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

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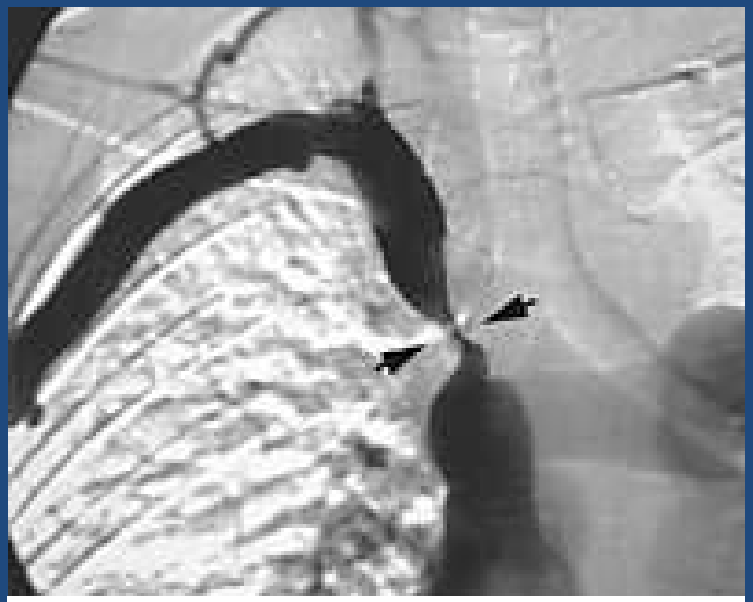
Background

- Difficult, end-stage access patients
- Exhaustion of upper and lower extremity options
- Central venous stenosis
- Catheter dependent

