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# THE MONITORING OF FIRST LEVEL IN DIAGNOSIS OF COMPLICATION OF VASCULAR ACCESS

## A MULTICENTRIC STUDY ON 900 HEMODIALYZED PATIENTS WITH FOLLOW UP TO 5 YEARS

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### BACKGROUND AND AIMS

Vascular Access (VA) is the lifeline of hemodialysis patient. The universal goal of access monitoring is to identify access stenosis and enable intervention prior to thrombosis; thereby, maximizing access longevity and minimizing morbidity. The advent and use of techniques including dynamic and static venous pressure monitoring, physical examination, access flow measurement, imaging and combined imaging and flow monitoring by duplex ultrasound demonstrate that it is possible to predict which accesses are at high risk for future thrombosis. Currently arteriovenous fistula (AVF) and arteriovenous graft (AVG) have been recognized as the permanent access. This study takes advantage of the opportunity to utilize data from 19 associated Dialysis Clinics to examine trends in VA use, trends in patient characteristics and practice associated with VA.

Determine the status quo of the overall information related to the VA to start a five years follow up study with the aims to **reduce VA complications stenosis and thrombosis** and **related hospitalization days to improve patient's quality of life**.

### PATIENTS AND METHODS

VA data were collected for each patient at study entry. Practice pattern data from the facility medical director, nurse manager and VA surgeon were also analyzed. We have developed a mask on the management database to implement the first level monitoring of access and collected data at each treatment (Fig.1,2)

Fig.1 Masks of database

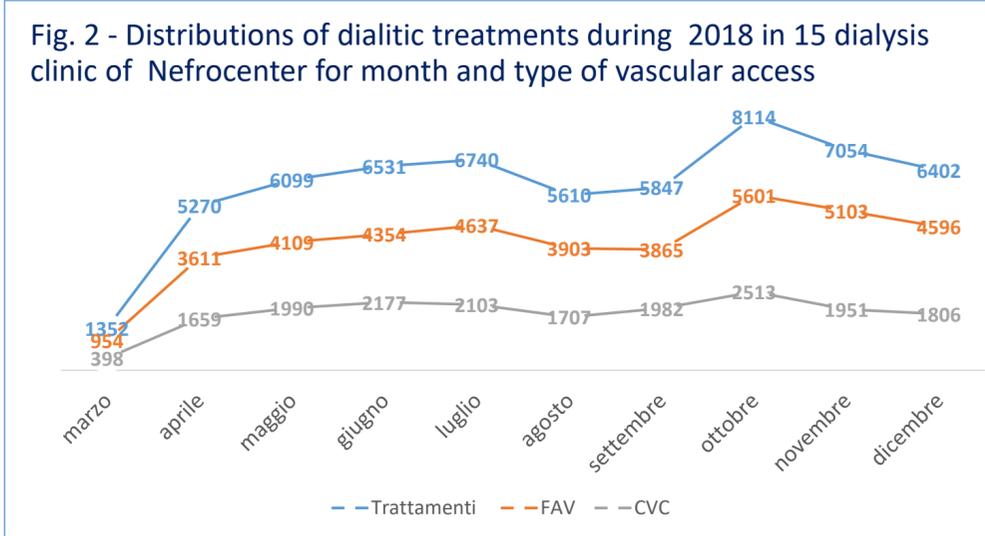


Fig. 2 - Distributions of dialytic treatments during 2018 in 15 dialysis clinic of Nefrocenter for month and type of vascular access

### RESULTS

Average age of 896 patients enrolled was 73, 5 years. Native AVF was used by 79%, AVG by 2% and CVC by 19% (Fig. 3). As the age increase as well as the use of CVC move from 6% (15-39 years) to 50,5% in patients with more than 85 years. Fig.4 shows the trend from 2016 to 2019 observation of complications. Most frequent complications were: Thrombosis 16, 5 %, Infections 5, 5%. Related VA hospitalization days are 28,7 % of total days. Average dialysis goals achieved were QB 300 ml/Min; blood processed 69, 7 L; KT/V: 1, 35 (Fig.5). Access failure rate reported graphically in Kaplan Mayer were: AVF 5,9 of closure. AVG: 22,2% of closure; CVC: 21,5% of closure (Fig.6).

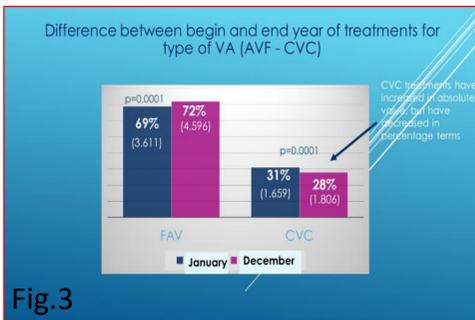


Fig.3

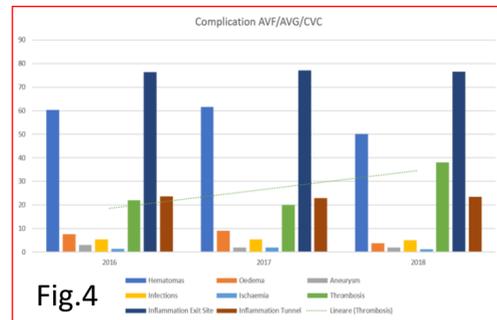


Fig.4

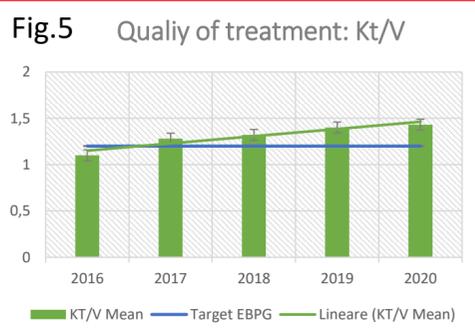


Fig.5

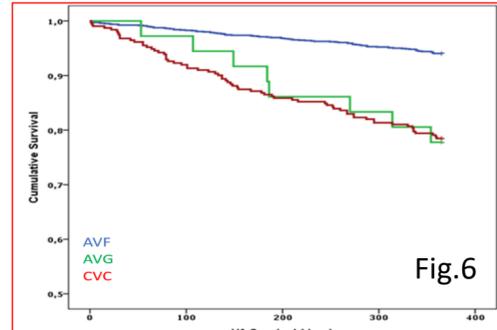


Fig.6

### CONCLUSION

By interpreting collecting data for specific performance measures using accurate reports, allow health care professionals to highlight the VA performance/inefficiencies and provide correct information to the clinical staff to support them in their daily clinical practice and decision-making. The increase in number of AVF confirmed the expected results in terms of increase in quality of dialysis treatments. Our research is showing that proper monitoring offers proven benefits in term of VA survival. We therefore refer to the following years assigned to the study the validation of the result achieved in time.