

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active. Contents lists available at ScienceDirect

European Journal of Surgical Oncology

journal homepage: www.ejso.com



Global impact of COVID-19 pandemic on gastric cancer patients



Keywords: Gastric cancer Multidisciplinary management COVID-19 pandemic's first year

Gastric cancer is the 5th most common cancer worldwide and is one of the major causes of cancer related deaths [1]. The COVID-19 pandemic has significantly impacted the provision of cancer care [1]. The changes in health system capacity and healthcareseeking behaviour have lead to severe disruptions in healthcare delivery worldwide causing delayed diagnosis and treatment and, therefore, increasing the risk of adverse outcomes in cancer patients [1].

The Upper Gastrointestinal Surgical Society (TUGSS), through its Global Level of Harm Project (GLEOHUG) conducted a survey-based study with the participation of 145 centers from 50 countries around the world. This study showed that during the first year of the pandemic the management of gastric cancer patients was globally affected by decreasing the frequency of multidisciplinary team meetings (43,4%) and the number of elective gastrectomies (54,5%). Moreover, there was a higher clinical stage migration (29,0%), a higher metastatic disease rate (33,8%), an increased need of definitive palliative treatment (26,9%), patients' frailty (21,4%), waiting list times (52,4%), the number of urgent (26,9%) and palliative surgeries (16,6%), overall complication rates (16,6%), Clavien-Dindo 3 or higher complications (13,1%), leak rate (7,5%) and pulmonary infections (26,9%). Besides this, there was a high rate of postoperative COVID-19 infection (43,8%) and associated mortality (18,7%).

The COVID-19 pandemic has put cancer patients at risk of adverse outcomes due to delays in diagnosis and treatment [2]. Experienced multidisciplinary teams have had a critical role in tailoring management in order to ensure oncological outcomes and quality of life for these patients [1]. While in high-income countries gastric cancer surgical treatment could be safely delayed provided that neoadjuvant treatment (NAT) was administered [1], in low-mediumincome countries where patients could not receive neither NAT nor surgery, these delays could lead to increased recurrence rates and excess mortality [2]. Furthermore, those patients who underwent surgery were prone to have a decreased compliance with ERAS protocols, higher complication rates and mortality, especially those who underwent urgent procedures or developed postoperative COVID-19 infection. Additionally, the hospital work overload may have made rescue from postoperative complications difficult, increasing the severity of complications and the mortality rate [3].

One may think that the worst part of the COVID-19 pandemic and its effects were limited to its first year. However, in the case of cancer patients, the effects of the pandemic can go beyond its duration. A Canadian study [4] showed that cancer care disruptions would lead to an essential increase in cancer mortality with the highest excess expected for 2022. Therefore, it is extremely important that cancer pathways are strengthened and patients' prioritization improved in order to reduce avoidable deaths before future severe care disruptions emerge [3].

Acknowledgements

The authors of the present work would like to thank all participants in the survey for their efforts and commitment during the COVID-19 pandemic. Special thanks to Professor Kamal Mahawar and The Upper Gastrointestinal Surgical Society (TUGSS); Professor Domenico D'Ugo and the European Society of Surgical Oncology's (ESSO) Board of Directors; Dr. Andreas Brandl, Dr. Wim Ceelen, and the ESSO-European Young Surgeons and Alumni Club (EYSAC) Research Academy for their support and distribution of the survey.

References

- Wahed S, Chmelo J, Navidi M, et al. Delivering esophagogastric cancer care during the COVID-19 pandemic in the United Kingdom: a surgical perspective. Dis Esophagus 2020;33(9). https://doi.org/10.1093/dote/doaa091. doaa091.
- [2] Covidsurg Collaborative. Effect of COVID-19 pandemic lockdowns on planned cancer surgery for 15 tumour types in 61 countries: an international, prospective, cohort study. Lancet Oncol 2021 Nov;22(11):1507–17. https://doi.org/ 10.1016/S1470-245(21)00493-9. Epub 2021 Oct 5.
- [3] Osorio J, Madrazo Z, Videla S, et al. Analysis of outcomes of emergency general and gastrointestinal surgery during the COVID-19 pandemic.
- [4] Malagón T, Yong JHE, Tope P, et al. Predicted long-term Impact of COVID-19 pandemic-related care delays on cancer mortality in Canada. Int J Cancer 2022;150(8):1244–54.

Johnn Henry Herrera-Kok^{a,*}, Chetan Parmar^b, Ali H. Bangash^c, Elgun Samadov^d, Semra Demirli Atici^e, Chandra VN. Cheruvu^f, Mohamed Abouelazayem^g, Wah Yang^h, Michail Galanisⁱ, Francesco Di Maggio^j, Arda Isik^k, Samik Bandopyadaya^l, Yuripaiahgari KS. Viswanath^m

^a Complejo Asistencial Universitario de León, General and Digestive Surgery Department, León, Spain

^b Whittington Hospital, General Surgery Department, London, United Kingdom

^c STMU Shifa College of Medicine, General Surgery Department, Islamabad, Pakistan

^d Leyla Medical Center, General Surgery Department, Baky, Azerbaijan

https://doi.org/10.1016/j.ejso.2023.02.016

^{0748-7983/© 2023} Elsevier Ltd, BASO ~ The Association for Cancer Surgery, and the European Society of Surgical Oncology. All rights reserved.

^e University of Health Sciences Tepecik Training and Research Hospital, Department of General Surgery, Izmir, Turkey

^f University Hospital North Midlands-Keele University Medical School, General Surgery Department, Stoke on Trent, United Kingdom

^g Saint George's University Hospitals NHS Foundation Trust, General Surgery Department, London, United Kingdom

^h The First Affiliated Hospital of Jinan University, General Surgery Department, Guangzhou, China

ⁱ Department of Thoracic Surgery, Inselspital, Bern University Hospital, University of Bern, 3012 Bern, Switzerland

^j Croydon University Hospital, Department of General Surgery, London, United Kingdom European Journal of Surgical Oncology 49 (2023) 876-877

^k Istanbul Medeniyet University, General Surgery Department, Istanbul, Turkey

¹ Shrewsbury and Telford Hospital NHS Trust, General Surgery Department, Shrewsbury, United Kingdom

^m South Tees Hospitals NHS Foundation Trust-James Cook University Hospital, General Surgery Department, Cleveland, United Kingdom

^{*} Corresponding author. General and Digestive Surgery Department, University Hospital of León, Calle Altos de Nava s/n, 24008, León, Spain.

E-mail address: jherrerak@saludcastillayleon.es (J.H. Herrera-Kok).

22 February 2023 Available online 2 March 2023