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Introduction

Prehabilitation programmes aim to optimise patients preoperatively to enhance post-operative recovery and outcome. Previous studies have demonstrated that prehabilitation can improve pre-operative fitness and can overcome the negative impact of neoadjuvant chemotherapy and chemoradiotherapy on fitness. The aim of this study was to assess the impact of prehabilitation on the tolerance of neoadjuvant chemotherapy in patients with gastric and oesophageal cancer.

Demographics	Prehabilitation group, n = 62	Non-prehabilitation group, n = 49	p-value
Female, n (%)	21 (25.9)	7 (13.0)	0.018 *
Mean age, years (SD)	67.02 (9.63)	66.27 (9.96)	0.77†
BMI, kg/m ² (SD) *	26.49 (4.96)	27.0 (5.45)	0.82†
ASA Class, n (%)*			0.37 *
I-II	53	25	
III-IV	9	7	
Karnofsky Score (SD)	94.88 (9.35)	99.39 (3.17)	0.003†
Cardiac Disease, n (%)	28 (45.1)	13 (26.5)	0.06 *
Respiratory Disease, n (%)	10 (16.1)	6 (12.2)	0.71 *
Tumor Location, n (%)			
Oesophagus	36 (58.1)	49 (100)	<0.001 *
GOJ	26 (41.9)	0 (0)	

Variables	Standard error	p-value	95% C.I.
sex	0.800	0.302	(0.476, 10.956)
Karnofsky score	0.064	0.740	(0.863, 1.110)
location	1.505	0.631	(0.025, 9.268)
Prehabilitacion	1.198	0.046	(1.044, 114.460)
Radiotherapy	1.022	0.385	(0.328, 18.013)

Methods

Patients with gastric or oesophageal or gastroesophageal junction (GOJ) cancer from two centres were compared; one provided a multimodal prehabilitation programme and one did not offer prehabilitation. Tolerance of chemotherapy was defined as completion of the chemotherapy

Endpoint*	Prehabilitation group, n=62	Non-prehabilitation group, n=49	p-value
Completed chemoradiotherapy, n (%)	58 (93.5)	36 (73.5)	0.003 *
Not-completed chemoradiotherapy, n (%)	3 (6.5)	12 (26.5)	

Results

111 patients were included in this study; 62 patients from the prehabilitation cohort and 49 in the control cohort. Compared with the control group, the prehabilitation group demonstrated improved rate of chemotherapy completion (p=0.02). On multivariate analysis, participation in prehabilitation and receiving radiotherapy was the only factor that was associated with improved rate of chemotherapy completion

Conclusion

Prehabilitation has previously been shown to negate the negative impact of neoadjuvant chemotherapy on pre-operative fitness. This study has shown that prehabilitation is also associated with better tolerance of chemotherapy. Further research is needed to establish the long-term impact of prehabilitation on oncological outcomes.



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