1	7.4 ± 2.0	0.02
3 y, n=263	7.2 ± 2.1	7.3 ± 2.0	0.64
5 y, n=255	7.0 ± 2.1	7.2 ± 2.1	0.46
<b>Seepage protection use during the day</b>			
1 y, n=312	70 (22.4%)	36 (11.6%)	0.04
3 y, n=191	53 (27.7%)	43 (22.7%)	0.43
5 y, n=184	41 (19.3%)	23 (12.5%)	0.56
<b>Seepage protection use during night</b>			
1 y, n=312	101 (32.4%)	65 (20.8%)	0.04
3 y, n=191	53 (27.7%)	43 (22.7%)	0.43
5 y, n=184	41 (22.5%)	64 (34.7%)	0.56
<b>Number of stools per day</b>			
1 y, n=312	5.7 ± 2.3	5.3 ± 2.1	0.08
3 y, n=224	6.1 ± 3.4	5.4 ± 2.2	0.27
5 y, n=213	5.8 ± 2.7	5.4 ± 2.1	0.45
<b>Number of stools per night</b>			
1 y, n=312	2.5 ± 1.7	2.0 ± 1.4	0.006
3 y, n=224	2.6 ± 2.1	2.2 ± 1.7	0.06
5 y, n=213	2.5 ± 1.7	2.1 ± 1.4	0.09
<b>Total number of stools</b>			
1 y, n=312	8.1 ± 3.1	7.0 ± 2.8	<0.001
3 y, n=224	8.5 ± 5.0	7.5 ± 3.2	0.22
5 y, n=213	8.0 ± 3.6	7.3 ± 2.7	0.22

IPAA=ileal pouch anal anastomosis; CGQOL = Cleveland Clinic global quality of life score