

INTRODUCTION

Effective vascular access is paramount for successful haemodialysis in chronic kidney disease (CKD) patients. Pre-operative ultrasound mapping, as a supplement to clinical examination, has emerged as a critical tool in optimizing arteriovenous fistula (AVF) creation, ensuring precise anatomical assessment and improving procedural outcomes.

AIMS AND OBJECTIVES

1. To compare the success rates of AVF creation with and without the use of pre-operative ultrasound mapping
2. To determine the improvement in procedural outcomes and patient recovery times associated with the use of pre-operative ultrasound mapping

MATERIAL AND METHODS

Retrospective cohort study including CKD patients scheduled for AVF creation, a study period of 6 months. Data of 157 AVF creations collected.

RESULTS

Pre-operative Doppler US done in 48 (30.58%). Evaluation of vessel diameters, depth, and suitability for AVF placement. Among those with DUS done, 46 (95.84%) AVF maturation within 8 weeks. Without DUS, AVF maturation 80.74%. Thrombosis, stenosis significantly less with DUS ($p<0.01$). Similar rate of infection. Lower cost burden in those with DUS.

CONCLUSION

Pre-operative ultrasound mapping for arteriovenous fistula (AVF) creation significantly improved outcomes, achieving a higher and quicker maturation rate. This success is attributed to precise anatomical assessment, optimal site selection, and reduced complications. Economic evaluations indicate cost savings through decreased hospital admissions and revisions. Moving forward, refining ultrasound protocols and integrating routine imaging technologies could further enhance AVF creation efficacy.