From the creation to full performances of new AVF, our experience

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Introduction

Every year in our dialysis center 10% of patients create a new arteriovenous fistula (AVF).

Good nursing practice of AVF cannulation and care, patient education and the maintenance of normal blood pressure can significantly affect the time needed to achieve the prescribed blood flow rate (BFR) after AVF creation and also to reduce complications related to AVF.

Thorough nursing assessment of the vascular access prior to each treatment session can indicate a realistic condition of a new AVF.

Objectives

To prove that the use of well-structured nursing practice and monitoring of new AVF can positively influence the time needed to reach the desired blood flow rate.

Methods

For eleven patients we analyzed: the maturation period between creation of AVF and the first cannulation, the number of treatments with one needle puncture for five patients already with Central Venous Catheter (CVC) in place, the number of treatments with two needles puncture until prescribed BFR was reached. Moreover events reported in the clinical database were analysed.

Results

Each new arteriovenous fistula was evaluated before the treatment. Cannulation of new AVFs was performed by experienced and well trained nurses. All data regarding the assessment of vascular access and complications were documented in a clinical database and discussed during regular clinical meetings. Nursing education on vascular access was based on the "Vascular Access Cannulation and Care" booklet.

Nine of eleven new AVFs are still functional with prescribed BFR and Kt/V targets.

One AVF stopped beenig functional due to thrombosis during the heart surgery, after eight months of use and one patient died five months after the first cannulation .

Surgical reintervention was performed on two AVFs , one after five and another after nine months of use.

Conclusion

Good nursing practice of AVF assessment, care and cannulation, avoidance of hypotension, proper documentation, and data analysis resulted in a high rate of successful development of arteriovenous fistula.

