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A NEW DIRECTION IN VASCULAR ACCESS SURVEILLANCE

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VASCULAR ACCESS NURSE IN RENAL DIALYSIS

- Emerging role in dialysis units throughout Australia
- Improves Communication between units
- Facilitates earlier referral for surgery
- Conducts routine surveillance of AVF’s by Transonic and hand-held ultrasound machine
- Provides education to staff and patients
- Conducts clinical research

TRANSOMIC Qc MACHINE

- HD02 monitor (Left)
- HD03 monitor (Below)

HOW IT WORKS

ACCESS FLOW

WHY USE IT?

- Proactive instead of Reactive
- Sensitive to stenosis “before” any dialysis issues eg: rising venous pressure, lowered pump speed or poor adequacy (URR or PRU)
- between-needle’ stenosis is not picked up by pressures and/or PRU
- Prevent thrombotic occlusion of AVF
GEELONG RESULTS, 2006

- 82 patients assessed bi-monthly
- 18 poor access flow
- 13 of these < 500ml/min initially
- 5 had decreasing flow of >25% over 4 months

INTERVENTION (n=18)

- 2 deceased within 1/12 of measure
- 5 too frail for surgical intervention
- 11 ultrasound/fistulagram
- All 11 showed >50% stenosis

OUTCOMES (n=11)

- 4 successful vein patch surgery
  (measured by flow >500ml/min post surgical intervention)
- 1 successful insertion PTFE graft
- 1 had femoral AVF created
  - 1 had CVC, awaiting AVF creation
  - 1 had permanent CVC
  - 3 died before corrective surgery

IS IT WORKING FOR US?

- Only 2 patients presented with thrombosed AVF’s in 2006 (/107 = 1.8%)
  - 1 had access flow of 440ml/min – ultrasound (negative for stenosis) – no further intervention – thrombosed AVF 4/52 later...........
  - 1 Nocturnal dialysis patient who is not in population screened

SO FAR IN 2007...........

- 85 Patients assessed bi-monthly
- 12 had poor access flow

  Of these 12:
  - 9 had flow of < 500ml/min
  - 3 had decrease of >25% 4/12

IMAGING (n=8)

- 1 patient had ultrasound only
- 2 patients had fistulagram only
- 5 patients had both
  - 2 are pending imaging
  - 2 patients too frail for intervention

  Of the 8 patients imaged:
  - 1 negative result
  - 7 positive for > 50% stenosis
OUTCOMES (n = 7)

Of the 7 with positive results:
- 1 reassessed as too frail for surgery
- 4 had successful vein patch surgery
- 1 was inoperable, CVC inserted, awaiting new AVF creation
- 1 is on waiting list for corrective surgery (CVC required).

STILL WORKING FOR US?

- 3 patients presented with thrombosed AVF (/115 = 2.6%)
- 1 nocturnal dialysis – not in screened population
- 1 pt decrease access flow >25% over 4/12 – assessed as frail – required surgical thrombectomy (awaiting stenosis correction)
- 1 acute thrombosis AVF in ICU – thrombectomy immediately (had not been monitored by Transonic)

PRIOR TO THE TRANSONIC

- In 2005 we had 5 HDx patients present with thrombosed AVF’s (/103 HDx patients = 4.8%)
- 3 required CVC insertion & new AVF creation
- 2 had successful surgical thrombectomy (1 required CVC insertion) and stenosis correction.

FUTURE USE...........

- We believe the Transonic is a useful adjunct to routine AVF surveillance and recommend its wider use in Australian Dialysis services.

Monica Schoch RN & Prof John Agar (Nephrologist), on behalf of the Renal Dialysis Unit, Barwon Health, Geelong, Victoria

REFERENCES

- Transonic Flow Qc Patient Database
- Transonic Flow Qc Training Presentation