1. Presentation - At presentation in hospital, out-patient clinic or dialysis center: patient characteristics

Record ID

_____

Before entering data: This database is only for patients
- That receive dialysis treatment or that are living with a kidney transplant
- That have a confirmed COVID-19 infection (by PCR or CT)

Please not:
- Fill in data for the moment patients presented themselves for testing for COVID-19
- After this first presentation patients can be admitted to hospital or be sent home.
In case of admission after initially being sent home, this is a second presentation.
This should be a separate entry using data at second presentation.
-Please enter only de-identified information below. Do not include your patients name, initials, date of birth or zip code. Thank you!

1. PRESENTATION - AT PRESENTATION IN HOSPITAL, OUT-PATIENT CLINIC OR DIALYSIS CENTER:
PATIENT CHARACTERISTICS

1.1 This eCRF concerns a patient:

◯ Receiving dialysis treatment, first presentation
◯ Living with a kidney transplant, first presentation
◯ Receiving dialysis treatment, second presentation
◯ Living with a kidney transplant, second presentation

Explanatory note:
In case patients present themselves for diagnostics and are positive, but are discharged home because they have mild disease, it can happen that they return some days later because of worsening disease. In that case, please fill in data at their first presentation, but also of data at their second presentation, using the respective option above.

1.2 Date of presentation (dd-mm-yyyy)

_____

1.3 Date of first symptoms (dd-mm-yyyy)

_____

1.4 Sex

◯ Female
◯ Male

1.5 Age (years)

_____
((years))

1.6 Race

◯ Asian
◯ Black or African descent
◯ White or Caucasian
◯ Other
◯ Unknown

1.7 Country

◯ Albania
◯ Andorra
◯ Austria
◯ Belarus
◯ Belgium
◯ Bosnia and Herzegovina
◯ Bulgaria
◯ Croatia
◯ Czech Republique (Czechia)
◯ Denmark
◯ Estonia
◯ Finland
◯ France
◯ Germany
◯ Greece
◯ Holy see
◯ Hungary
◯ Iceland
◯ Ireland
◯ Italy
◯ Latvia
◯ Liechtenstein
◯ Lithuania
◯ Luxembourg
◯ Malta
◯ Moldova
◯ Monaco
◯ Montenegro
◯ Netherlands
◯ North Macedonia
◯ Norway
◯ Poland
◯ Portugal
◯ Romania
◯ Russia
◯ San Marino
◯ Serbia
◯ Slovakia
◯ Slovenia
◯ Spain
◯ Sweden
◯ Switzerland
◯ Ukraine
◯ United Kingdom

1.8 Risk factors

☐ Hypertension (RR>140/90 or antihypertensive drugs)
☐ Diabetes Mellitus
☐ Coronary Artery Disease
☐ Heart failure
☐ Chronic lung disease
☐ Active malignancy
☐ Auto-immune disease

1.9 Tobacco use

◯ Current
◯ Prior
◯ Never
◯ Unknown

1.10 Body weigt (kg)

(In case of dialysis, post-dialysis weight)

_____
((kg))

1.11 Length (cm)

_____
((cm))

1.12 Use of ACE inhibitor ◯ Yes ◯ No ◯ Unknown

1.13 Use of Angiotensin Receptor Blocker ◯ Yes ◯ No ◯ Unknown

1.14 Identifier of KRT registry

Name of preferred registry: Eurotransplant
Please fill in the Eurotransplant identifier: _____

1.14.1 Patient identifier

_____

1.15 Year of start any form of kidney replacement therapy (yyyy)

_____
((yyyy))

(Unknown year of start any form of kidney replacement therapy) ☐ Unknown

1.16 Year of last transplantation (yyyy)

_____
((yyyy))

(Unknown year of last transplantation) ☐ Unknown

1.17 Use of immunosuppressive therapy at presentation

	Yes	No	Unknown
Prednisone	◯	◯	◯
Tacrolimus	◯	◯	◯
Cyclosporine	◯	◯	◯
Mycophenolate	◯	◯	◯
mTOR inhibitor (sirolimus, everolimus)	◯	◯	◯
Azathioprine	◯	◯	◯
Belatacept	◯	◯	◯
Anti TNF A	◯	◯	◯
Rituximab	◯	◯	◯
Cyclosphamide	◯	◯	◯
Other	◯	◯	◯

