The second patient was a 2 year old boy with middle aortic syndrome in which a bypass was performed from the thoracic aorta to the aortic iliac bifurcation with successful bilateral renal auto-transplantation. 3D models allowed the team for better planning of surgical approach and in the first case, initially planned surgical approach was amended once the model was reviewed.

Patients and families commented that seeing the model made them better understand the operation and it contributed to better patient information and consenting pathway.

Conclusions This is the first report on the use of the 3D printing for planning of complex vascular surgeries involving major arteries in children with renovascular hypertension and associated severe middle aortic syndrome. Both cases were successfully performed and 3D models benefitted both the surgical and medical planning, enhances safety of complex procedures, as well as improving family understanding of the complexity of the procedure and adding to the quality of informed consent.

British Association for Paediatric Nephrology

728

A CASE SERIES OF PAEDIATRIC KIDNEY TRANSPLANTS DURING THE ONGOING COVID-19 PANDEMIC

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Background During the current COVID-19 pandemic, multiple lockdowns and a high incidence of cases severely impacted many European transplant programs. During the first wave of the pandemic, there was a need to stop both the living donor (LD) and deceased donor (DD) paediatric kidney transplant (KT) programs in our centres, subsequently reopening them fully. In contrast, increased confidence in our processes and outcomes led us to keep our deceased donor paediatric programme open during the UK's second COVID-19 wave.

Objectives We report our experience with 25 children who received a KT during the current ongoing COVID-19 pandemic.

Methods From May 2020 to February 2021, all paediatric KT recipients were recorded and followed up in Evelina London Children's Hospital, Southampton Children's Hospital and Great Ormond Street Hospital. Covid-secure pathways were established for both LD and recipients following the UK guidelines on COVID-19. We prospectively recorded transplant outcomes and instances of SARS-CoV-2 infection in KT recipients.

Results There was 100% patient and 100% renal allograft survival in all 25 (12 (48%) female) KT recipients aged 2 to 17 (median 11) years of whom 18 were from LD (72%) and 7 from DD (28% [5 transplants from donors after brain death and 2 from donors after cardiac death]). Two patients (8%) developed COVID-19; one of them 5 weeks post-KT presenting with low grade fever and high CRP for one week without acute kidney injury during admission for surgical complication. The second one 4 month's post-KT, presenting with low grade

fever without any further complication. Four (16%) transplants were intraperitoneal, with 21 (84%) extraperitoneal, including an en-bloc KT. There were no vascular complications and two ureteric complications requiring surgical intervention. All of the patients shielded as per local guidelines.

Conclusions During the COVID-19 pandemic, different strategies had to be taken on the transplant programme to enable paediatric KT programmes to continue. This enabled safe and effective transplantation options from both living and deceased donors. In our experience, two transplant recipients acquired COVID-19 post-transplant without renal allograft dysfunction and did not require any changes to the immunosuppression.

Association of Paediatric Emergency Medicine

730

DE-LABELLING FALSE PENICILLIN ALLERGY IN ACUTE PAEDIATRIC SETTINGS: EVALUATING EVIDENCE OF PRACTICABILITY

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Background Many children present to emergency departments (EDs) with a reported allergy to penicillin.¹ There is growing data to support key historical features to accurately stratify patients into low and high-risk groups which is crucial in application of direct provocation test (DPT).² Non-immediate mild cutaneous reactions to penicillin antibiotic are classed as low risk symptoms where DPT with penicillin can be applied. It is apparent that removal of penicillin allergy labels reduces undesirable health care risks, antibiotic resistance, and increased costs.¹

Objectives To answer a 3-part question: In [children presenting with history of non-immediate benign skin rash to penicillin therapy], [can direct provocation test] with a penicillin antibiotic if clinically indicated [safely de-label the allergy] in acute settings?

Methods Search was carried out independently by the authors in PubMed, EMBASE, Cochrane Library, and BestBETs Database from inception to November 2020 using search strategy: (('penicillin allergy' OR 'provocation test') OR ('beta lactam allergy' OR challenge) OR ('penicillin allergy' AND 'de labelling')). The search included studies with reaction to DPT as their main outcome. Studies of mixed adult-children population, and methodology involving prior or concurrent skin testing were excluded.

Results Seven studies were identified to answer the clinical question. The studies aimed to de-label penicillin allergy with oral penicillin-based antibiotics in outpatient settings. Six were prospective observational studies while one was a retrospective study. Notably, a study performed in a US paediatric emergency department was not included because of prior skin prick testing. One of the reviewed studies provided the largest sample size (818 children) in the literature demonstrating the safety and accuracy of DPT with amoxicillin in children with reported non-immediate benign skin rashes. Results of negative DPT in the reviewed studies ranged from 86% to 100%. No severe reaction was reported. However,