



The impact of COVID-19 pandemic on HPC donation and donors' availability: single center analysis

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BACKGROUND:

The COVID-19 pandemic had a huge impact on the health care system especially at the beginning, in 2020, forcing the centers involved in the collection and transplantation of HSC to react quickly to the changing recommendations and restrictions such as border closing, air traffic suspension, quarantine, donor testing.

In the wake of the COVID-19 pandemic all donor centers created precaution policies to protect both donors from the risk of acquiring SARS-CoV-2 during collection related activities, and recipients, to prevent viral transmission with the transplant.

DKMS regularly updated Confirmatory Typing (CT) and Workup (WU) procedures to protect donors against excessive exposure and infection with SARS-CoV-2. Donors with risk factors of severe COVID-19 (e.g. obesity, hypertension, asthma), as well as health care workers (doctors, nurses, paramedics) were excluded from the procedure due to the higher risk of infection and the potential shortage of medical staff in the face of a pandemic. Donors were tested for SARS-CoV-2 at PE and/or collection days.

KEY WORDS:

COVID-19 impact on donation, risk of SARS-CoV-2 transmission, risk of harm to donors in COVID-19 pandemics.

OBJECTIVES:

To analyze the impact of COVID-19 pandemic on donor availability at WU stage in 2020. To verify the risk of SARS-CoV-2 transmission via HPC product and the risk of harm to donor if positive at collection.

METHODS:

In 2020 DKMS Poland received 1691 WU requests (10% less than in 2019). 1233 collections were performed. 223 procedures were canceled by transplant centers. 236 WU procedures were closed for donor-related reasons (Graph 1). Those related to the COVID-19 pandemic were analyzed, dividing and coding them as follows:

- Medical reasons, including COVID-19 diagnosis at the WU and co-occurrence of medical risk factors of severe COVID-19.
- Non-medical reasons, including donors withdrawing due to fear related to the pandemic.

RESULTS:

Out of the 1468 WU requests 236 donors were unavailable (16%) (Graph 2). 90 procedures were closed for non-medical reasons (unable to contact, not interested, abroad, private reasons and COVID-19 related fear). Medical issues were the reason of deferral of 146 donors.

Among 236 unavailable donors 63 cases were COVID-19 related. Most of these were personal reasons: fear of pandemic (36) or health care workers blocked at the early stage of WU (3). 24 donors were blocked for COVID-19 related medical reasons such as quarantine (8), COVID-19 diagnosis (13), respiratory infections without conformation (2), risk factors of severe COVID-19 (1) (Graph 3).

