The future of angioaccess
Disclosure

Speaker name: Scott Trerotola

I have the following potential conflicts of interest to report:

Consulting: BD Bard, B Braun, Cook, Teleflex, Adrenas, WL Gore, MedComp
Royalty, Cook and Teleflex
1966

- I was 6 years old
- Man had not yet walked on the moon
- BUT two very important things happened

1) The Brescia-Cimino fistula was described for the first time (November 17) AND

2) Star Trek started its 5 year run on television (September 22)
1966-2020

SCIENCE FICTION?
• Predicting the future
  • not a viable line of work
  • at best 50/50 chance of being correct
  • “future of...” talks assigned to “older” speakers
  • Is there a connection?
• Future of angioaccess?
  • Assumes hemodialysis has a future
  • Disruptive technology might eliminate
    • lab grown kidneys
    • pharmacological cure for renal failure
  • If, and only if, hemodialysis has a future
    • Perfect vascular access
      • Single insertion or creation
      • No maintenance
      • Perfect function
      • Acceptable to patient
      • Inexpensive
      • Widely available
      • No side effects/complications
      • Durable (decades)
Could a catheter be the future?

Ideal dialysis catheter
- Easy to insert and remove
- Inexpensive
- Free of infection
- Free of fibrin sheath (“invisible to body”)
- Does not cause venous thrombosis or stenosis
- Delivers high flow (>400 ml/min) reliably
- Durable
- Does not presently exist
• Is the future here now with eAVF?
• Early results are promising
• Limitations
  • Adoption by units/cannulation
  • Additional interventions
  • Suitability/screening
  • Training
  • Young (? immature) technology
• Too soon to tell
  • Likely part of the future
Can new/existing devices help create the perfect vascular access?

- Stent grafts
  - short term improved patency, probably at expense of long term access viability
  - not a panacea
- DCBs
  - some encouraging results
  - not a panacea
• To predict the future, look to the past
• Brescia-Cimino fistula remains the best angioaccess by far
• Only access to routinely last decades
• Maintenance low, if any
• Low cost to create
• Low risk of steal
• “And while the future's there for anyone to change, still you know it seems, it would be easier sometimes to change the past”
  - Jackson Browne

• Can we change the future of angioaccess?
  • Venous preservation
  • Arterial preservation
  • Both needed for BCF

40 year old AVF
• Creating the future of angioaccess in CKD patients pre-access
  • No PICC lines
  • No IVs/venipuncture in the arm (especially cephalic) veins
  • No subclavian catheters
  • No transradial procedures

c/o Ted Saad-AVF age unknown
• Creating the future of angioaccess at the time of surgery and after
  • Committed, highly trained surgeons
  • Microsurgical technique
  • Wraps, etc?
  • Maturation devices?
  • Limited use of maturation procedures (n=1)

C/o Ted Saad-AVF age unknown
• What is the (near) future of angioaccess, assuming hemodialysis is not eliminated by new technology?
• It’s been there all along...at least since 1966
• We just have to embrace it