Specify other immunosuppressive therapy at presentation _____

1.18 Did the patient receive any of the following medications within 6 months prior to illness onset

◯ Yes ◯ No

	Yes	No	Unknown
Polyclonal antilymphocyte antibodies (ATG, rATG, hATG, thymoglobulin)	◯	◯	◯
Alemtuzumab	◯	◯	◯
Basiliximab	◯	◯	◯
Rituximab	◯	◯	◯
High dose steroids	◯	◯	◯
Other	◯	◯	◯

Specify other medication within 3 months prior to illness onset

_____

1.19 Identifier of national KRT registry - Name of registry

◯ Eurotransplant number
◯ National other registration number
◯ Patient's unique hospital code

1.19.1 Patient identifier

_____

1.20 Type of dialysis

◯ Hemodialysis
◯ Peritoneal dialysis

Which type of Hemodialysis

◯ In-center hemodialysis
◯ Home hemodialysis

1.21 Year of start any form of kidney replacement therapy (yyyy)

_____
((yyyy))

(unknown year of start any form of kidney replacement therapy)

☐ Unknown

1.22 Previous kidney transplantation

◯ Yes ◯ No

Year of most recent kidney transplantation (yyyy)

_____
((yyyy))

(Unknown year of most recent kidney transplantation)

☐ Unknown

1.23 Year of start present form of dialysis (yyyy)

_____
((yyyy))

(Unknown year of start present form of dialysis)

☐ Unknown

1.24 Use of immunosuppressive therapy at presentation ◯ Yes ◯ No

	Yes	No	Unknown
Prednisone	◯	◯	◯
Tacrolimus	◯	◯	◯
Cyclosporine	◯	◯	◯
Mycophenolate	◯	◯	◯
mTOR inhibitor (sirolimus, everolimus)	◯	◯	◯
Azathioprine	◯	◯	◯
Belatacept	◯	◯	◯
Anti TNF A	◯	◯	◯
Rituximab	◯	◯	◯
Cyclosphamide	◯	◯	◯
Other	◯	◯	◯

Specify other immunosuppressive therapy at presentation _____

1.25 Primary kidney disease

Please select ERA-EDTA code from the dropdown list OR fill in specification field for Primary kidney disease (not both).

ERA-EDTA-code

◯ Primary glomerulonephritis
◯ Pyelonephritis ◯ Interstitial nephritis
◯ Familial/hereditary renal diseases
◯ Congenital diseases ◯ Vascular diseases
◯ Secondary glomerular/systemic disease
◯ Miscellaneous

Specify primary kidney disease _____

1.26 Status of preparation for renal transplantation

◯ Active on waiting list
◯ Temporarily not on waiting list (due to problems present before COVID-19 period)
◯ In preparation for placement on waiting list
◯ Not transplantable (already before COVID-19 period)
◯ Unknown

1.27 Residual diuresis > +/- 200 ml/day ◯ Yes ◯ No ◯ Unknown

2. Presentation - At Presentation in hospital, COVID-19 related characteristics

2.1 Symptoms at presentation

	Yes	No	Unknown
Sore throat	◯	◯	◯
Cough	◯	◯	◯
Shortness of breath	◯	◯	◯
Fever	◯	◯	◯
Headache	◯	◯	◯
Nausea or vomiting	◯	◯	◯
Diarrhea	◯	◯	◯
Myalgia or arthralgia	◯	◯	◯

2.2 Temperature at presentation (Celsius)

_____
((Celsius) (use decimal point instead of comma))

2.3 Respiration rate at presentation (/min)

_____
((/min))

2.4 Oxygen saturation with room air (%)

_____
((%))

2.5 COVID test result

◯ Positive
◯ Negative
◯ Indeterminate
◯ Unknown

2.6 Abnormalities on chest X-ray suggestive for COVID-19

◯ Yes ◯ No ◯ No chest X-ray performed

2.7 Abnormalities on CT-scan suggestive for COVID-19

◯ Yes ◯ No ◯ No CT-scan performed

2.8 Organs affected other than airways at presentation

2.8.1 Liver (transaminases > 2 times the upper limit of normal)

◯ Yes ◯ No ◯ Unknown

2.8.2 Heart (signs of congestive heart failure/new abnormalities on ECG)

◯ Yes ◯ No ◯ Unknown

2.8.3 Kidney (>25% increase in creatinine compared to situation before COVID presentation)

◯ Yes ◯ No ◯ Unknown

Lab results at presentation, or first available after that encounter

2.9.1 Lymphocyte count - Value	_____
2.9.2 Lymphocyte count - Unit	◯ x1000/microL ◯ 109/L ◯ Other unit
2.9.3 Lymphocyte count - Other unit	_____
2.10.1 Creatinine - Value	_____
2.10.2 Creatinine - Unit	◯ micromol/L ◯ mg/dL ◯ Other unit
2.10.3 Creatinine - Other unit	_____
2.11.1 CRP - Value	_____
2.11.2 CRP - Unit	◯ mg/L ◯ mg/dL ◯ Other unit
2.11.3 CRP - Other unit	_____