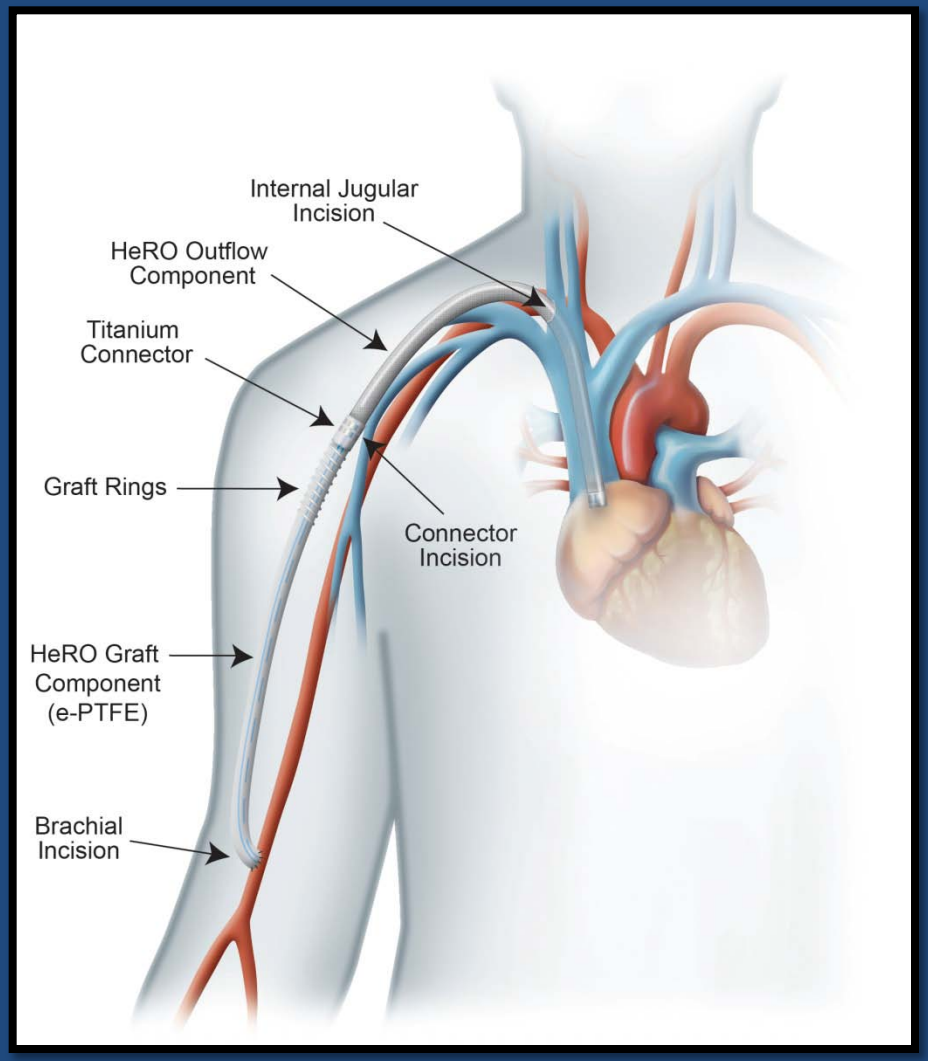


Central venous stenosis

Hemodialysis Reliable Outflow (HeRO) vascular access device

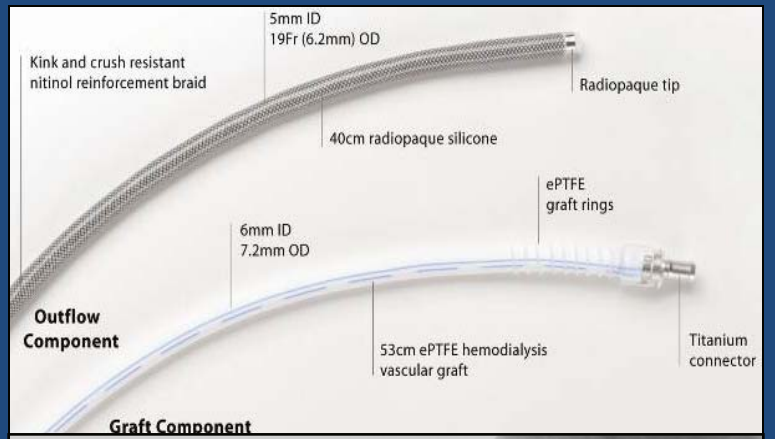
- Solution for access-challenged and catheter dependent patients
- Patency study (Enrollment 7/04)
- Bacteremia study (Enrollment 3/06)
- FDA approval January 2008

