glucose tolerance test was performed on five overweight patients, four of them showed insulin resistance and were treated with metformin.
CONCLUSION: Even with normal BMI, ADPKD children displayed a high index of insulin resistance. Further clinical studies are needed to determine whether ADPKD could be an additional risk factor for insulin resistance.

MO1038 HAEMATOLOGIC FACTORS ASSOCIATED WITH FAVOURABLE LONG-TERM OUTCOMES IN PAEDIATRIC PATIENTS WITH CHRONIC KIDNEY DISEASE ON MAINTENANCE HAEMODIALYSIS

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BACKGROUND AND AIMS: In children with chronic kidney disease (CKD), anaemia is defined as haemoglobin (Hb) <11–13.0 g/dL, depending on the patient's age and gender. Previous exploratory machine learning in a subpopulation of CKD-5 patients suggested an increased mortality risk with Hb < 10.5 g/dL and increased red blood cell distribution width (RDW) >15%. The objective was to evaluate such associations in a traditional time-to-event analysis in a larger population.
METHOD: Retrospective analysis of a cohort of patients < 30 years of age who started chronic haemodialysis (HD) in childhood (≤19 years) and received thrice-weekly HD (2004–2016) in outpatient DaVita centres. Survival at 5 years while remaining on HD was investigated by non-parametric analysis (Kaplan–Meier) stratified by terciles of mean individual Hb and RDW, respectively. A sensitivity analysis was carried out for different subpopulations (<6y/6y–12y/>12y at the initiation of HD).
RESULTS: A total of 493 patients were included with Hb and RDW terciles of < 10.7/10.7–11.5/>11.5 g/dL and < 14.6/14.6–15.7/>15.7%, respectively. Age at initiation of HD was < 6 years: $n = 66$, 6–12 years: $n = 173$, >12 years: $n = 1254$. Both Hb and RDW terciles showed strong associations with survival distributions ($P < .001$ for both, log-rank test). Estimated 5-year survival [95%confidence interval (95%CI)] by Hb terciles was 85.1% (81.1–89.3%) (Hb < 10.7 g/dL) versus 94.9% (92.5–97.4%) (>10.7–11.5 g/dL) and 93.8% (90.8–97.0%) (>11.5 g/dL) and for RDW 98.6% (97.1–100%) (<14.6%) versus 94.1% (91.3–96.9%) (14.6–15.7%) and 84.2% (80.1–88.6%) (>15.7%). Sensitivity analyses confirmed significant associations in patients > 12 years ($P < .001$ for both Hb/RDW) and for RDW in 6–12 years patients ($P = .03$ versus $P = .14$ for Hb).
CONCLUSION: This analysis confirmed strong associations between haematologic factors and survival in our population. Clinical utility of RDW in HD management and its physiological interpretation such as the importance of specific anaemia forms, or treatment-induced RDW increase in patients requiring more intense treatment remains to be investigated, with potential impacts on existing guidelines for prescribing iron and epoetin therapy. Further studies will also include the time variation trajectories of Hb and RDW.

MO1039 1-YEAR FOLLOW-UP DATA OF ARTERIAL ABNORMALITIES IDENTIFIED IN KIDNEYS TRANSPLANTED INTO CHILDREN DURING THE FIRST COVID-19 PANDEMIC WAVE

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BACKGROUND AND AIMS: Graft artery stenosis can have a significant short- and long-term negative impact on kidney graft function. We previously reported an unusual number of graft-arterial anomalies following kidney transplantation (KTx) in children during the first coronavirus disease (COVID-19) pandemic wave (Berteloot *et al.*) [1]. We report herein the 1-year follow-up of these patients.
METHOD: In this retrospective study, we included all children who received a KTx at our centre from February to July 2020. We compared their outcome to that of paediatric recipients who were transplanted at our centre from 2015 to 2019 and presented an allograft vascular complication ('Historic' group) by querying our local data warehouse.
RESULTS: Among the 9 children who received a KTx at our centre between February and July 2020 [8 boys, median age 10 years (3–17)], 8 presented Doppler features suggesting arterial stenosis, with an unusual extensive pattern (Figure 1) after a median delay of 13 days (8–113). For comparison, persistent spectral Doppler arterial anomalies were observed in only 5% of children following KTx at our centre over the previous 5-year period and were all focal anastomotic stenoses. In addition, five children had lymphoceles, which required surgical management as compared to only one patient in the 5 previous years (1%). We retrospectively diagnosed severe acute respiratory syndrome coronavirus 2 (SARS-CoV-20 infection in 6/8 children with arterial stenosis on serologies performed at D0, including one boy with a history of positive real time reverse transcription-polymerase chain reaction (RT-PCR) 120 days before KTx. None of the patients had reported any symptom suggestive of COVID-19. The remaining two patients had received a graft from an asymptomatic deceased adolescent donor with a positive serology at D0. These data led us to suspect immune post-viral graft vasculitis, triggered by SARS-CoV-2.

