CRRT – Where vascular access is King

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Background

15 year old boy; background of antenatal diagnosed gastroschisis which developed into short gut syndrome, requiring long term parenteral nutrition. He developed thromboses in 2 of his major vessels and was subsequently listed for isolated small bowel transplant. He received this at 4 years old. Since transplant, vascular access continued to be an issue. He was transferred to Great Ormond Street and had a long term Hickman line inserted in his left femoral vein with interventional radiology. After some time of stability, he no longer required parenteral nutrition and his Hickman line was exchanged for a port-a-cath.

During this acute admission, this young person presented with sepsis and developed an acute kidney injury. He was transferred from the ward to PICU and was managed medically. Vascular access continued to be an issue, with thromboses identified in all major vessels by vascular imaging. All medical management, including fluid and pharmacological strategies were employed, however, his renal function continued to deteriorate.

Interventional radiology at KCH were unable to insert a usable vascath and he was again referred to GOSH for an IR inserted vascath.

In the mean time, the team at KCH initiated peripheral CRRT. 2x 14G IV cannula were inserted in both peripheral basilic veins using ultrasound guidance. The circuit was attached and ran successfully until he was retrieved 21 hours later.

Programme - CVVH	
Blood Flow	80mls/min
Pre-dilution	35mls/kg
Even balance	
Anticoagulant	Epoprostenol 4ng/kg/min

Pre-peripheral CRRT	
Potassium	4.1
Creatinine	142
Urea	12.6

After 21 hours of pCRRT	
Potassium	3.5
Creatinine	87
Urea	9.2