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

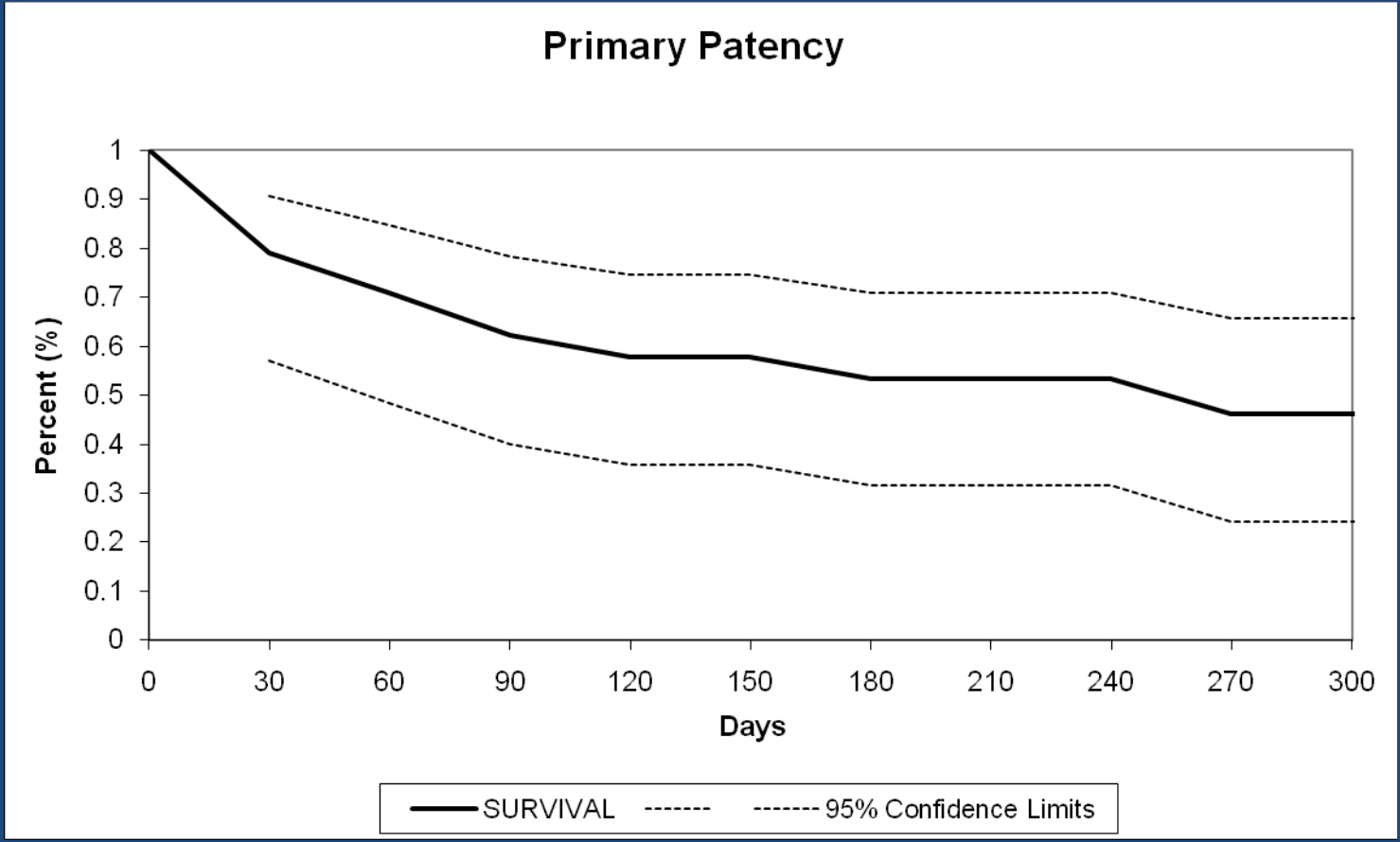
Results

- 24 HeRO catheters in 21 patients
  - April 2009-February 2010
- Mean age = 54 years
  - Women = 13
  - Men = 8
- Median follow-up = 234 days

