Early Single-Institution Experience with Hemodialysis Reliable Outflow (HeRO) Vascular Access Device

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Background

- Difficult, end-stage access patients
- Exhaustion of upper and lower extremity options
- Central venous stenosis
- Catheter dependent
Hemodialysis Reliable Outflow (HeRO) vascular access device

- Solution for access-challenged and catheter dependent patients
- Patency study (Enrollment 7/04)
- Bacteremia study (Enrollment 3/06)
- FDA approval January 2008
HeRO™ vascular access device
Purpose

• To evaluate our early results
  – Patency
  – Time to access
  – Adequacy of dialysis
  – Adverse events
Methods

• Retrospective chart review

• Primary endpoints
  – Primary patency
  – Secondary patency
  – Adequacy of dialysis

• Kaplan-Meier method
Results

• 24 HeRO catheters in 21 patients
  – April 2009-February 2010

• Mean age = 54 years
  – Women = 13
  – Men = 8

• Median follow-up = 234 days
Results

• Mean duration of procedure = 102 minutes
• Days to first cannulation = 48.41 (Range= 14-244)
• Total HeRO days = 4,011 ( Median = 180)
• Total HeRO interventions = 16 (11 patients)
Primary patency
Secondary patency
Survival

Overall Survival

Percent (%) vs Days

- **SURVIVAL**
- **95% Confidence Limits**
Results

- Adequacy of dialysis (Kt/V)
  - HeRO—1.65 (Range = 0.72-2.48)
  - AV grafts—1.37-1.62
  - Tunneled dialysis catheter—1.29-1.46
Adequacy of dialysis

![Graph showing Kt/V over Months Post Graft]
Results

• Adverse events
  – Steal in one patient
  – Bleeding in one patient
  – Early infection in two patients
Discussion

• **HeRO introduced as alternative for end-stage access patients**

• **Patency and adequacy of dialysis equivalent/superior to tunneled catheters and AV grafts**

• **Each 0.1 decrease in Kt/V = 7% increase in annual mortality**
Discussion

• Retrospective
• Small number of patients
• Further study warranted
Conclusion

• End-stage access challenges
• HeRO vascular access device excellent adjunct
  – Patency
  – Adequacy of dialysis
  – Reduction in catheter dependency