Caught in the crossfire: hepato-bilio-pancreatic cancer surgery in the midst of COVID-19

Health systems are under pressure to maintain treatment for patients with serious disease conditions whilst coping with an increased burden due to the COVID-19 pandemic. To ease demand, particularly on critical care and anaesthetic services, NHS Trusts suspended or reorganized the majority of elective surgery, including curative-intent cancer procedures[1,2].

Data on the indirect effects of COVID-19 upon non-infected hepato-bilio-pancreatic (HPB) cancer patients is yet to be reported, and the true impact that delayed cancer diagnoses and treatments may have on this population is still unknown[3].

We report the experience of Oxford HPB surgery Unit in the midst of the pandemic outbreak, from 1 March 2020 to 30 April 2020. During this period, 114 patients with a confirmed or suspected HPB cancer were referred to the Oxford multidisciplinary team (MDT). For 38 patients (33·3 per cent), surgery was deemed to be the optimal treatment strategy, but in 34·2 per cent of cases the preferred MDT recommendations were altered either due to an assumed increased risk to patients with a requirement for high-risk surgery or borderline patient performance status in the midst of COVID-19 pandemic, with a non-measureable impact on the expected survival. All surgery took place on a designated COVID-19-negative elective care hospital site. Patients were discussed at a newly convened Cancer Priorities Forum (CPF) that comprised of surgical and medical cancer specialists and medical ethic experts, before being offered surgery. All asymptomatic patients scheduled to have surgery, were required to have a nose/throat swab 48-72 hours preoperatively for SARS-CoV-2-RNA detection and a chest CT negative for COVID-19-related features on the day of the operation, in order to proceed to surgery. One patient out of 31 (3·2 per cent), despite being asymptomatic, tested SARS-CoV-2-RNA positive and therefore surgery was cancelled. All patients were informed of a yet to be determined additional morbidity and mortality risk, if they were to become infected with COVID-19 in the perioperative period. Of 30 patients who underwent surgery (*Table 1*), 6 (20 per cent) developed respiratory symptoms in the postoperative period and were immediately isolated and tested for COVID-19. All tested negative for COVID-19. After a median follow-up of 37 days (range 15-66), 1 patient (3·3 per cent) died 16 days after a liver resection for colorectal liver metastases, following discharge and readmission, due to intra-abdominal bleeding. No patient developed COVID-19 infection during follow-up.

Table 1 Characteristics of cancer patients undergoing surgery at Oxford HPB Surgery Unit from 1/3/2020 to 30/4/2020

	HPB patients population
Patient age (years), median (range)	64 (38-78)
Patient gender, F/M, *n* (%)	16 (53·3)/14 (46·7)
Main indication, *n* (%)	
CRLM	12 (40)
NET	6 (20)
Pancreatic adenocarcinoma	3 (10)
Duodenal/ampullary tumour	3 (10)
Bile ducts tumour	3 (10)
Others	2 (6·7)
Procedure, *n* (%)	
Pancreato-duodenectomy	6 (20)
Distal pancreatectomy	3 (10)
Major liver resection (≥3 segments)	2 (6·7)
Liver segmentectomy (1-2 segments)	11 (36·7)
Atypical liver resections	4 (13·3)
Duodenal resection	2 (6·7)
Cholecystectomy	2 (6·7)
Postoperative ITU admission, *n* (%)	2 (6·7)
Postoperative length of stay (days), median (range)*	5 (2-44)
Postoperative SARS-CoV-2 RNA test	7 (23·3)
Positive SARS-CoV-2 RNA test	0
Complications	5 (16·7)
Clavien-Dindo grade I-II	1 (3·3)
Clavien-Dindo grade III	3 (10)
Clavien-Dindo grade IV	0
Clavien-Dindo grade V	1 (3·3)
Total, *n*	30

HPB, hepato-bilio-pancreatic, CRLM, colorectal liver metastases, NET, neuroendocrine tumours, ITU, intensive therapy unit, *$n = 29$.

This case series is limited by small sample size and short follow-up. However, this experience supports the option of surgery for select HPB cancer patients during the COVID-19 pandemic[4]. The implementation of preoperative screening, the involvement of a CPF, as well as designated COVID-19-free operating/recovery areas, seem to enable patients to receive optimal treatment whilst ensuring their safety[5]. The risk of COVID-19 infection in the postoperative period could increase the morbidity and mortality risk, but this is a still an unquantifiable rate. The true impact of COVID-19 upon non-infected patients with life-threatening conditions such as cancer will only be fully appreciated over time. Healthcare systems should provide clear guidance on the prioritisation of treatments for COVID-19 alongside those for cancer depending upon availability of local resources, regional infection rates and prognosis.

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