

Impact of SARS-CoV-2 on pancreas transplant activity: survey of international surgeons

World Pancreas Transplant Covid-19 Collaborative Group*

Correspondence to: Professor S. A. White, Department of Hepatopancreatobiliary and Transplant Surgery, Freeman Hospital, Newcastle upon Tyne, UK (e-mail: steven.white8@nhs.net)

*Members of the World Pancreas Transplant Covid-19 Collaborative Group are co-authors and may be found under the heading Collaborators

Dear Editor

The recent SARS-CoV-2 (COVID-19) pandemic has led to significant disruptions to healthcare delivery, including organ transplantation. In the UK, of 6136 patients on an active transplant list 3.8 per cent tested positive for COVID-19 and 11.0 per cent of these have died. Of 2084 transplants performed in the UK during 2020, 3.4 per cent of patients tested positive but only 0.5 per cent have died¹. Most would agree that, for certain groups, risk is higher whilst on a waiting list rather than after a successful transplant. We accept that figures may vary because of the frequency and density of testing. Although the impact of COVID-19 on liver^{2,3} and renal⁴ transplant activity is reported, it remains less clear for pancreas transplantation. Of 1757 simultaneous pancreas–kidney recipients in the UK with a functioning graft 23 (1.3 per cent) have developed COVID-19 and only five have died¹. An online survey covering key areas for pancreas transplant services was developed and disseminated via the World Pancreas Transplant Guidelines Group between May and July 2020.

A total of 28 respondents from 28 centres and 16 countries spanning four continents completed the online survey. One further respondent from the USA was unable to complete the questionnaire as during the COVID-19 pandemic his centre had temporarily ceased transplantation altogether. Most respondents were transplant surgeons (15, 54 per cent), followed by hepatobiliary, pancreatic and transplant surgeons (8, 29 per cent), and general surgeons (5, 18 per cent). The majority worked in an academic centre (26, 93 per cent), with 50 per cent having between 501 and 1000 hospital beds. Eleven of the 28 centres (39 per cent) had between 51 and 100 hospital ICU beds. Patients with COVID-19 were already in 25 (89 per cent) of all hospitals, with four centres (14 per cent) having more than 100 inpatients with COVID-19. The majority of centres were at CRITCON level 0, 'business as usual' (10 centres, 36 per cent), followed by CRITCON level 1, 'normal winter' (8 centres, 29 per cent), and CRITCON level 2, 'unprecedented' (7 centres, 25 per cent)⁵.

This survey highlights the significant reduction in pancreas transplant referrals, which was in excess of 75 per cent in nearly 40 per cent of the 28 centres. There had been a decrease in utilization of both donation after circulatory death (DCD) and donation after brain death (DBD) donors, from 46.4 to

7.1 per cent. In the UK during the months of March and April 2020, total organ retrievals were down by over 95 per cent. Both donors and recipients were screened for COVID-19, with 26 of the 28 centres (93 per cent) opting for polymerase chain reaction (PCR) swab testing, and nine centres (33 per cent) also using CT. For donors testing positive, 10 centres (36 per cent) never used the pancreas, and remaining 18 centres waited to use a donor pancreas either 14 days (1 centre, 4 per cent), 14–28 days (2 centres, 7 per cent), or more than 28 days (15 centres, 54 per cent) after a positive test. The median number of annual pancreas transplants performed in responding centres was 20 (range 2–70). There was a reduction in transplants between March and April 2020 compared with the same period during 2019, from a median of 4 (1–12) to 2 (0–8) respectively. The majority of centres (21, 75 per cent) were still performing pancreas transplants in their usual hospital theatre, but seven centres (25 per cent) performed transplants in the same hospital but a different theatre. Prioritization of patients was still based on waiting time and need for dialysis. After surgery, 16 (57 per cent) of the 28 centres sent transplant patients to a clean ICU, followed by transplant wards or suitable alternatives to ICU (7 centres, 25 per cent), or to a dirty/contaminated ICU (1 centre, 4 per cent).

With respect to induction therapy, there were reductions in standard-dose antithymocyte globulin (ATG) (from 18 (64 per cent) to 12 (43 per cent) of the 28 centres) and standard-dose alemtuzumab (from 6 (21 per cent) to 3 (11 per cent) centres), and an increase in dose-reduced ATG (from 4 (14 per cent) to 5 (18 per cent) centres) and basiliximab (from 4 (14 per cent) to 7 (25 per cent) centres). There were no changes to maintenance therapy, which largely included tacrolimus, mycophenolate mofetil, prednisolone and sirolimus.

Finally, of surgeons who tested positive for COVID-19, 29 per cent (8/28) were symptomatic and 61 per cent (17/28) were asymptomatic. Furthermore, 23 surgeons (82 per cent) were not redeployed but remained working either at home (4, 14 per cent), transferred to medical wards (2, 7 per cent) or HDU/ICU (1, 4 per cent), or into management (1, 4 per cent).

This international survey demonstrates a high level of variation in availability of pancreas transplant services during the COVID-19 pandemic. Given the fall in activity and the added risk

of COVID-19, waiting list mortality will inevitably increase. These data highlight the management challenges and practice variations in caring for these complex patients. Dissemination of data from this survey will improve our understanding of current international clinical practice during the pandemic. This study has identified the need for clear and consistent national or international recommendations to ensure a standard level of care for all patients awaiting pancreas transplant. Unfortunately, agreement on recommendations could prove challenging given the variation in how governments have decided to deal with the pandemic in their individual countries.

Collaborators

World Pancreas Transplant Covid-19 Collaborative group members: S. K. Kamarajah, H. Arbogast, T. Berney, U. Boggi, J. Branchereau, C. Socci, D. Casanova, M. Cooper, M. Drage, D. Elker, J. Ferrer, L. Furian, R. Gruessner, S. Harper, A. Kwiatkowski, T. Kenmochi, D. Manas, E. Morelon, J. Odorico, R. Oellinger, G. Oniscu, M. Perosa, F. Saudek, J. Scalea, P. Schenker, R. Stratta, F. Vistulo, P. Uva, S. A. White.

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