



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.



CIRUGÍA ESPAÑOLA

www.elsevier.es/cirugia



Editorial

COVIDcystectomy or gallstones surgery during the pandemic[☆]



COVIDcistectomía o la cirugía de la litiasis biliar en tiempos de pandemia

The WHO declared a SARS-CoV-2 pandemic on 11 March 2020. Since then, 237 million cases have been reported worldwide, with almost 5 million deaths.¹

One of the first papers on the consequences of COVID-19 infection reported a mortality in infected surgical patients of 24%.² This sent a message of caution, reducing non-essential surgery which, together with the overloading of healthcare systems, resulted in a delay to interventions of all types; both elective and emergency surgery could be delayed. In our setting, gastrointestinal surgery was also associated with worse outcomes in patients infected with COVID-19, with higher morbidity and mortality, derived from the comorbidities of the patients themselves and the severity of their disease, rather than from the COVID-19 infection itself.³ All of the above led to delays in surgical interventions, further delays for patients with benign diseases, and even the care of urgent surgical diseases was affected.

Biliary disease is one of the most frequent conditions in digestive disease. Some 60,000 cholecystectomies are performed annually in Spain⁴ and 70,000 in the UK.⁵ Furthermore, biliary disease accounts for up to 30% of surgical emergencies in our specialty.⁶

Cholecystitis clearly reflects the impact of the pandemic on emergency surgical care. The survey published by Ielpo et al. in *CIRUGÍA ESPAÑOLA* on the initial phase of the pandemic showed that acute cholecystitis went from being a preferred indication for emergency surgery in the first 24–48 h, to being treated conservatively in up to 90%⁷; cholecystostomies also increased. It is known that this is associated with increased overall hospital stay for the procedure, as well as increased morbidity rate due to delayed surgery.⁸

In addition, reduced elective surgery lengthened waiting times for cholecystectomy, increasing the difficulty of cases and even, in our experience, the number of gallbladder “burn-outs” or gallbladders that practically self-destruct during the wait. Another problem in the increased incidence of difficulties is the rise in that of Mirizzi syndrome type II, which makes cholecystectomy more difficult.⁹

Not only has the delay in interventions increased the number of complex cases, but it has also increased the total number of patients waiting to undergo cholecystectomy, which in 2020 increased by 2078 patients compared to 2019, making a total of 18,087 patients. This figure accounts for 14% of our specialty’s total waiting list.¹⁰ The average waiting time for cholecystectomy also increased to 130 days in 2020 (30 days longer than in 2019).

As we can see, the effect of the pandemic has had two consequences to date: on the one hand, delays in surgical treatment, and on the other, more complex elective treatment. To this we can add a third consequence, which is the greater complexity in organising elective surgeries, requiring a negative PCR test, and even, as in the case of the United Kingdom, isolation prior to admission.

The organisation of surgical procedures has changed to a greater or lesser extent due to the COVID crisis. For example, in the UK, 3 different areas have been created in hospitals to separate risks: “High Risk” where patients are admitted who have not been classified or who have a positive PCR test, or COVID symptomatic patients awaiting the PCR result, and finally symptomatic patients who refuse to be tested. “Medium Risk” zones are those with asymptomatic patients awaiting PCR results, or asymptomatic patients who refuse

[☆] Please cite this article as: Martínez-Isla A, Martínez-Cecilia D. COVIDcistectomía o la cirugía de la litiasis biliar en tiempos de pandemia. *Cir Esp.* 2021. <https://doi.org/10.1016/j.ciresp.2021.11.004>

testing. Finally, there are “Low Risk” zones, which are COVID-free areas where all admitted patients have been previously tested by PCR, or have recovered from COVID (>14 days).¹¹

Patients with complicated biliary lithiasis, who present at the emergency department and therefore outside the COVID-free area, are as far as possible discharged and treated in the COVID-free hospital.

All the above considerations need to be taken into account, and perhaps even more so in patients with lithiasis in the main bile duct and gallbladder in situ, given the logistical implications of their treatment. Although these patients have traditionally been treated with ERCP and then laparoscopic cholecystectomy, there is growing interest in treating these patients in a single procedure with laparoscopic cholecystectomy and exploration of the bile duct. This approach, although recommended if available at the centre, is not yet widespread.

The benefits of this approach have probably been enhanced during the pandemic, as discharging patients with complicated lithiasis as early as possible not only optimises bed management, but also prevents in-hospital infections. This is in addition to the already known advantages of the one-stage approach, especially when performed via transcystic access.¹²

In our opinion, provided there is experience, the single-stage approach to choledocholithiasis with gallbladder in situ is superior to treatment by ERCP and subsequent cholecystectomy, given the reduction in cost and hospital stay,¹³ and the more than likely reduction in morbidity with improved efficiency,¹⁴ optimised with what we call “biliary surgery 2.0”.¹⁵

In our experience, the approach using cholecystectomy with cholangiography and exploration of the biliary tract, if necessary, helps patients with suspected choledocholithiasis to be treated preferentially in a COVID-free hospital by a team specialised in benign biliary surgery.

