

Comparison of Success Rate of Arterio-venous Fistula in Patients with Diabetes Vs Non-diabetes

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ABSTRACT

Introduction and objective: Definition of chronic renal disease is based on the presence of kidney damage or glomerular filtration rate (GFR 60 ml/min per 1.73 m²) for 3 months, irrespective of cause[1]. Once they are diagnosed as CKD, they are kept either on hemodialysis or peritoneal dialysis or patient undergo renal transplant.[2,3] With this research we may prove that even in a similar circumstances failure rate of AVF is more in diabetes patient.

Materials and Methods: Total 50 patients of either gender were taken in this study. Inclusion criteria: CRF with GFR <30ml/min. Arterial diameter >1.5mm and venous diameter >2mm. Preoperative radial artery blood flow >30cm/min. Exclusion criteria: arterial diameter <1.5mm venous diameter <2mm. Written consent was taken from the patient. After preoperative workup surgery was done by 1st author. Arterio-venous fistula was scanned by color Doppler imaging after 4 weeks.

Result: There were 31[62%] male, 19[38%] female. Mean age of patients was 55.8 years. 18[36%] were dialysis dependent. Cause of renal failure were diabetes 16(32%), unknown 15(30%), glomerulonephritis 8[16%] and obstructive uropathy 3[6%]. Mean internal diameter of radial artery was 1.91mm [1.5-2.6] and cephalic vein 2.57mm [1.9-3.2]. 7 patients had swelling of arm, 5 patients had surgical site infections and 15 patients had primary failure; 11 were from diabetic group and 4 from non-diabetic group. Mean duration of surgery was 60.95 minutes [50-75]. Average preoperative velocity in radial artery was 32.94[30-39]cm/sec. Average flow of blood at the end of 4 weeks was 461.42ml/min [0-654]. Between two groups failure rate was significantly high in diabetic patients [p = 0.02]. Failure rate was significantly higher in patients with diabetes more than 10 years [p=0.01].

Conclusion: Failure rate of arterio-venous fistula is significantly high in diabetic patients.

Key words: CRF, arterio-venous fistula, diabetes mellitus