A multidisciplinary vascular clinic incorporating ultrasound assessment is key to maintaining young children on chronic haemodialysis via an AVF” Shroff et al (2016).

Abstract:

BACKGROUND: Arteriovenous fistula (AVF) formation for long-term haemodialysis in children is a niche discipline with little data for guidance. We developed a dedicated Vascular Access Clinic that is run jointly by a transplant surgeon, paediatric nephrologist, dialysis nurse and a clinical vascular scientist specialised in vascular sonography for the assessment and surveillance of AVFs. We report the experience and 2-year outcomes of this clinic.

METHODS: Twelve new AVFs were formed and 11 existing AVFs were followed up for 2 years. All children were assessed by clinical and ultrasound examination.

RESULTS: During the study period 12 brachiocephalic, nine basilic vein transpositions and two radiocephalic AVFs were followed up. The median age (interquartile range) and weight of those children undergoing new AVF creation were 9.4 (interquartile 3-17) years and 26.9 (14-67) kg, respectively. Pre-operative ultrasound vascular mapping showed maximum
median vein and artery diameters of 3.0 (2-5) and 2.7 (2.0-5.3) mm, respectively. Maturation scans 6 weeks after AVF formation showed a median flow of 1277 (432-2880) ml/min. Primary maturation rate was 83 % (10/12). Assisted maturation was 100 %, with two patients requiring a single angioplasty. For the 11 children with an existing AVF the maximum median vein diameter was 14.0 (8.0-26.0) mm, and the median flow rate was 1781 (800-2971) ml/min at a median of 153 weeks after AVF formation. Twenty-two AVFs were used successfully for dialysis, a median kt/V of 1.97 (1.8-2.9), and urea reduction ratio of 80.7 % (79.3-86 %) was observed. One child was transplanted before the AVF was used.

CONCLUSIONS: A multidisciplinary vascular clinic incorporating ultrasound assessment is key to maintaining young children on chronic haemodialysis via an AVF.

Reference:

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