doi:10.1111/codi.15185

The impact of COVID-19 on advanced colorectal cancer

The COVID-19 pandemic has significantly impacted the delivery of surgical care in the United Kingdom despite efforts to maintain essential cancer care during this time. This has necessitated significant re-organisation in the way cancer care is delivered including the provision of 'cold' sites. This is truly unexplored territory and its duration and long term repercussions on our nation's critical care services remains unclear. It is a rapidly changing landscape with guidelines adapting as new evidence and considerations emerge.

In the United Kingdom 14 000 patients are diagnosed with rectal and rectosigmoid cancer annually [1]. Of these, approximately 10% of cancers are locally advanced at the time of presentation and require a beyond TME approach [2]. A further 5–10% of patients with rectal cancer develop local recurrence following surgery [2,3]. These two groups of patients are deemed to have a complex cancer.

Without surgical intervention, the survival of patients with local recurrence is extremely low. In a population study examining locally recurrent rectal cancers, Palmer *et al.* found no patients treated with systemic chemotherapy alone or best supportive care survived to 5 years. Accepting clear selection bias, 57% of patients treated with potentially curative resection were alive at 5 years [3]. Such outcomes are reaffirmed by collaborative data from the *PelvEx Collaborative* [4]. These survival advantages are potentially better than many other high resource gastrointestinal cancer resectional surgery, including oesophagectomy [5] and pancreaticoduodenectomy [6]. Morbidity remains significant: 30–40% of patients who have undergone exenteration suffer major complications, have a long hospital stay (median 17 days) and are more likely to be readmitted [7]. Such risks must be balanced with long term quality of life and the survival advantage from pelvic exenteration. It is suggested that by 2–9 months after surgery, quality of life returns to preoperative levels [8-10]. Though comparative data are fraught with biases, it appears that patients with locally advanced or recurrent rectal cancer who do not undergo surgery have a sustained decline in quality of life compared to those who undergo exenteration [8,11].

Pelvic exenterations are resource-intensive procedures with longer operating times involving multidisciplinary teams and a greater need for critical care support. These resource needs, alongside a perception of generally poorer outcomes, prompted early iterations of COVID-19-related guidance to recommend that such extended surgery should be de-prioritised and therefore deferred. Where holding therapies, for example chemotherapy, were not available, the initial recommendation was to consider only best supportive care and this broadly applied to the majority of cases. Guidelines have been amended to permit extended surgery in exceptional circumstances [12]. As outlined above, such perceptions of poor outcome are based on outdated data and are not borne out in modern exenterative surgery. It is essential during the recovery phase of the pandemic that complex cancer patients have access to potentially curative surgery.

The backlog of deferred cases and the probable continued clinical capacity issues will mean that we will have to prioritise between patients on the complex cancer waiting lists. Guidelines from the American College of Surgeons [13] and the Intercollegiate recommendations [14] are not nuanced enough to allow prioritisation between complex cancer patients. It is imperative that we seek consensus and guidance on how we can prioritise patients with complex cancer now and when faced with future challenges, be they COVID-19 related on not. It is important that such prioritization is transparent. This is necessary to demonstrate parity of care and to support clinicians medico-legally. Progression of patients beyond operability while waiting for surgery will have a profound lasting effect on our patients and their families. Indeed, it will also cause psychological harm, moral injury, issues of guilt as well as be detrimental to the morale of complex cancer teams. Prioritisation can inform the timing of proposed operations and how we can make best use of existing capability. It should not replace efforts to develop the necessary capacity to deliver care and minimise the number of patients that may come to harm due to delays.

Many clinical teams are not operating in the environment of their base hospital currently and that has highlighted many deficiencies. Institutional expertise and familiarity with complex cancer procedures must be maintained in any move to 'cold' site working as elective activity is restored to mitigate harm. Prioritisation should account for such human factors.

Patients with complex cancer are unwittingly becoming the collateral damage of the COVID-19 pandemic with treatment delays permitting disease progression beyond resectability. We should be reminded that these patients when considered for surgery are typically young with few comorbidities and without irresectable distant disease. As critical care capabilities move focus from COVID-19 to elective care, provision must be made for our patients who require pelvic exenteration surgery. It

is imperative that our complex cancer patients are neither abandoned now nor in future pandemics.

E. M. Burns, K. Boyle, A. Mirnezami, J. T. Jenkins and UK PEN (United Kingdom Pelvic Exenteration Network)
E-mail: elainemarieburns@hotmail.com

References

1 https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/bowel-cancer/incidence.
2 Beyond TME. Consensus statement on the multidisciplinary management of patients with recurrent and primary rectal cancer beyond total mesorectal excision planes. *Br J Surg* 2013; **100:** 1009–14.
3 Palmer G, Martling A, Cedermark B, Holm T. A population-based study on the management and outcome in patients with locally recurrent rectal cancer. *Ann Surg Oncol* 2007; **14:** 447–54.
4 PelvEx Collaborative. Surgical and survival outcomes following pelvic exenteration for locally advanced primary rectal cancer: results from an international collaboration. *Ann Surg* 2019; **269:** 315–21.
5 van Hagen P, Hulshof MC, van Lanschot JJ *et al.* Preoperative chemoradiotherapy for esophageal or junctional cancer. *N Engl J Med* 2012; **366:** 2074–84.
6 Kazanjian KK, Hines OJ, Duffy JP, Yoon DY, Cortina G, Reber HA. Improved survival following pancreaticoduodenectomy to treat adenocarcinoma of the pancreas: the influence of operative blood loss. *Arch Surg* 2008; **143:** 1166–71.
7 PelvEx Collaborative. Changing outcomes following pelvic exenteration for locally advanced and recurrent rectal cancer. *BJS Open* 2019; **3:** 516–20.
8 Young JM, Badgery-Parker T, Masya LM *et al.* Quality of life and other patient-reported outcomes following exenteration for pelvic malignancy. *Br J Surg* 2014; **101:** 277–87.
9 Steffens D, Solomon MJ, Young JM *et al.* Cohort study of long-term survival and quality of life following pelvic exenteration. *BJS Open* 2018; **2:** 328–35.
10 Quyn AJ, Austin KK, Young JM *et al.* Outcomes of pelvic exenteration for locally advanced primary rectal cancer: overall survival and quality of life. *Eur J Surg Oncol* 2016; **42:** 823–8.
11 Choy I, Young JM, Badgery-Parker T *et al.* Baseline quality of life predicts pelvic exenteration outcome. *ANZ J Surg* 2017; **87:** 935–9.
12 ACPGBI. Considerations for Multidisciplinary Management of Patients with Colorectal Cancer during the COVID- 19 Pandemic 2020. https://www.acpgbi.org.uk/content/uploads/2020/03/ACPGBI-statement-on-CRC-treatment-during-COVID-19-FINAL.pdf.
13 American College of Surgeons. Local resumption of elective surgery guidance 2020. https://www.facs.org/covid-19/clinical-guidance/resuming-elective-surgery.
14 Royal College of Surgeons of England. COVID-19: Good Practice for Surgeons and Surgical Teams 2020. https://www.rcseng.ac.uk/standards-and-research/standards-and-guidance/good-practice-guides/coronavirus/.