Monitoring of vascular access with indirect methods

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INTRODUCTION

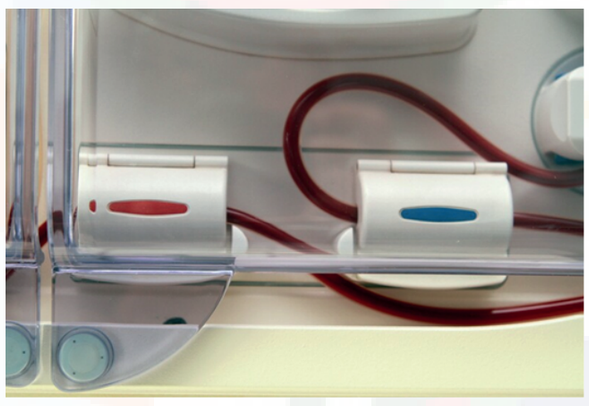
Time is of the essence in detecting complications of vascular access. Early diagnosis makes it possible to avoid the patient's hospitalization or put in place corrective actions that can prevent the final failure of vascular access, thus avoiding the urgent procedures for positioning a central venous catheter or replacing the access itself

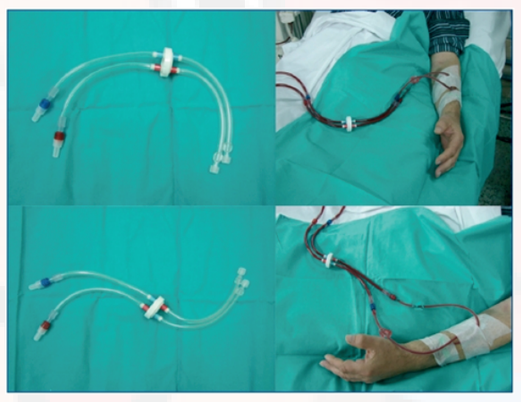
TARGETS

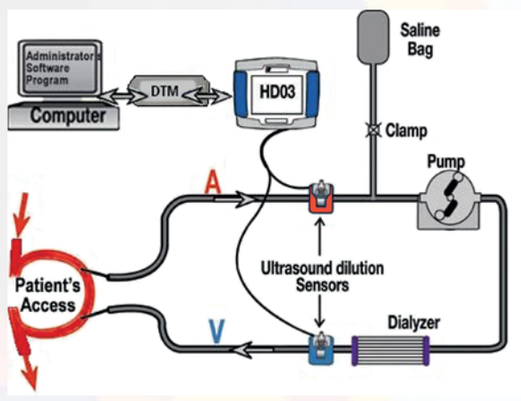
Create a easy and clear monitoring system for Favp by using codify parameters

MATERIALS AND METHOD

The aim of this prospective study is evaluating vascular access by using devices already installed on monitors in order to make early diagnosis of bad functioning and compare it with objective parameters (UDT and US)
37 patients undergoing three-weekly bicarbonate dialysis graft carriers
Measurement of the recirculation of vascular access and flow through UDT and subsequent measurement of recirculation and jonic dialisanza with straight and inverted lines within the first 90 minutes of SED
Two series of measurements were performed for each method in the same dialysis session (more than 200 dialysis sessions analyzed
The data were analyzed for the calculation of the flow rate according to the formula of Krivitsky, Mercadal, Schneditz and Wijnen.



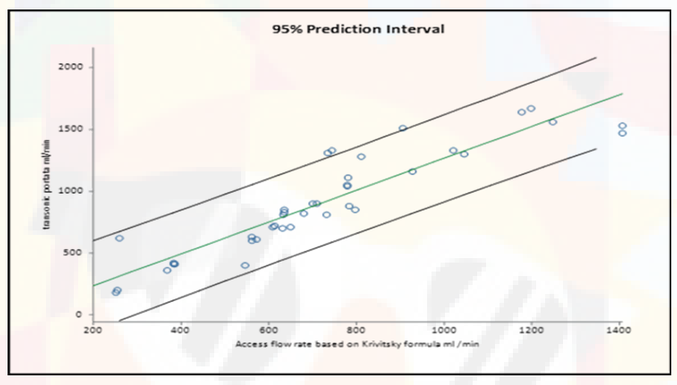


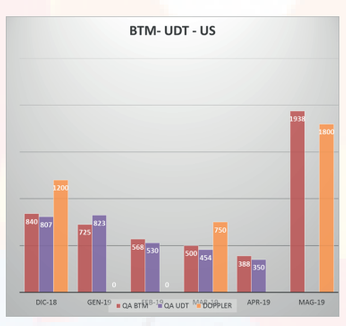


RESULTS

Results obtained tell us that the measurement perfor-med with Transonic® (pTra)
and that derived from the formula of Krivitsky (pKri)
are linked by one linear regression: r 0.9131 p <0.0001,
isthen you can write the following formula:
ptran = 1.2864 * pKri-20.3237

The correlations between the formulas of Mercadal, Schneditz and Wijinen present one polynomial regression, with distortion for high flow rates, while in the monitoring range the relationship is linear





Patient 1

note in April given the control values in angiography and consequent PTA of vascular access. In May the new post procedure values, the new point "0".

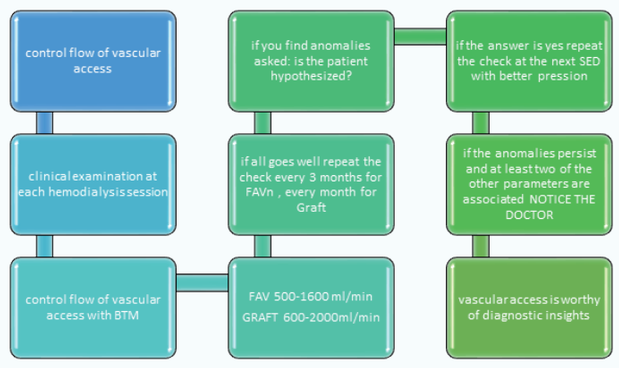
CONCLUSION

BTM is therefore a reliable and repeatable tool for measurement of QA.

- The resulting formula has been included in our software recording.
- A flow chart has been developed guide in managing the processed data.
- A calendar has been created monthly check and the presence of two nurses dedicated to the evaluation of results.
- Our professionalism and experience in this study is much strengthened and valued.

PARAMETERS TO ASSOCIATE WITH FLOW:

- Indicator of dialysis efficacy; (KT, KT/V)
- Values of venous pressure (increase over time) and blood pressure (decrease in blood pressure) time)
- Blood pump speed (< 250ml / min)
- Repeated difficulties in venipuncture
- Hemostasis time (increase over time)



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- Krivitsky NM Theory and validation of access flow measurement by diluition technique during hemodialysis KI1995; 48:244-50