

## **6- Role of drug coated balloon angioplasty in treatment of recurrent dysfunctional arteriovenous fistulae for hemodialysis**

### **Objective**

This study aimed to evaluate the safety, clinical benefits, and patency outcomes of using paclitaxel drug-coated balloons (DCBs) for the treatment of recurrent dysfunctional arteriovenous fistulae (AVF) in hemodialysis patients.

### **Study design**

A nonrandomized clinical trial was conducted involving 20 patients who had previously undergone percutaneous transluminal angioplasty (PTA) for failing or failed AVF. Patients were assessed based on clinical criteria, and interventions were performed using paclitaxel-coated balloons. Clinical outcomes, including thrill, bruit, and hemodialysis function, were evaluated, and duplex assessments were conducted after 3 and 6 months to determine recurrent stenosis. Statistical analysis was carried out using SPSS.

### **Results**

The study included 20 end-stage renal disease (ESRD) patients with a mean age of  $49.4 \pm 17$  years. After 2 weeks' postintervention, all patients had adequate bruit, 16 (80%) patients had adequate thrill, and 19 (95%) patients had adequate hemodialysis. After 6 months, 70% of patients exhibited adequate thrill, while adequate bruit, and hemodialysis were observed in 75% of patients. Duplex assessments showed minimal recurrent stenosis after 3 and 6 months, with only a few cases of new stenotic lesions. Postoperative complications were infrequent, including one unrelated death, and a small number of central venous occlusions and infections. The study indicated a significantly improved efficacy of drug-coated balloon angioplasty over traditional angioplasty in maintaining AVF patency.

### **Conclusion**

Paclitaxel drug-coated balloons offer a promising approach for treating recurrent dysfunctional arteriovenous fistulae in hemodialysis patients. The study demonstrated favorable clinical outcomes, reduced restenosis rates, and improved patency compared with traditional angioplasty.

Keywords:

arteriovenous fistula, hemodialysis, drug-coated balloons, patency, percutaneous