






Secondary effects of the COVID-19 pandemic on surgical management of hepatopancreatobiliary malignancies in the Nordic capitals

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Dear Editor

The impact of the ongoing coronavirus disease 2019 (COVID-19) pandemic on the healthcare sector has been immense, including

cancellation of elective hepatopancreatobiliary (HPB) surgery for malignancy in some regions^{1–4}. Countries have chosen different strategies to tackle COVID-19, from authoritarian measures to looser, citizen-focused strategies (individual responsibility). The

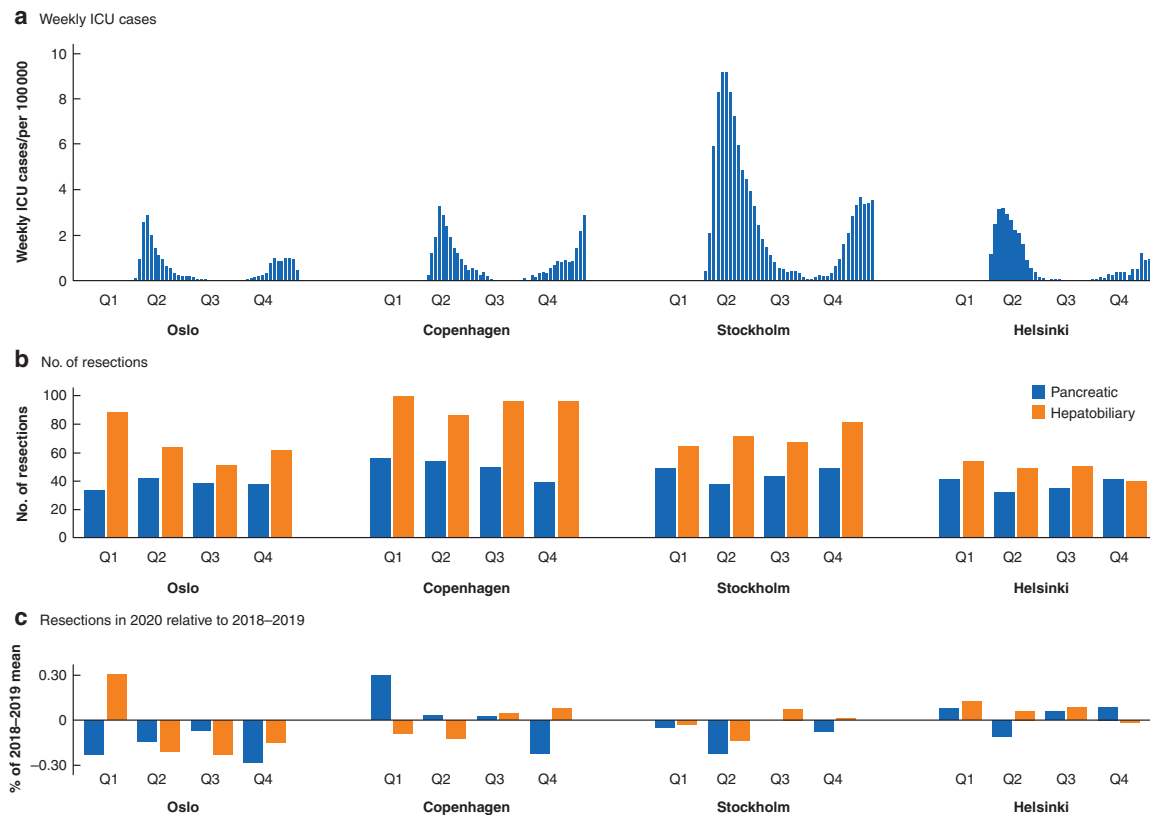


Fig. 1 Number of hepatopancreatobiliary resections relative to COVID-19 cases in the Nordic capitals,

a COVID-19 ICU load shown for quarters (Q) 1–4 in 2020 for each Nordic capital, **b** number of pancreatic and hepatobiliary resections in 2020, and **c** resections in 2020 relative to the mean for resections in 2018 and 2019.

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Nordic countries displayed this spectrum—from Finland's strict to Sweden's looser approach, and Denmark and Norway somewhere in between. Irrespective of prevailing strategy, a reluctance to seek medical attention during the pandemic may have delayed surgical resection. There are limited data on the effects of COVID-19 on HPB malignancy, so this retrospective study assessed surgical numbers for 2018–2020 in the Nordic capitals (Copenhagen, Oslo, Stockholm, and Helsinki).

Prepandemic and intrapandemic quarterly resection numbers are presented by region/capital and by time period. The commencement of the Nordic COVID-19 pandemic was arbitrarily set to the beginning of the second quarter of 2020. COVID-19-related ongoing ICU cases on a weekly basis were chosen as a marker of regional COVID-19 load. Statistical analyses were performed using the Mann–Whitney *U* test, with $P < 0.050$ considered significant.

The results are presented in Fig. 1, including 5565 HPB resections (2018–2020); there were 480 resections before and 447 resections quarterly per centre during the pandemic (–7.3 per cent; $P = 0.347$). A decline in resection numbers was present in all regions: Helsinki (–1.2 per cent), Stockholm (–3.4 per cent), Copenhagen (–4.7 per cent), and Oslo (–21.2 per cent; $P = 0.016$). All participating centres bear testimony to organizational flexibil-

ity, as recommended in *BJS*⁴, to maintain HPB surgery for malignancy¹.

Possible explanations for the fact that Oslo was affected most by the pandemic could be the reluctance of patients to seek medical attention, surgical decision-making, or hospital system plasticity issues.

Disclosure. The authors declare no conflict of interest.

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