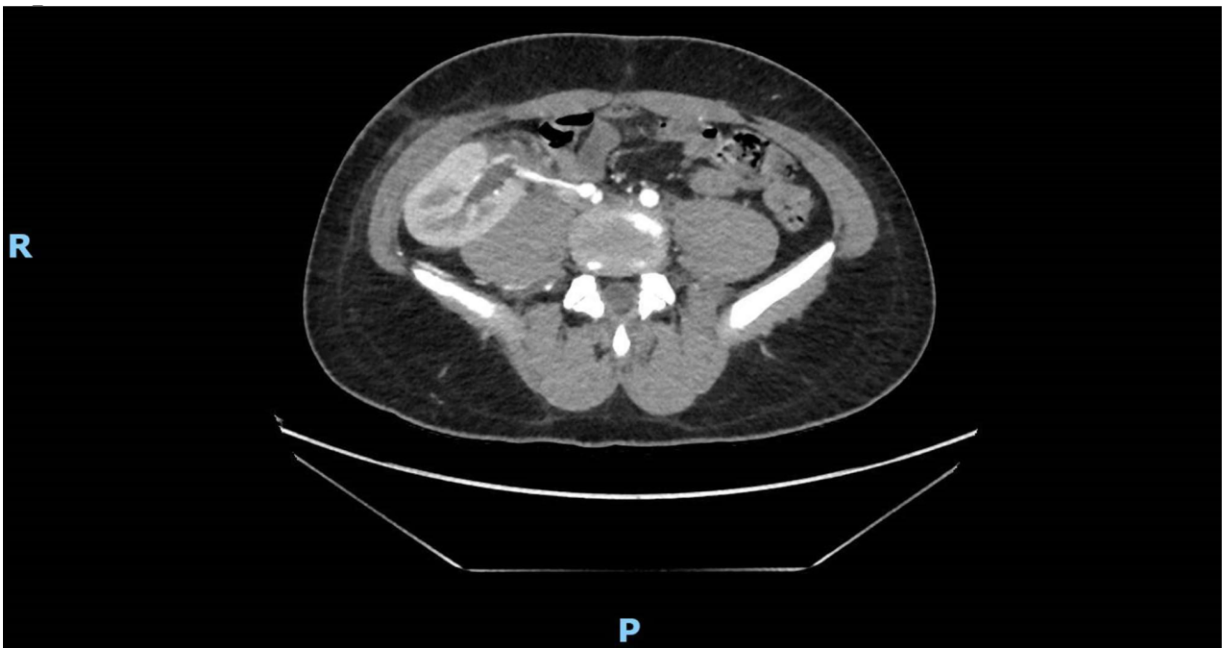

FIGURE 1: Angio-CT scan of a KTx recipient showing an atypical extensive stenosis, with a diffuse, thin and irregular appearance of the graft artery.

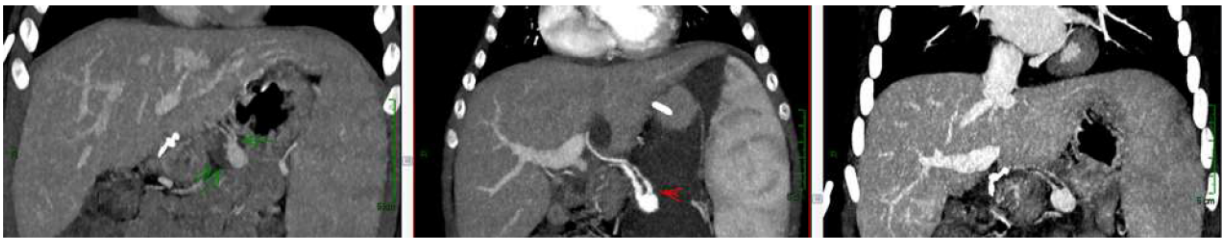

FIGURE 2: Angio-CT scan of the liver-kidney graft recipient showing an atypical diffuse irregular inflammatory parietal thickening of the whole vascular graft associated with a parietal thrombus upstream of the birth of the two hepatic arteries.

At 1-year post-transplantation, the outcome was favourable in the 8 isolated KTx recipients. A total of 4/8 children had normal blood pressure and 4 had controlled high blood pressure on mono or bi-therapy. Doppler anomalies had resolved in 5/8 and persisted in 3/8 with a trend for improvement of peak systolic velocities and no severe consequences on kidney function and histology. Indeed, the median glomerular filtration rate (GFR) was 91 mL/min/1.73 m^2 (65–129), with unspecific and mild lesions on 4/8 protocol kidney biopsies (IFTA 1 or Cpt 1). One liver-kidney graft recipient had persistent hypertension and diffuse irregular inflammatory parietal thickening of the whole vascular graft associated with a parietal thrombus upstream of the birth of the two hepatic arteries (Figure 2); treated with anti-aggregation and prednisone 10 mg/d.
CONCLUSION: Our case series suggests a risk of post-viral kidney graft vasculitis in children with recent SARS-CoV-2 infection in the recipient or donor. Pre-transplant vaccination against COVID-19 is mandatory in children > 5 years and their kidney donor candidates at our centre. We also strongly recommend vaccination of all people aged > 5 years in the household.

