Venous stenosis of brachiocephalic fistula: a single entity, or is the cephalic arch different?

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Introduction

- Cephalic arch stenosis important cause of brachiocephalic fistula (BCF) failure.
- Optimal management strategy not defined.
- Compare presenting features and angioplasty outcomes in cephalic arch to other venous stenoses affecting BCF.
Methods

- Dysfunctional BCF identified prospectively at twice monthly vascular access meeting.
- Patient demographics, presenting features and cause of dysfunction identified.
- Categorised into: cephalic arch stenosis (CAS), venous outflow or swing segment disease.
Methods

- Angioplasty performed in standard fashion.
- Success defined as < 20% residual stenosis & resumption dialysis.
- Clinical and venous pressure monitoring follow-up.
- Primary and primary-assisted patency calculated using Kaplan-meier method.
Results

- 59 patients underwent angioplasty.
  - 16 CAS, 22 venous outflow, 21 swing segment.

- Follow-up 402 days.

- Lower incidence Diabetes CAS:
  - 15.7% vs 28.2% vs 25% p < 0.05.

- Arm swelling more frequent:
  - 15.7% vs 0% vs 0% p < 0.05

- Thrombosis as primary complaint more frequent:
  - 15.7% vs 8% vs 5.6% p < 0.05 vs swing segment
Results

• Shorter length of stenosis CAS
  • 1.6cm vs 3.1cm vs 3.3cm
  • No significant difference in 3, 6, and 12 month primary patency p=0.56.
  • 68.7%, 43.7%, 31% for CAS
  • No difference primary-assisted patency p=0.11.
  • 87.5%, 81.0%, 43.0% for CAS

• Higher number of interventions in CAS.
  • 2.3 vs 1.1 vs 1.3
Conclusions

• CAS has unique presenting features.
• Hallmark: requirement for repeated re-intervention.
• Limitations of small study.
• Further research required.
Key References

