A Single-Centre Retrospective Study in a Large Tertiary Renal Centre on the Management of Infected Arteriovenous Grafts

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Aim: Prosthetic arteriovenous grafts (AVGs) are often used as tertiary vascular access for haemodialysis in patients with exhausted autogenous options. AVGs are associated with an increased risk of infection which can lead to excess morbidity and life-threatening complications. Infected AVGs are challenging to manage, and the current evidence remains unclear on optimal strategy with arguments for conservative management, salvaging with revision or surgical excision (subtotal or total). This study sought to evaluate the management of infected AVGs by examining the clinical outcomes of patients with infected AVGs managed in our institution.

Method: We conducted a single-centre retrospective study of all AVG infections managed (conservative management via antibiotics; graft revision; surgical excision) in a large tertiary renal centre between June 2016 to May 2021. Primary outcome was mortality at 1 year. Secondary outcome was functional vascular access at 6 months and 1 year. Data were extracted from electronic patient records, radiology imaging and reporting.

Results: 34 patients were included in our study (14.7% conservatively managed; 14.7% revision; 70.6% surgical excision) with a mean age of 60.4 ± 14.4 years (67.6% males). Average time from AVG placement to presentation was 11.8 months. 1 year mortality was 14.7%. Functional vascular access at 6 months in the three groups was 60%, 60% and 10% and 1-year functional vascular access was 60%, 75% and 42% respectively.

Conclusion: Surgically excised infected AVGs are associated with poor 6-month and 1-year vascular access outcomes. The findings suggest that conservative management and/or revision are more prudent given their higher probability of subsequent functional access.