REFERENCE

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MO1040 IDIOPATHIC NEPHROTIC SYNDROME AFTER 10 YEARS OF AGE: IS SYSTEMATIC RENAL BIOPSY APPROPRIATE?

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BACKGROUND AND AIMS: Renal biopsy (RB) is recommended at diagnosis for children presenting with isolated nephrotic syndrome (NS) after the age of 10–12 years, unlike in younger children, because of a higher frequency of other diagnoses than MCD or FSGS. Recent reports, local practices and new serological biomarkers for membranous nephropathy now question this approach. Therefore, the objective of our study was to evaluate the causes of NS and indications for RB in a population-based cohort of adolescents with NS.
METHOD: We conducted a retrospective multicenter study, including children aged 10–18 years diagnosed with Idiopathic-like NS between December 2007 and June 2020 in 35 paediatric and 3 paediatric nephrology (PN) departments of the Paris area (NEPHROVIR network) and patients with Idiopathic-looking NS biopsied in the three PN departments.
RESULTS: A total of 103 children were included (54 males). The mean age at diagnosis was 13.4 ± 2 years. A renal biopsy was performed in 76 patients: at presentation because of atypical symptoms (such as hypertension, macroscopic haematuria, organic renal failure) in 15 or for no other reason than age in 39 and after 4 weeks for steroid resistance +/− atypies in 22 patients. Histological findings were MCD ($n = 49$), FSGS ($n = 13$), mesangial proliferation ($n = 3$), membranous nephropathy ($n = 6$) and IgAN ($n = 5$).
CONCLUSION: NS was secondary in only 11% of adolescents presenting with Idiopathic-like NS, and first-line treatment with oral prednisone was appropriate in all cases. In addition, more than 40% of RB could have been avoided in steroid-sensitive NS patients. Finally, we propose that RB should only be performed in case of atypical clinical or biological history or steroid resistance after 4 weeks, as in the younger population.

MO1041 C.E.R.A. (CONTINUOUS ERYTHROPOIETIN RECEPTOR ACTIVATOR—METHOXY POLYETHYLENE GLYCOL EPOETIN BETA) IN PAEDIATRIC DIALYSIS PATIENTS WITH ANAEMIA OF CHRONIC KIDNEY DISEASE: REAL-WORLD EVIDENCE FROM THE IPDN AND IPHN REGISTRIES

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BACKGROUND AND AIMS: Continuous erythropoietin receptor activator—methoxy polyethylene glycol epoetin beta (C.E.R.A.) is a long-acting erythropoiesis-stimulating agent (ESA) approved for the treatment of anaemia associated with chronic kidney disease (CKD) in adults. In June 2018, the Food and Drug Administration approved the use of C.E.R.A. administered intravenously in patients on haemodialysis aged 5–<18 years switching from another ESA. This observational real-world study (MH40258) assessed the safety, dosing and haemoglobin (Hb) levels associated with C.E.R.A. in paediatric patients with CKD on dialysis.
METHOD: This was a non-interventional real-world study of patients from the International Paediatric Peritoneal Dialysis Network (IPPN) and the International Paediatric Hemodialysis Network (IPHN) registries. Demographics, clinical characteristics, dialysis information, treatment, laboratory parameters, number and causes of hospitalization events and deaths were reported in patients treated with C.E.R.A. from both registries (IPPN: 2007–2021; IPHN: 2013–2021).
RESULTS: Overall, 229 patients had at least one observation while being treated with C.E.R.A. and were analysed in this study; 177 on peritoneal dialysis (PD) (median age 10.6 years, interquartile range [IQR] 4.2–14.6) and 52 on haemodialysis (HD) (median age 14.1 years, IQR 10.4-16.2). The median observation time under C.E.R.A. exposure was 6 months (IQR 0–12.5) for PD patients and 12 months (0–18) for HD patients. 121 PD patients (68%) and 36 HD patients (69%) had ≥ 1 hospitalization, of whom 102/121 (84%) and 32/36 (89%), respectively, had non-elective hospitalizations. Median hospitalization surveillance time/patient was 13.5 months in the PD and 18.3 months in the HD cohorts. The most frequent causes for non-elective hospitalization were infections, reported as a cause in 56/177 (32%) patients in the PD cohort and 14/52 (27%) in the HD cohort and technique complications, in 41/177 (23%) patients in the PD cohort and 20/52 (38%) in the HD cohort. There were seven deaths (PD: 5 patients; HD: 2 patients), corresponding to an overall mortality rate of 19.8 cases per 1000 observation years. Causes of death were infections ($n = 2$), intracranial bleeding ($n = 2$), congestive heart failure ($n = 2$) and one case of sudden death at home. Hb levels remained stable over time with 47% of PD patients and 48% of HD patients having a Hb value within the range of 10–12 g/dL at their last observation. Mean [standard deviation (SD)] Hb levels at last observation were 10.9 (1.7) g/dL in the PD