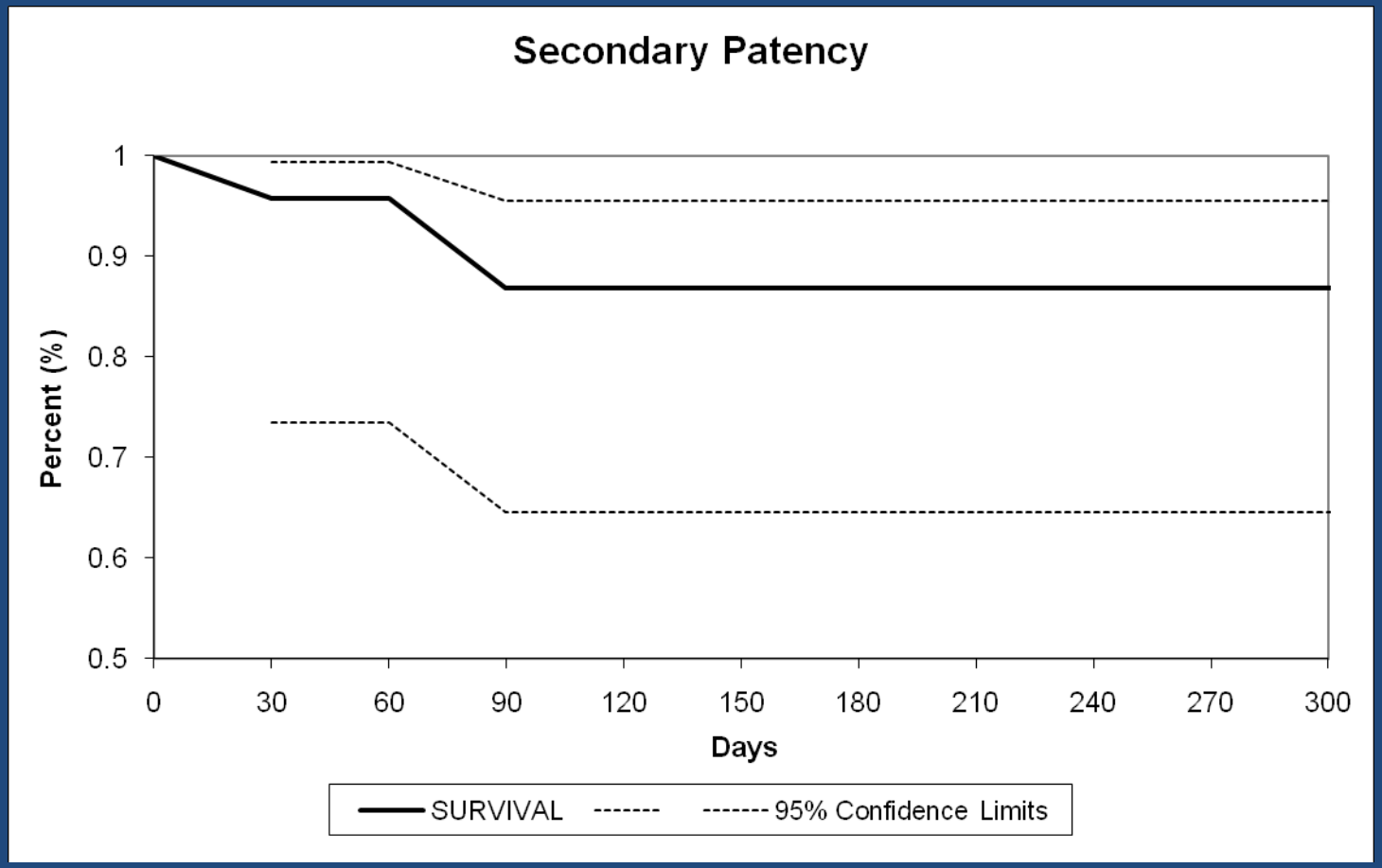
Results

- 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)

