

## Maintaining quality of care in colorectal cancer surgery during the COVID-19 pandemic

### Editor


Many surgeons have advocated the continuation of cancer services during the COVID-19 pandemic to prevent delays in diagnosis and treatment<sup>1</sup>. Yet, there are concerns regarding the impact of strained resources and manpower fatigue on the quality of postoperative cancer care. In Singapore, February marked the turning point when there was a severe reduction in healthcare resources. Teams were segregated to minimize cross-infection. We compare immediate postsurgical outcomes in the six months preceding February with the three months following.

There were no differences in patient demographics. Importantly, there was also no increase in emergency load (40.3 per cent vs 36.0 per cent;  $p = 0.707$ ), stoma creation rates (44.7 per cent vs 30.4 per cent;  $p = 0.253$ ), or the use of laparoscopy (46.8 per cent vs 60.9 per cent;  $p = 0.269$ ). Post-operative complications, including rates of surgical-site infection (SSI) (10.6 per cent vs 13.0 per cent;  $p = 0.766$ ) and anastomotic leakage (2.1 per cent vs 4.4 per cent;  $p = 0.600$ ) were similar. There were no differences in time to diet (5.2 days vs 3.9;  $p = 0.477$ ) or total length of stay (10.7 days vs 8.3;  $p = 0.352$ ). We did not notice histological differences in the colorectal cancers operated on. There was also no increase in 30-day readmission (8.7 per cent vs 4.4 per cent;  $p = 0.511$ ) or 30-day mortality (4.0 per cent vs 0;  $p = 0.331$ ). Full details can be found in *Table 1*.

Since February, our hospital has drastically reduced outpatient, endoscopic and surgical resources to support reallocations to emergency departments and intensive care units. Due to the pressing need to maintain a colorectal cancer service, all outpatient referrals are vetted by specialist colorectal surgeons, and cancer cases continue to be performed in a dedicated cancer operating theatre. Our results demonstrate that prioritizing cancer care can maintain quality to pre-pandemic levels. We did not notice

Variables	Pre-pandemic (n = 67)	Pandemic (n = 25)	p-value
Age, mean (SD)	66.6 (12.2)	67.2 (14.1)	0.847
Male sex, n (%)	40 (59.7)	12 (48.0)	0.314
ASA, n (%)			
I – II	40 (59.7)	18 (72.0)	
III – V	27 (40.3%)	7 (28.0)	0.277
Comorbidities, n (%)			
IHD	8 (11.9)	1 (4.0)	0.254
DM	15 (22.4)	5 (20.0)	0.805
CVA	6 (9.0)	1 (4.0)	0.425
CKD	7 (10.5)	1 (4.0)	0.329
Dyslipidemia	25 (37.3)	12 (48.0)	0.352
Hypertension	33 (49.3)	13 (52.0)	0.815
Urgency, n (%)			
Elective	40 (59.7)	16 (64.0)	
Emergency	27 (40.3)	9 (36.0)	0.707
Site, n (%)			
Right colon	16 (23.9)	13 (52.0)	
Left colon	31 (46.3)	10 (40.0)	
Rectum	20 (29.9)	2 (8.0)	0.015
CEA (µg/L), mean (SD)	50.4 (181.5)	78.1 (245.7)	0.591
Laparoscopic approach, n (%)	22 (46.8)	14 (60.9)	0.269
Conversion	3 (13.6)	1 (7.1)	0.546
Stoma creation, n (%)	21 (44.7)	7 (30.4)	0.253
Operation time (min), mean (SD)	187.2 (73.1)	212.2 (65.3)	0.169
Complications, n (%)			
UTI	4 (8.5)	0	0.150
Pneumonia	4 (8.5)	1 (4.4)	0.525
AMI	0	0	
CVA	3 (6.8)	0	0.200
DVT/PE	0	0	
SSI	5 (10.6)	3 (13.0)	0.766
OSI	3 (6.4)	1 (4.4)	0.730
Anastomotic leak	1 (2.1)	1 (4.4)	0.600
Reoperation	2 (4.3)	1 (4.4)	0.986
Clavien-Dindo ≥3	3 (6.4)	2 (8.7)	0.724
Outcomes, mean (SD)			
Time to diet	5.2 (8.8)	3.9 (1.9)	0.477
LOS, intensive care	0.9 (3.6)	0.4 (1.1)	0.529
LOS, total	10.7 (12.0)	8.3 (4.6)	0.352
TNM Stage, n (%)			
PCR	1 (1.9)	0	
1	4 (7.7)	3 (12.5)	
2	11 (21.2)	4 (16.7)	
3	18 (34.6)	14 (58.3)	
4	18 (34.6)	3 (12.5)	0.189
Histological findings, n (%)			
Grade			
Well	1 (2.4)	3 (13.0)	
Moderate	37 (88.1)	17 (73.9)	
Poor	4 (9.5)	3 (13.0)	0.194
Lymphovascular invasion	15 (34.9)	4 (17.4)	0.135
Perineural invasion	6 (14.0)	6 (26.1)	0.223
Extramural venous invasion	12 (27.9)	7 (30.4)	0.829
Clear margins	40 (93.2)	22 (95.7)	0.670
Lymph node, mean (SD)			
Positive	1.7 (2.5)	3.7 (6.1)	0.053
Total	18.2 (8.3)	20.9 (5.6)	0.161
Discharge disposition change, n (%)	6 (13.0)	5 (21.7)	0.352
30-day readmission, n (%)	4 (8.7)	1 (4.4)	0.511
30-day mortality, n (%)	2 (4.0)	0	0.331

an increase in delayed cancer presentations, while acknowledging that we are still early in the fight against this pandemic.

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