Supplementary appendix 1.

Admissions because of non-COVID-19-related conditions.

Overall, 8 out of 58 patients (13.8%) were admitted because of non-COVID-19-related conditions, including: pychiatric conditions (n=4), social reasons (n=2), decompensated arrhythmia and acute appendicitis with peritonitis (one each).

Clinical description of Patient 1.

This was an 11-year-old boy with relapsing acute lymphocytic leukemia (initial diagnosis on September 2014) that underwent unsuccessful chimeric antigen receptor T-cell therapy (June 2016) and allogeneic stem-cell transplantation from an unrelated 9/10 matched donor (January 2019). Total chimera was observed. Main complications were chronic gut graft-versus-host disease, poor function engraftment, thrombotic microangiopathy, and hypertension. Treatment included steroids, mycophenolate mofetil and ruxolitinib, enalapril, omeprazole, monthly intravenous immunoglobulins, and prophylactic cotrimoxazole, acyclovir, ciprofloxacin, and voriconazole.

He was initially admitted because of low-grade fever with mild cough. Chest X-ray showed left lower lobe ground-glass opacities; SARS-CoV-2 RT-PCR in nasopharyngeal swab tested positive. Oxygen therapy, azythromycin, hydroxychloroquine, and intravenous ceftriaxone were initiated; enalapril was switched to amlodipine, and antiviral and antifungal prophylaxis were continued. Progressive clinical and radiological worsening consistent with acute respiratory distress syndrome was observed in the following days, together with increasing inflammatory parameters consistent with secondary hemophagocytic syndrome. Ceftriaxone was switched to meropenem and vancomycin because of persistent fever. The patient was put on non-invasive ventilation and then mechanical ventilation on days 7 and 11, respectively. Several immunomodulatory therapies were used including tocilizumab (day 7), siltuximab (day 10), high-dose steroids (days 11 to 13), and anakinra (from day 11 on), with partial transient response. From day 13 on, the patient developed progressive renal failure, diabetes, and haemodynamic instability. On day 17, he presented with pulmonary hemorrhage and died.

Clinical description of Patient 2.

This was a 17-year-old previously healthy boy admitted after a 5-day history of fever, cough, erythematous papular rash affecting the trunk and limbs, and a chest X-ray showing right upper lobe pneumonia (***Figure 1a***). SARS-CoV-2 RT-PCR in nasopharyngeal swab tested positive. Blood analysis at admission showed lymphopenia (800 /μL; normal values: 1,500-3,500 /μL) and elevated C-reactive protein (64 mg/L; <15 mg/L), ferritin (3,545 mg/mL; <300 mg/mL), lactate dehydrogenase (793 IU/L; <446 IU/L), and interleukin 6 (27 pg/mL; <5 pg/mL). Oxygen therapy, oral hydroxychloroquine and azithromycin, and intravenous ceftriaxone were implemented. On day 2 of admission, increasing need for oxygen, an increase in inflammatory markers, and radiological worsening were observed (***Figure 1b***); a single intravenous dose of tocilizumab was given. Ferritin (13,400 mg/mL) and interleukin 6 (247 pg/mL) levels peaked on day 3 and daily high-dose steroid bolus (3 days) was initiated. Thereafter, the patient steadily improved, and he was weaned off oxygen support on day 7. The patient was discharged on day 11. Ten days after discharge, lymphocyte count, lactate dehydrogenase, and C-reactive protein had normalized, but ferritin (337 mg/mL) had not; SARS-CoV-2 RT-PCR in nasopharyngeal swab was repeated and yielded a negative result.