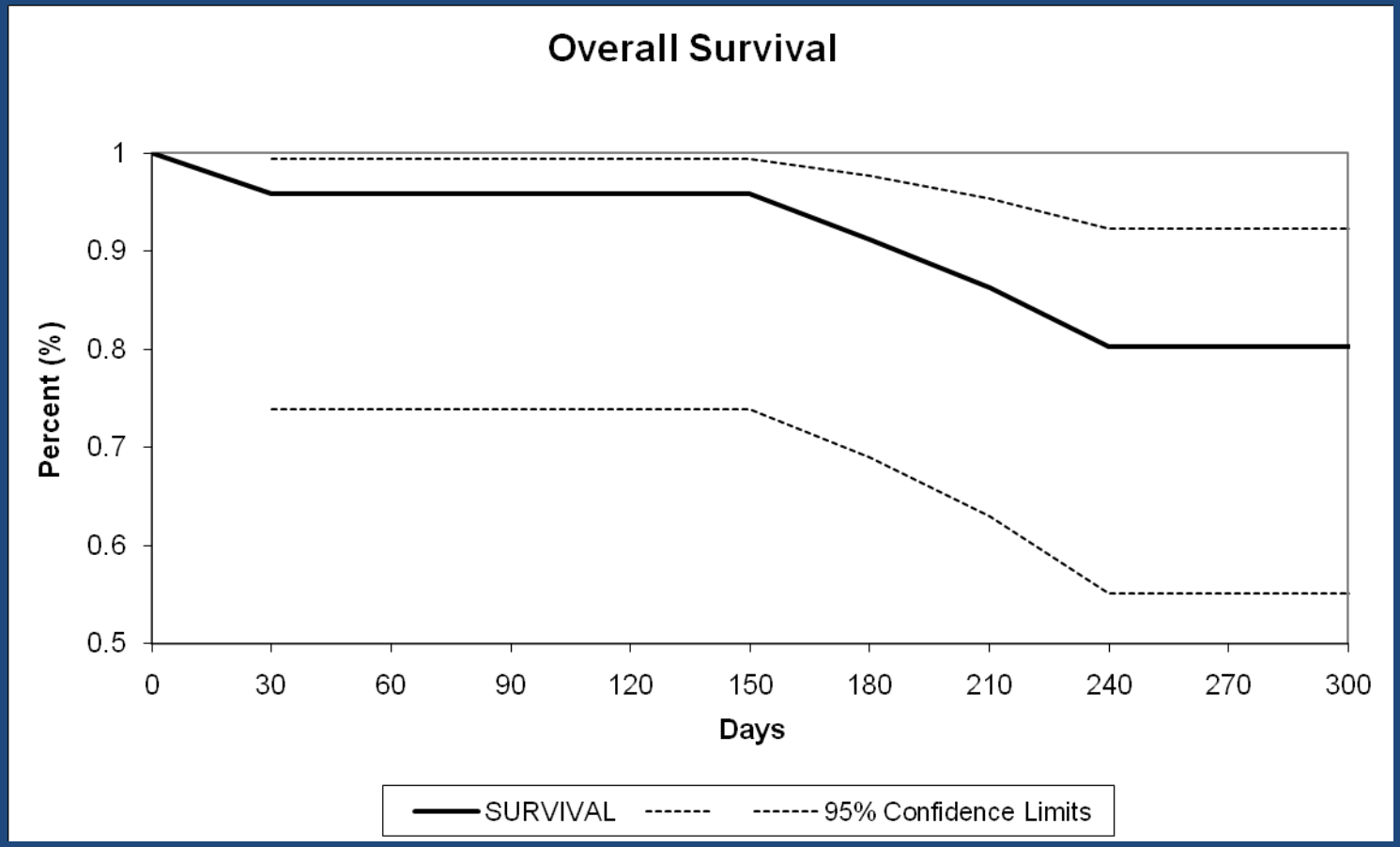
Primary patency



Secondary patency

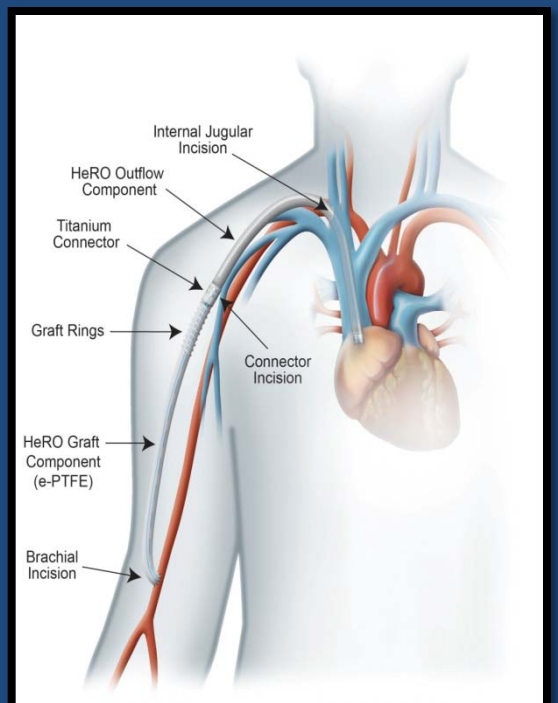


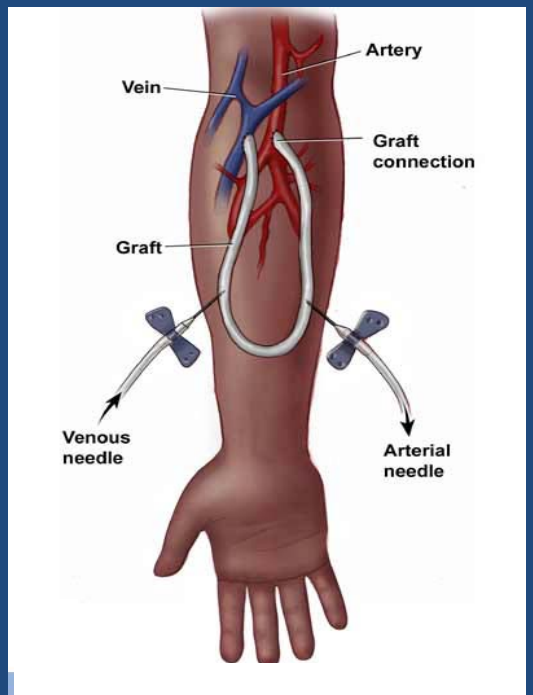
Survival


Overall Survival
Percent (%)
1
0.9
0.8
0.7
0.6
0.5
0
30
60
90
120
150
180
210
240
270
300
Days
SURVIVAL
95% Confidence Limits