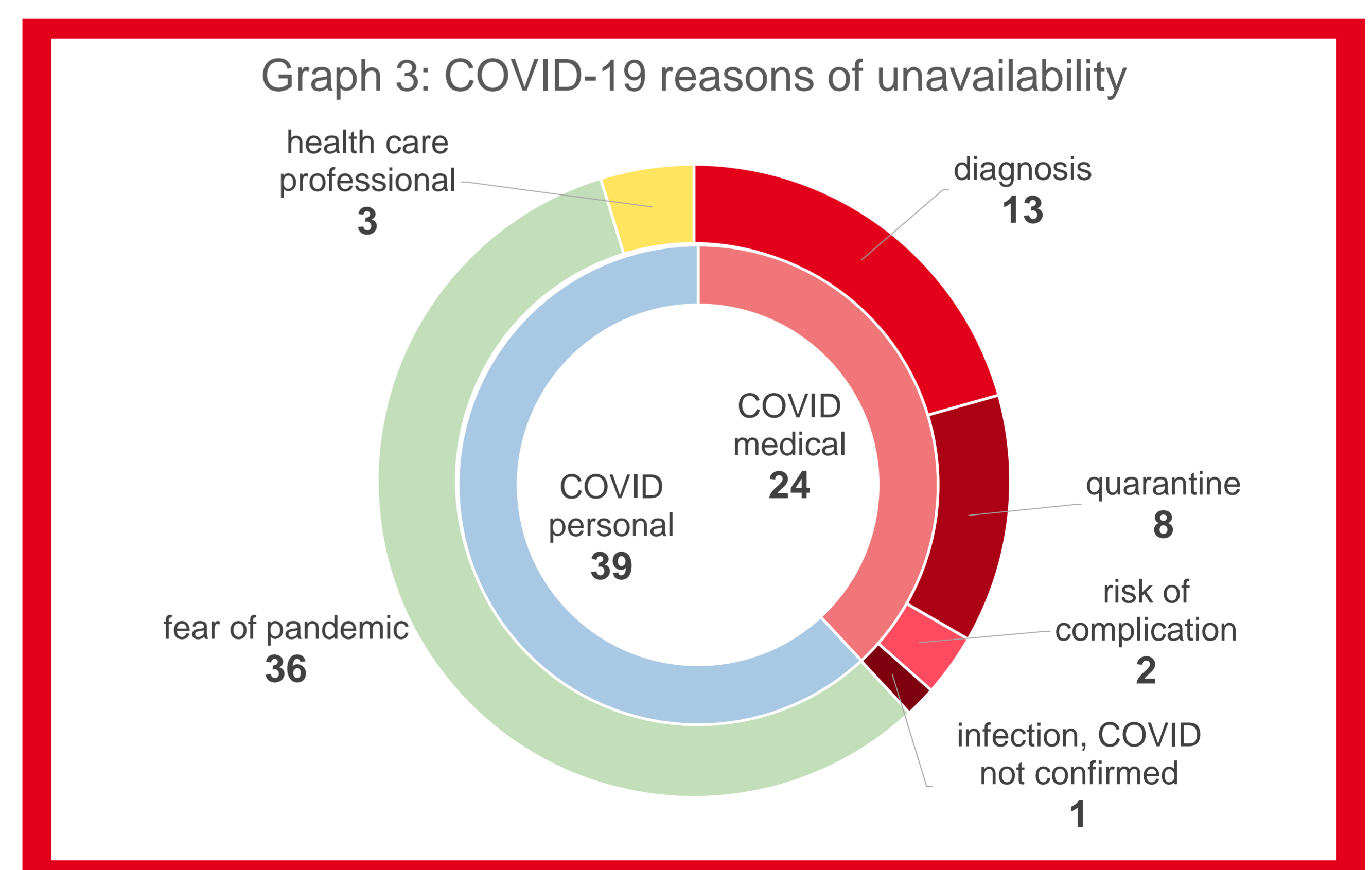
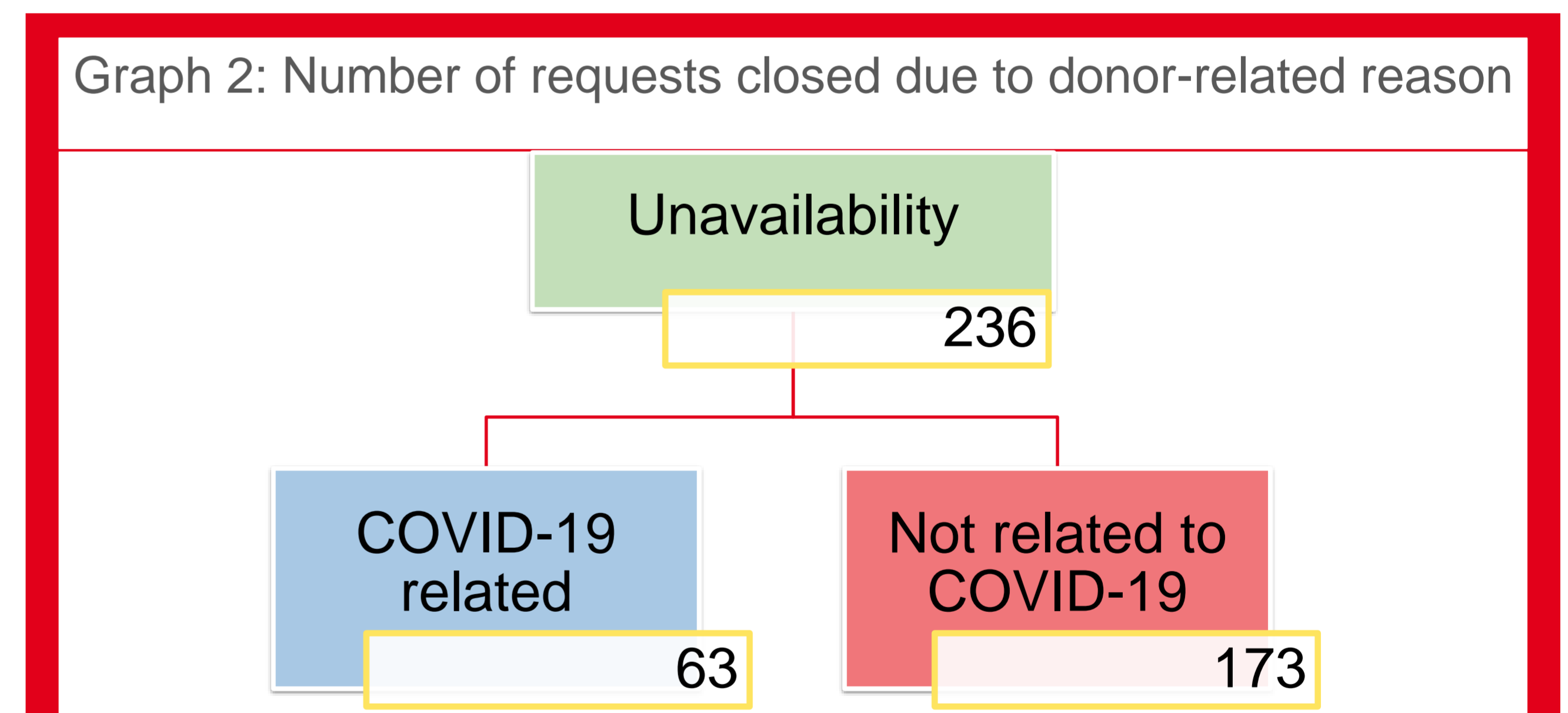
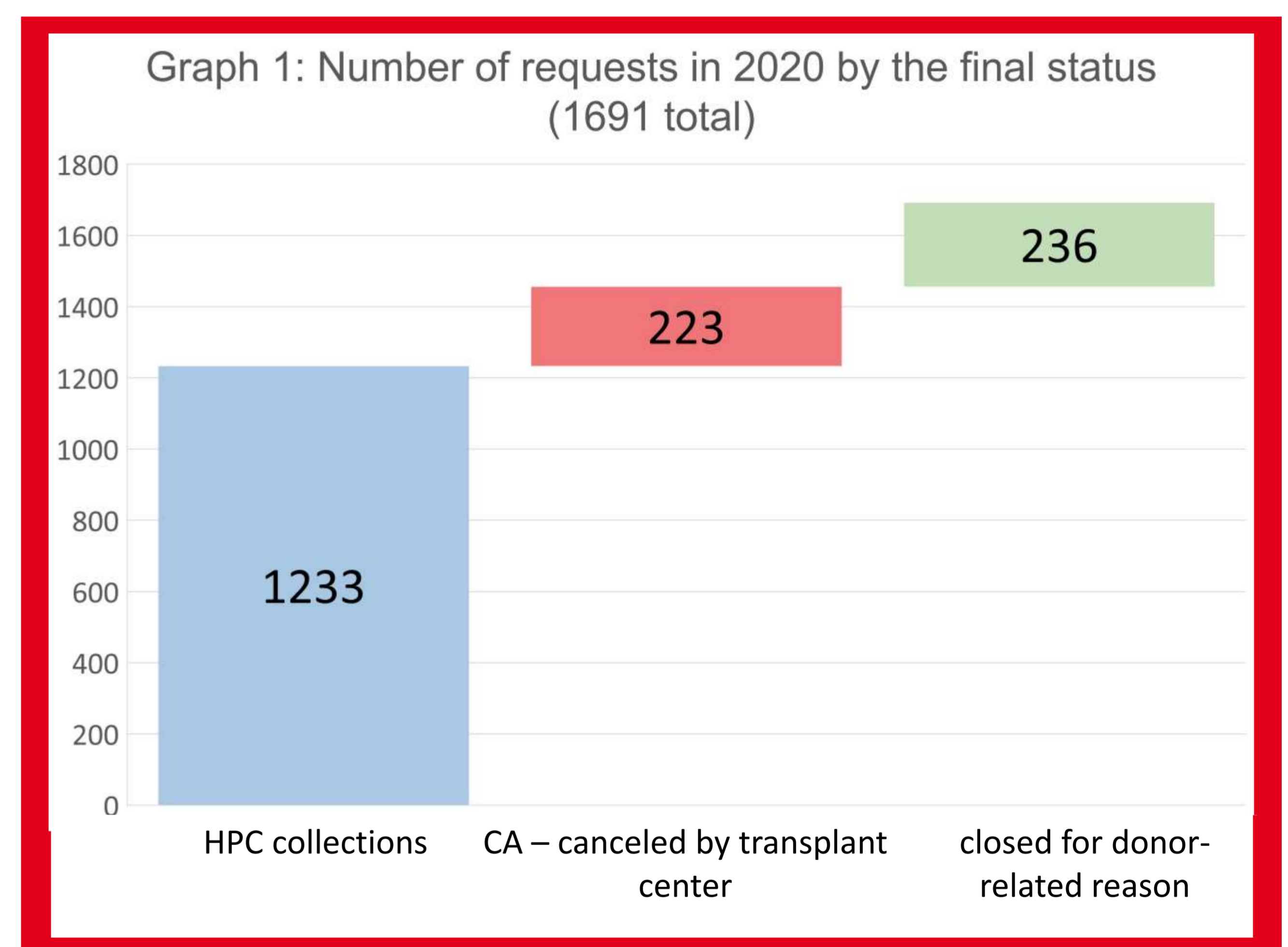
In spite of the precautions there were 3 donors, that tested positive for SARS-CoV-2 on collection day. In 2 cases the TC accepted the product, donors underwent collections without any adverse reactions and the cells were infused. The course of the COVID in those donors was mild. No viral transmission was reported after transplantation. In 1 case TC chose an alternative donor.

CONCLUSIONS:

- In 2020 COVID-19 was a substantial reason of donor unavailability: 27% of the total number of unavailable donors.
- The COVID-19 related donor unavailability was mainly due to personal reasons: 62% of COVID-19 related cases.
- We had 3 SARS CoV-2 positive donors on collection day. Two of those donors underwent apheresis with no adverse reactions and no viral transmission evidence to recipient.



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