3. Follow-up - Follow-up data

Follow-up data	
3.1 Hospital admission	◯ Yes ◯ No
3.1.1 Date of hospital admission (dd-mm-yyyy)	_____
3.1.2 Was this because there were restrictions for admission in your hospital for logistical reasons related to the COVID-19 pandemic?	◯ Yes ◯ No
3.2 ICU admission	◯ Yes ◯ No
3.2.1 Date of ICU admission (dd-mm-yyyy)	_____
3.2.2 Was this because there were restrictions for admission to ICU in your hospital for logistical reasons related to the COVID-19 pandemic?	◯ Yes ◯ No
3.3 Intubation	◯ Yes ◯ No
3.3.1 Date of intubation (dd-mm-yyyy)	_____
3.3.2 Was this because there were restrictions in possibilities for ventilator support in your hospital for logistical reasons related to the COVID-19 pandemic?	◯ Yes ◯ No
3.4 Start of CVVH/Hemodialysis	◯ Yes ◯ No
3.4.1 Date of start CVVH/Hemodialysis (dd-mm-yyyy)	_____
3.4.2 Was this because there were restrictions for start of kidney replacement therapy in your hospital for logistical reasons related to the COVID-19 pandemic?	◯ Yes ◯ No
3.5 Antiviral therapy	◯ Yes ◯ No

	Yes	No	Unknown
Hydroxyl(chloroquine)	◯	◯	◯
Lopinavir/ritonavir	◯	◯	◯
Remdesevir	◯	◯	◯
Interferon	◯	◯	◯
Other	◯	◯	◯

3.5.1 Specify other antiviral therapy _____

3.6 Anti-inflammatory therapy ◯ Yes ◯ No

	Yes	No	Unknown
Tocilizumab	◯	◯	◯
Anakinra	◯	◯	◯
High dose steroids	◯	◯	◯
Other	◯	◯	◯

3.6.1 Specify other anti-inflammatory therapy _____

3.7 ACE-inhibitor
◯ Continued
◯ Discontinued
◯ Replaced by ARB

3.8 Angiotensin Receptor Blocker
◯ Continued
◯ Discontinued

3.9 Organs affected other than airways during Follow-up

3.9.1 Liver (transaminases > 2 times the upper limit of normal) ◯ Yes ◯ No ◯ Unknown

3.9.2 Heart (signs of congestive heart failure/new abnormalities on ECG) ◯ Yes ◯ No ◯ Unknown

3.9.3 Kidney (>25% increase in creatinine compared to situation before COVID presentation) ◯ Yes ◯ No ◯ Unknown

3.10 Change in dose of tacrolimus < 48h after presentation
◯ No change ◯ Reduction
◯ Withdrawal

3.11 Change in dose of cyclosporine < 48h after presentation
◯ No change ◯ Reduction
◯ Withdrawal

3.12 Change in dose of mycophenolate < 48h after presentation
◯ No change ◯ Reduction
◯ Withdrawal

3.13 Change in dose of azathioprine < 48h after presentation
◯ No change ◯ Reduction
◯ Withdrawal

3.14 Change in dose of mTor inhibitor < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.15 Change in dose of Belatacept < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.16 Change in dose of Prednisone < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.17 Change in dose of Anti TNF A < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.18 Change in dose of Rituximab < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.19 Change in dose of Cyclosphamide < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.20 Change in dose of Other immunosuppressive therapy (filled in at presentation) at follow-up < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.21 Other adjustment of immunosuppressive therapy	_____
3.22 Any additional remarks	_____
3.23 Change in dose of tacrolimus < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.24 Change in dose of cyclosporine < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.25 Change in dose of mycophenolate < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.26 Change in dose of azathioprine < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.27 Change in dose of mTor inhibitor < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.28 Change in dose of Belatacept < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.29 Change in dose of Prednisone < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.30 Change in dose of Anti TNF A < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal

3.31 Change in dose of Rituximab < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.32 Change in dose of Cyclosphamide < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.33 Change in dose of Other immunosuppressive therapy (filled in at presentation) at follow-up < 48h after presentation	◯ No change ◯ Reduction ◯ Withdrawal
3.34 Other adjustment of immunosuppressive therapy	_____
3.35 Any additional remarks	_____

4. Outcome - Outcome measures

At hospital discharge	
4.1 Vital status at hospital discharge	◯ Alive ◯ Deceased ◯ Lost to follow-up
4.1.1 Specify Alive	◯ Transferred to other hospital ◯ Transferred to a nursing home ◯ Discharge to home
4.1.2 Date of death (dd-mm-yyyy)	_____
4.1.3 Cause of death COVID-19 related	◯ Yes ◯ No

4.1.4 Cause of death according ERA-EDTA code	◯ Cause of death uncertain / not determined 0 ◯ Myocardial ischaemia and infarction 11 ◯ Hyperkalaemia 12 ◯ Haemorrhagic pericarditis 13 ◯ Other causes of cardiac failure 14 ◯ Cardiac arrest / sudden death; other cause or unknow 15 ◯ Hypertensive cardiac failure 16 ◯ Hypokalaemia 17 ◯ Fluid overload / pulmonary oedema 18 18 ◯ Pulmonary embolus 21 ◯ Cerebro vascular accident, other cause or unspecified 22 ◯ Gastro-intestinal haemorrhage 23 ◯ Haemorrhage from graft site 24 ◯ Haemorrhage from vascular access or dialysis circuit 25 ◯ Haemorrhage from ruptured vascular aneurysm (not 22 or 23) 26 ◯ Haemorrhage from surgery (not 23, 24 or 26) 27 ◯ Other haemorrhage (not 23-27) 28 ◯ Mesenteric infarction 29 ◯ Pulmonary infection (bacterial - not code 73) 31 ◯ Pulmonary infection (viral) 32 ◯ Pulmonary infection (fungal or protozoal; parasitic) 33 ◯ Infection elsewhere except virus hepatitis 34 ◯ Septicaemia 35 35 ◯ Tubercolosis (lung) 36 36 ◯ Tubercolosis (elsewhere) 37 37 ◯ Generalized viral infection 38 38 ◯ Peritonitis (all causes except for peritoneal dialysis) 39 39 ◯ Liver disease due to hepatitis B virus 41 ◯ Liver disease due to other viral hepatitis 42 ◯ Liver disease due to drug toxicity 43 ◯ Cirrhosis - not viral 44 ◯ Cystic liver disease 45 ◯ Liver failure - cause unknown 46 ◯ Patient refused further treatment for ESRF 51 ◯ Suicide 52 ◯ ESRF treatment ceased for any other reason 53 ◯ ESRF treatment withdrawn for medical reasons 54 ◯ Pancreatitis 62 ◯ Bone marrow depression 63 ◯ Cachexia 64 ◯ Malignant disease, possibly induced by immunosuppressive therapy 66 ◯ Malignant disease: solid tumors except those of 67 ◯ Malignant disease: lymphoproliferative disorders except those of 68 ◯ Dementia 69 ◯ Peritonitis (sclerosing, with peritoneal dialysis) 70 ◯ Perforation of peptic ulcer 71 71 ◯ Perforation of colon 72 ◯ Chronic obstructive airways disease 73 ◯ Accident related to ESRF treatment (not 25) 81 ◯ Accident unrelated to ESRF treatment 82 ◯ Peritonitis (bacterial, with peritoneal dialysis) 100 ◯ Peritonitis (fungal, with peritoneal dialysis) 101 ◯ Peritonitis (due to other cause, with peritoneal dialysis) 102 ◯ Other identified cause of death 99
4.1.5 Date lost to follow-up (if applicable) (dd-mm-yyyy)	_____

4.1.6 Reason for lost to follow-up	_____
4.1.7 Date of detubation (if applicable) (dd-mm-yyyy)	_____
4.1.8 Date of last CVVH/Hemodialysis (if applicable) (dd-mm-yyyy)	_____
4.1.9 Reason to stop CVVH/Hemodialysis	◯ Recovery of kidney function ◯ Infaust prognosis
4.1.10 Date of discharge from ICU (if applicable) (dd-mm-yyyy)	_____
4.1.11 Date of discharge from hospital (if applicable) (dd-mm-yyyy)	_____