

An Inexpensive Method for Vascular Access Monitoring & Surveillance at A Satellite Dialysis Unit.

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Introduction:

Inadequate functioning vascular access is the leading cause of hospitalization in renal patients which results not only in significant cost implications in terms of hospital admissions but also serious consequences in morbidity & mortality.

We have at our center, which is a satellite unit commenced a cheap yet effective systematic vascular access monitoring and surveillance program to identify deteriorating AVF performance.

Methods:

Surveillance- All staff at our center were trained to do an access flow (Qa) measurement for the Fresenius 5008s machine and an. Qa algorithm was developed, Qa readings were categorized as Green (>500ml/min BF to be re-examined 3 monthly), Amber (400-500ml/min BF to be re-examined monthly), or Red (<400ml/min or 25% reduction from the previous reading -for duplex Doppler ultrasound scan and referral to the Vascular Access Specialist nurse for further review).

All patients with physical and clinical symptoms of access insufficiency regardless of the Qa readings are also referred. All access following fistuloplasty is also subject to the Qa algorithm.

Monitoring of the process – all results of the regular pre, intra and post haemodialysis (HD) assessment of AVF are clearly documented in the patient HD booklet.

We aim to perform access flow measurements for all patients with functional AVFs in our center and conduct referral based on the Qa algorithm.

Results:

For 20 months (April 2018 – December 2019) upon commencement of the Qa measurements, we have a total of 317 Qa readings performed on patients with further ongoing routine examinations to date. Of these, 260 (82%) gave a result of Green, 32 (10%) of Amber and 25 (8%) materialized as Red and consequently automatically referred as per algorithm.

Of these 25 patients that were identified as Red, 17 (68%) had fistuloplasties. 18 (56%) of the 32 patients on Amber presented with physical and clinical symptoms were referred and had fistuloplasties.

Of these 57 total referrals, 35 (61.4%) patients have undergone fistuloplasties. The remaining 22 (38.6%) patients were monitored monthly.

The vascular access rate at our haemodialysis centre: 82 (91.1%) AVF, 2 (2.2%) AVF and 6 (6.6%) CVAD.

Conclusion

Monitoring & Surveillance can be used in combination to achieve the goal of maintaining AVF patency. This can reduce emergency hospital admissions. When implemented in a timely & systematic way, both work in reducing thrombotic events and allow timely referrals to Vascular Access Specialist service. Qa measurement is inexpensive and monitoring is free of cost.