

Synthetic vascular graft an alternative to arteriovenous fistula

Aurelia Necula¹, Mihai Preda²

¹Fresenius NephroCare Dialysis Center, Bucharest – Romania

²Fresenius Medical Care, NephroCare Clinical Coordination, Bucharest – Romania

Introduction

CKD involves major changes in patients' lives and their survival depends exclusively on haemodialysis. When the vascular capital of the patient is exhausted the synthetic vascular grafts become an alternative, the most used of which being made of microporous polyfluoroethylene

Objectives

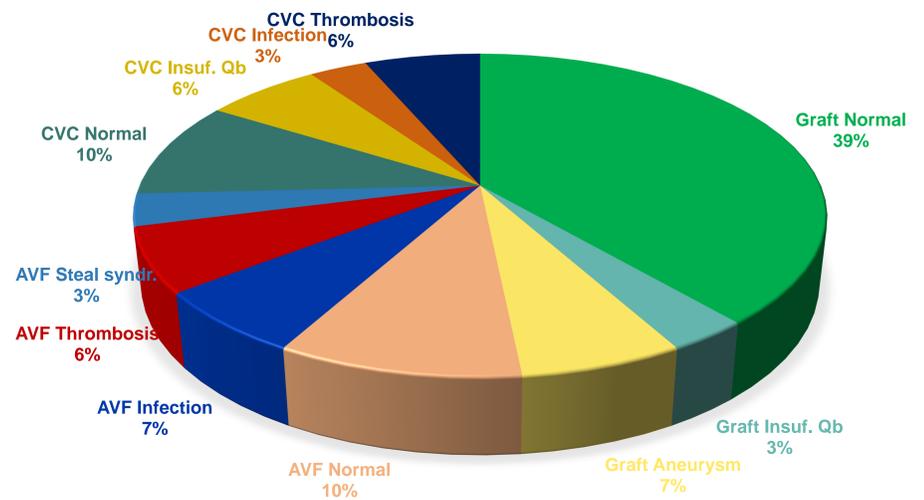
Obtaining a suitable vascular access using synthetic grafts as an alternative to AVF

Methods

Dialysis efficiency using the following parameters is monitored in the 15 patients using the graft as a vascular access:

- blood flow rate
- blood volume processed
- the volume of substitution fluid
- Kt / V

The lifetime of synthetic grafts (average duration between 2 - 16 years) was monitored



Vascular access complications



Arteriovenous graft

Results

During 2014-2018, 15 patients using synthetic vascular graft were monitored showing the following results: 12 patients (80%) achieved dialysis efficiency parameters by: blood flow and volume, Kt / V (> 1.6), clearance (> 200) and replacement volume (> 22l);

1 patient (6.66%) did not reach blood volume (using a blood flow <300 ml / min);

2 patients (14%) developed false aneurysm, but none developed true aneurysm;

During the same period, another 15 patients with native AVF and CVC were monitored:

7 patients (46%) with AVF

8 patients (53.3%) with CVC

Complications of AVF developed in 4 patients (57%) of 7:

- 2 patients (28%) undergone infectious complications of AVF over time;
- 1 patients (14%) underwent premature thrombosis;
- 1 patient (14%), had a "steal" syndrome;

Complications of CVC in 5 out of 8 patients (62.5%):

- 2 patients (25%) developed complications through catheter dysfunction (flow failure);
- 2 patients (25%) suffered venous thrombosis, catheter;
- 1 patient (12.5) suffered infections of the catheter insertion hole

Conclusion

The use of synthetic grafts is an alternative when vascular resources are exhausted, or in the case of surgical correction of late FAV complications

This type of vascular graft is superior to the CVC and represents an optimal vascular access solution in the future