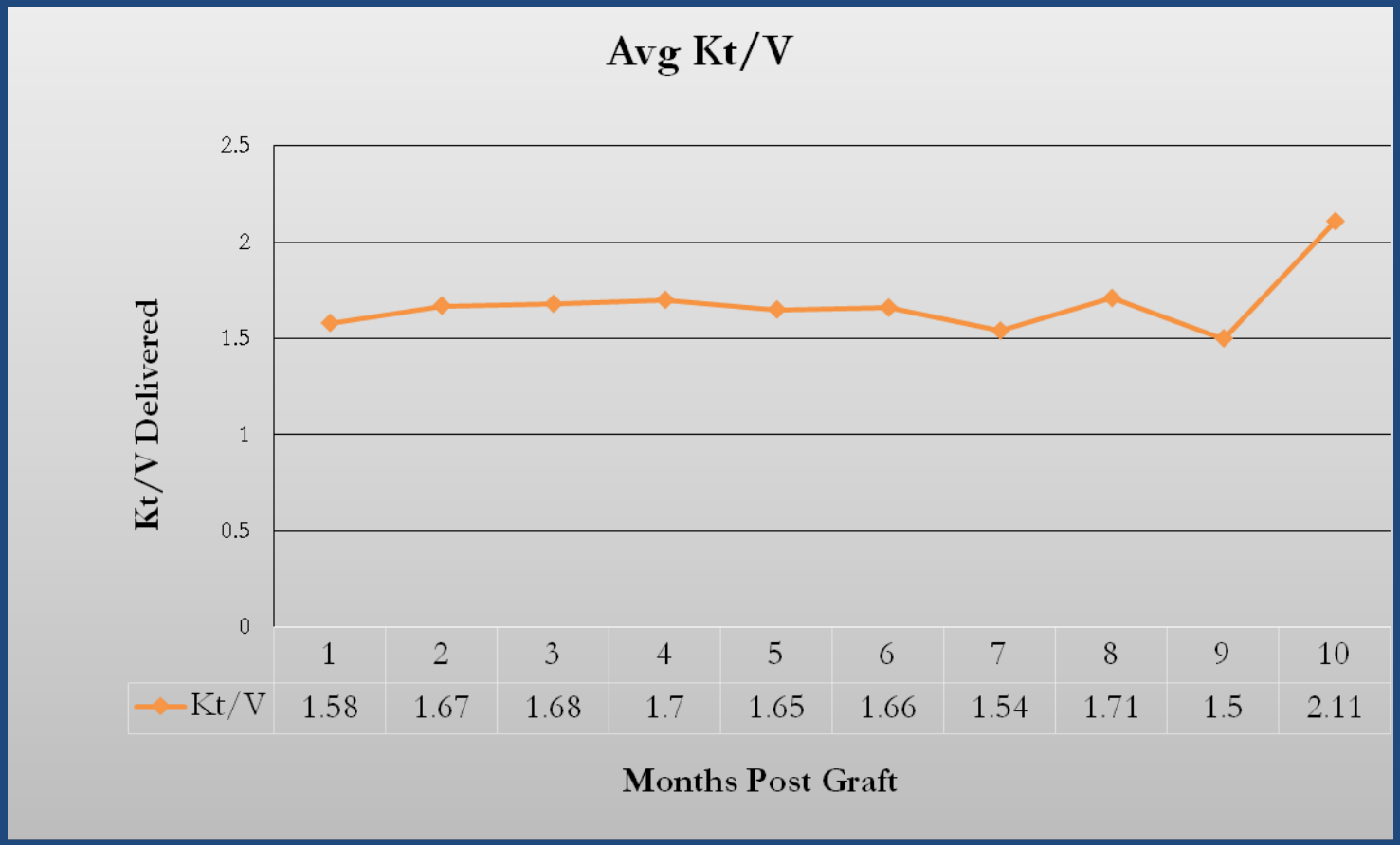
Results

- 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



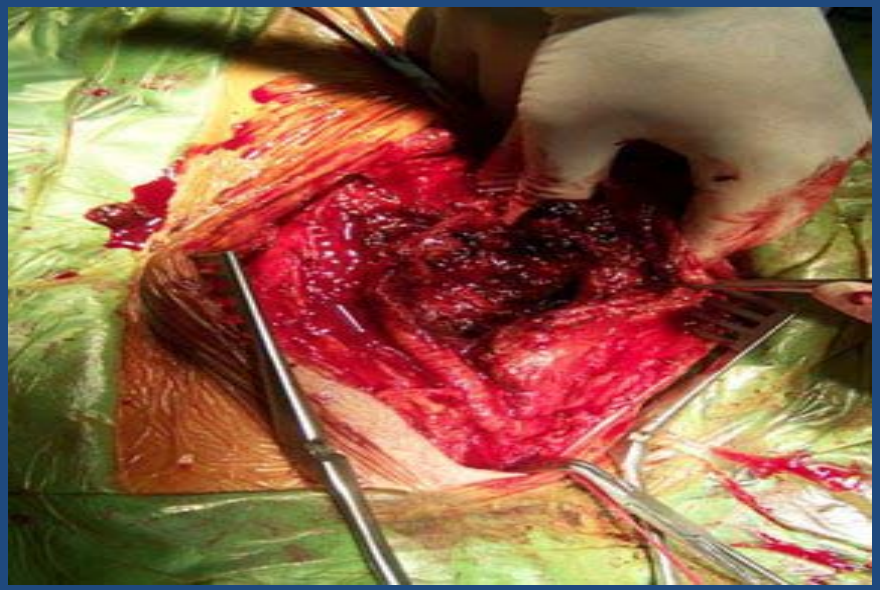


Adequacy of dialysis



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