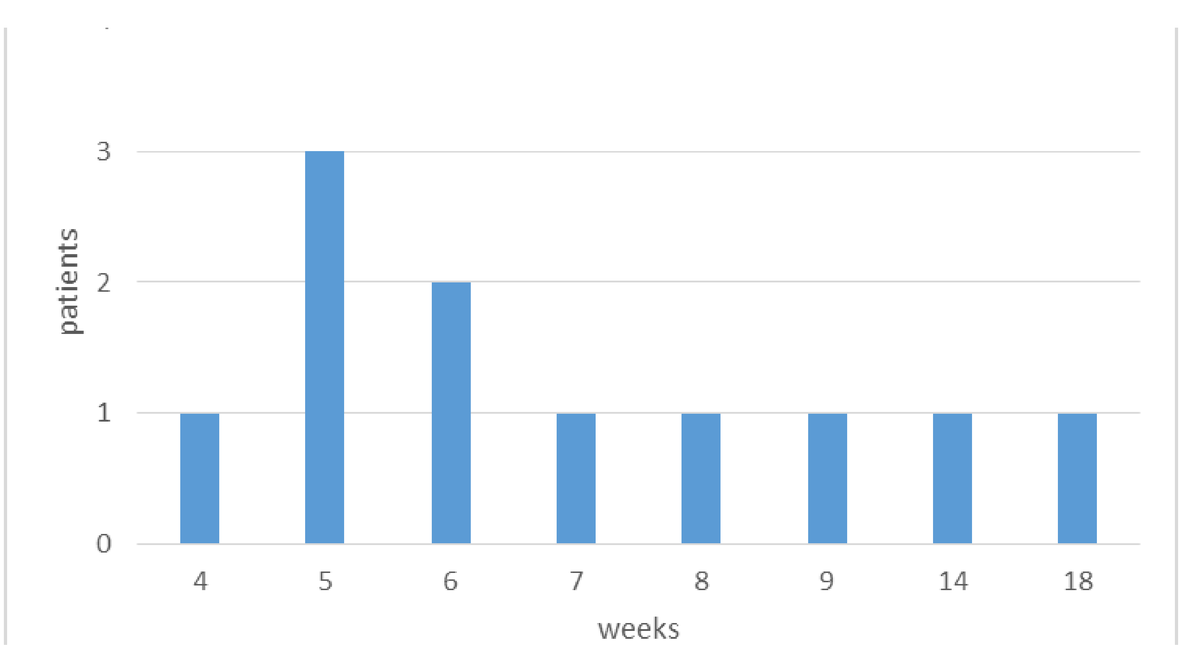

Figure 1: Maturation of AVF before the first cannualtion

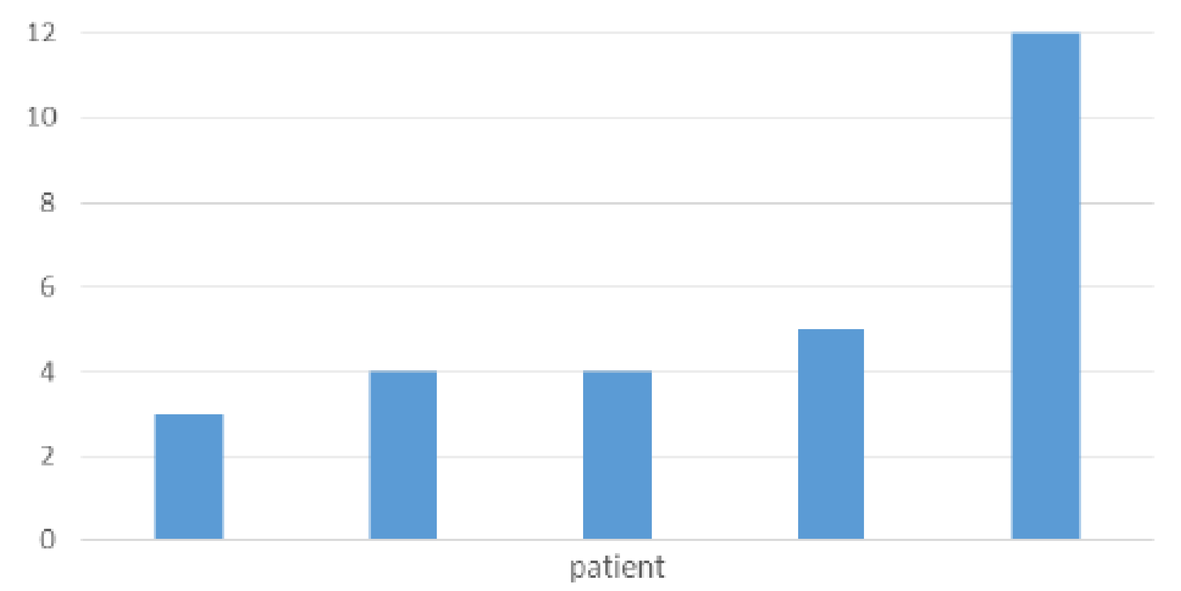

Figure 2: No of treatments with one needle

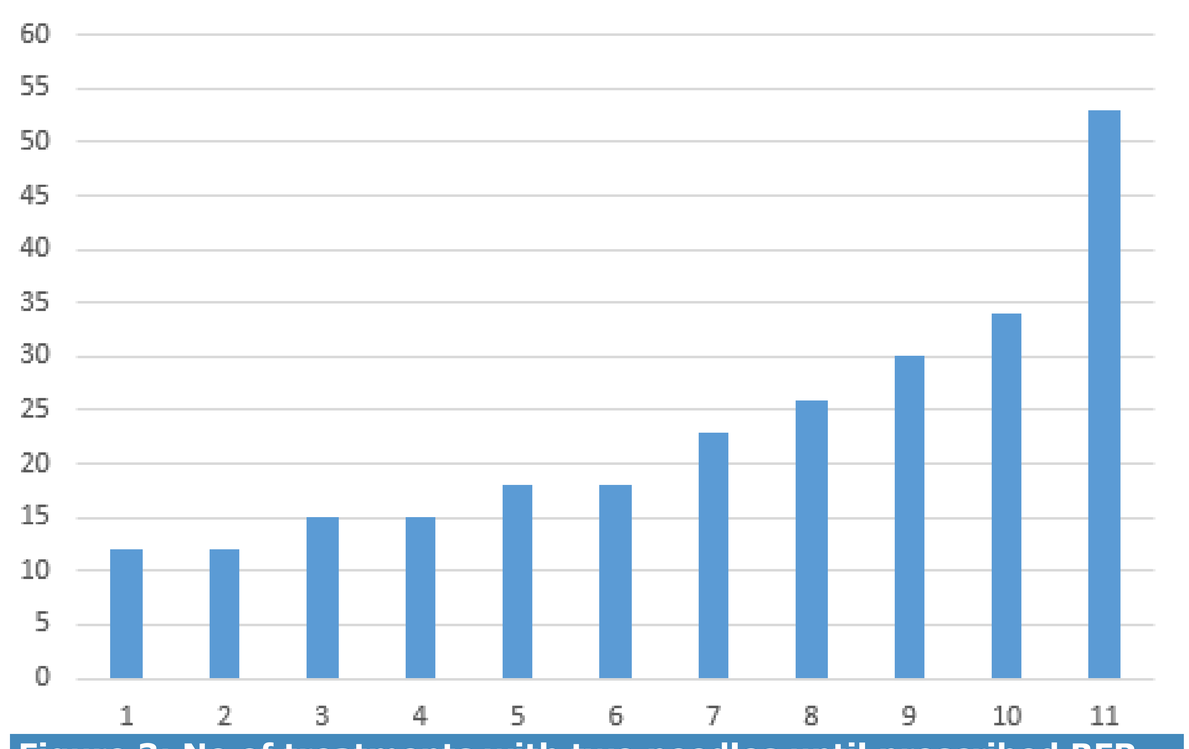

Figure 3: No of treatments with two needles until prescribed BFR was achieved

References

1.Parisotto, MT and Pancirova, J eds.**Vascular Access Cannulationand Care, A Nursing Best PracticesGuide forArteriovenous Fistula**