

## **Describe the VA history of a 59years-old male with morbid obesity and end-stage chronic kidney disease” Pinto Sousa et al (2017).**

### Abstract:

**INTRODUCTION:** Creating and maintaining a functional vascular access(VA) is a critical factor in the survival of a dialysis patient. However, it will not function forever, implying a creative attitude from the vascular surgeon either to maintain its functionality or built a new one wherever possible, being it autologous or synthetic.

**METHODS:** Describe the VA history of a 59years-old male with morbid obesity and end-stage chronic kidney disease.

**RESULTS:** His VA construction started in2012 with failed attempts in both forearms until a functional brachiocephalic artery-venous fistula(AVF) in the right upper limb was achieved, but was deemed to ligation as severe venous hypertension secondary to central venous disease related to CVC use. As he had no good superficial conduit in the left arm we decided to harvest the deemed right cephalic vein and implant it in the left arm, creating an autologous arteriovenous shunt between the brachial artery and axillary vein(AV). Despite initial patency, it failed irreversibly weeks after creation. As no more superficial veins were available in the upper limbs, a prosthetic access was the next step. We decided for a hybrid graft(HG) between the left brachial artery and the AV because the patient biotope and a scarred axilla impeded a safe reintervention on the AV. This graft was being used since 2015 with multiple interventions for maintaining patency (PTA, segmental graft replacement and thrombectomies). Recently we noticed a significant diffuse prosthesis deterioration and reduced AVF flow with no possible segmental reconstruction. We were then forced to proceed with total graft substitution preserving the outflow stented segment of the HG, using an early cannulation graft(ECG) and prevent CVC use. After this successful reconstruction, the patient started hemodialysis on the following day with no intercurrences registered.

**DISCUSSION:** Generally, CVC’s are related with poorer dialysis quality and patient survival.Hence, fighting for any other functional access is very important. The range of solutions will depend on the vascular surgeon capacities, imagination and device access. Once faced with no more feasible direct autologous access, there is a range of complex autologous fistulas, including veins translocations. When no more native vessel can be used

for puncture, we still have a wide armamentarium (normal grafts, ECG or HG) that should be considered according to patient specifications. HG besides some hemodynamic advantages, can be very useful when the landing vessels are difficult to access. ECG offer the advantage of almost immediate cannulation, preventing CVC placement and its associated comorbidities.

Reference:

Pinto Sousa, P., Almeida, P., Sá Pinto, P. and Almeida, R. (2017) Creative Vascular Access Construction in Same Patient. *Revista Portuguesa de Cirurgia Cardio-Torácica e Vascular*. 24(3-4), p.177.