Specialisation always results in improved outcomes, and perhaps, as suggested by Professor Cotton (the gastroenterologist who pioneered ERCP), the debate should be opened as to whether cholecystectomy should be performed by general surgeons or by those with some specialisation,¹⁶ and complemented by regulated training, definitively extending the one-stage treatment of choledocholithiasis.

Finally, we propose the term COVIDcystectomy as the characteristics associated with the treatment of gallstone surgery in times of pandemic, from a technical and logistical perspective. This will allow us again to appreciate the advantages of the one-stage treatment of the biliary surgery 2.0 concept.

REFERENCES

- World Health Organization. [Accessed 12 October 2021] Available from: <https://covid19.who.int>.
- COVIDSurg Collaborative. Mortality and pulmonary complications in patients undergoing surgery with perioperative SARS-CoV-2 infection: an international cohort study. *Lancet*. 2020;396:27–38.
- Osorio J, Madrazo Z, Videla S, Sainz B, Rodríguez-González A, Campos A, et al. COVID-CIR Collaborative Group Members of the COVID-CIR Collaborative Group. Analysis of outcomes of emergency general and gastrointestinal surgery during the COVID-19 pandemic. *Br J Surg*. 2021;18.
- Registro de Actividad Sanitaria Especializada (RAE-CMBD) año 2018, Ministerio de Sanidad. [Accessed 12 October 2021]. Available from: https://www.msccs.gob.es/estadEstudios/estadisticas_cmbdhome.htm.
- The Sunflower Study. *bristoltrialscentre.blogs.bristol.ac.uk*. [Accessed 2 September 2021]. Available from: <https://sunflowerstudy.blogs.bristol.ac.uk/>.
- Association of Surgeons of GB and Ireland. Emergency General Surgery — The future: A Consensus Statement 2007. [Accessed 12 October 2021]. Available from: http://www.asgbi.org.uk/en/publications/consensus_statements.cfm.
- Ielpo B, Prieto M, Ortega I, Balibrea JM, Rubio-Pérez I, Juvany M, et al. National survey on the treatment of cholelithiasis in Spain during the initial period of the COVID-19 pandemic. *Cir Esp (Engl Ed)*. 2021;99:346–53.
- Gutt CN, Encke J, Köninger J, Harnoss JC, Weigand K, Kipfmüller K, et al. Acute cholecystitis: early versus delayed cholecystectomy, a multicenter randomized trial (ACDC study, NCT00447304). *Ann Surg*. 2013;258:385–93.
- Senra F, Navaratne L, Acosta A, Martínez-Isla A. Laparoscopic management of type II Mirizzi syndrome. *Surg Endosc*. 2020;34:2303–12.
- Sistema de Información de listas de espera del SNS (SISLE-SNS) RD 605/2003. Secretaría General de Salud Digital, Información e Innovación del SNS.- S.G. Información Sanitaria.
- COVID-19: Guidance for maintaining services within health and care settings. Infection prevention and control recommendations. Version 1.2. NHS. PHE publications gateway number: GOV-8505.
- Navaratne L, Al-Musawi J, Martínez Isla A. Comment on conventional surgical management of bile duct stones: a service model and outcomes of 1318 laparoscopic explorations no title. *Ann Surg*. 2021;274:e901–2.
- Bansal VK, Misra MC, Rajan K, Kilambi R, Kumar S, Krishna A, Kumar A, et al. Single-stage laparoscopic common bile duct exploration and cholecystectomy versus two-stage endoscopic stone extraction followed by laparoscopic cholecystectomy for patients with concomitant gallbladder stones and common bile duct stones: a randomized controlled trial. *Surg Endosc*. 2014;28:875–85.
- Pan L, Chen M, Ji L, Zheng L, Yan P, Fang J, et al. The safety and efficacy of laparoscopic common bile duct exploration combined with cholecystectomy for the management of cholecysto-choledocholithiasis: an up-to-date meta-analysis. *Ann Surg*. 2018;268:247–53.
- Martínez-Cecilia D, Navaratne L, Martínez Isla A. Biliary surgery 2.0. *Cir Esp (Engl Ed)*. 2020;98. 571L 573.
- Cotton P. Foreword in *Laparoscopic Bile Duct Exploration*. Isla & Navaratne Eds. Springer, London.

Alberto Martínez-Isla^{a,*}, David Martínez-Cecilia^b

^aDepartment of Upper GI Surgery, Northwick Park and St Mark's
Hospitals, London North West University Healthcare NHS Trust,
Londres, United Kingdom

^bUnidad de Cirugía Hepatobiliar, Complejo Hospitalario Universitario
de Toledo, Toledo, Spain

2173-5077/

Crown Copyright © 2021 Published by Elsevier España, S.L.U.
on behalf of AEC. All rights reserved.

*Corresponding author: alberto.isla@nhs.net (A. Martínez-Isla).