

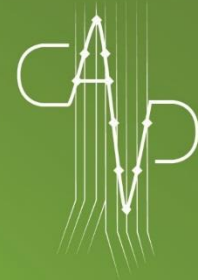


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CONTROVERSES ET ACTUALITES EN CHIRURGIE VASCULAIRE

CONTROVERSIES & UPDATES IN VASCULAR SURGERY

**JANUARY 23-25 2020**



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MARRIOTT RIVE GAUCHE & CONFERENCE CENTER | PARIS | FRANCE

The future of angioaccess

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[WWW.CACVS.ORG](http://WWW.CACVS.ORG)

**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)

**CHRONIC HEMODIALYSIS USING VENIPUNCTURE AND A SURGICALLY  
CREATED ARTERIOVENOUS FISTULA\***

MICHAEL J. BRESCIA, M.D.,† JAMES E. CIMINO, M.D.,‡ KENNETH APPEL, M.D.,§  
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BRONX, NEW YORK



1966-2020  
**SCIENCE FICTION?**

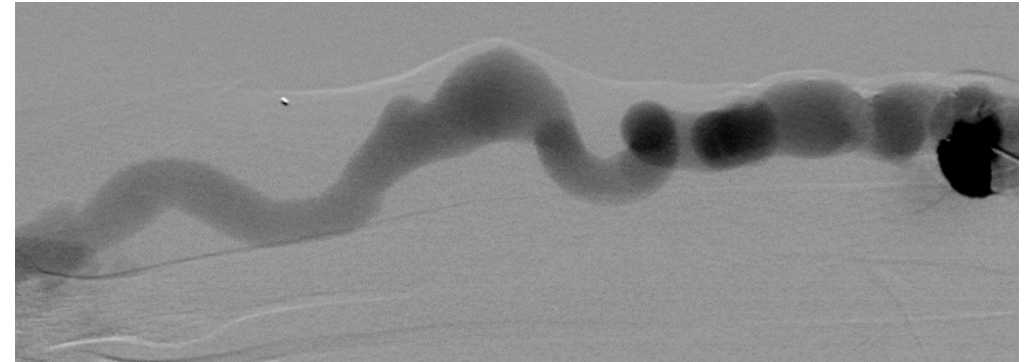


- Predicting the future
  - not a viable line of work
  - at best 50/50 chance of being correct
  - “future of...” talks assigned to “older” speakers
  - Is there a connection?





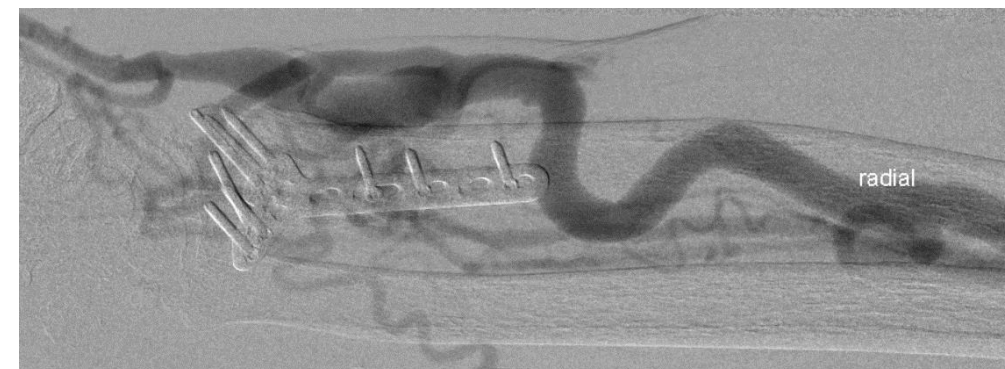
- Future of angioaccess?
  - Assumes hemodialysis has a future
  - Disruptive technology might eliminate
    - lab grown kidneys
    - pharmacological cure for renal failure
  - If, and only if, hemodialysis has a future
    - Perfect vascular access
      - Single insertion or creation
      - No maintenance
      - Perfect function
      - Acceptable to patient
      - Inexpensive
      - Widely available
      - No side effects/complications
      - Durable (decades)



20 year old AVF



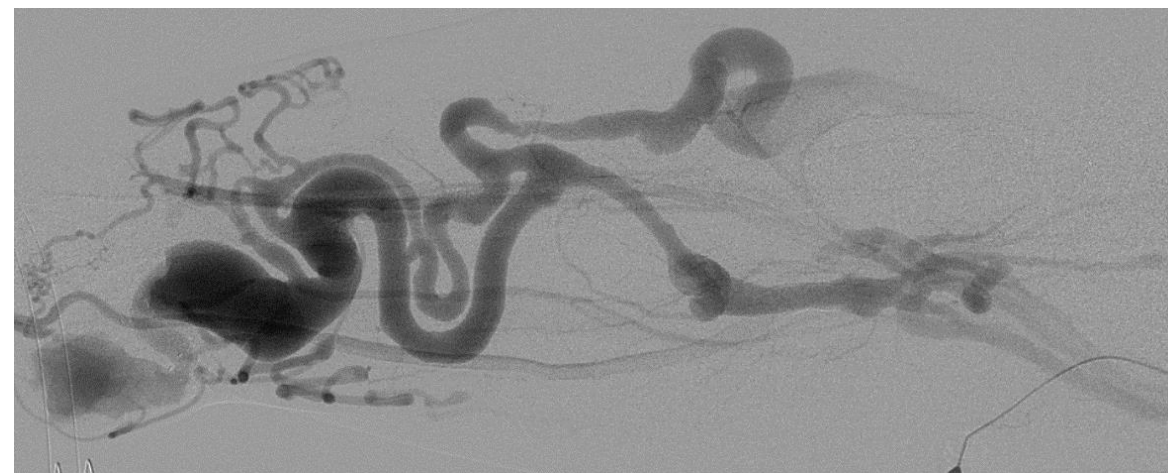
- Could a catheter be the future?
- Ideal dialysis catheter
  - Easy to insert and remove
  - Inexpensive
  - Free of infection
  - Free of fibrin sheath (“invisible to body”)
  - Does not cause venous thrombosis or stenosis
  - Delivers high flow (>400 ml/min) reliably
  - Durable
  - **Does not presently exist**



21 year old AVF



- 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

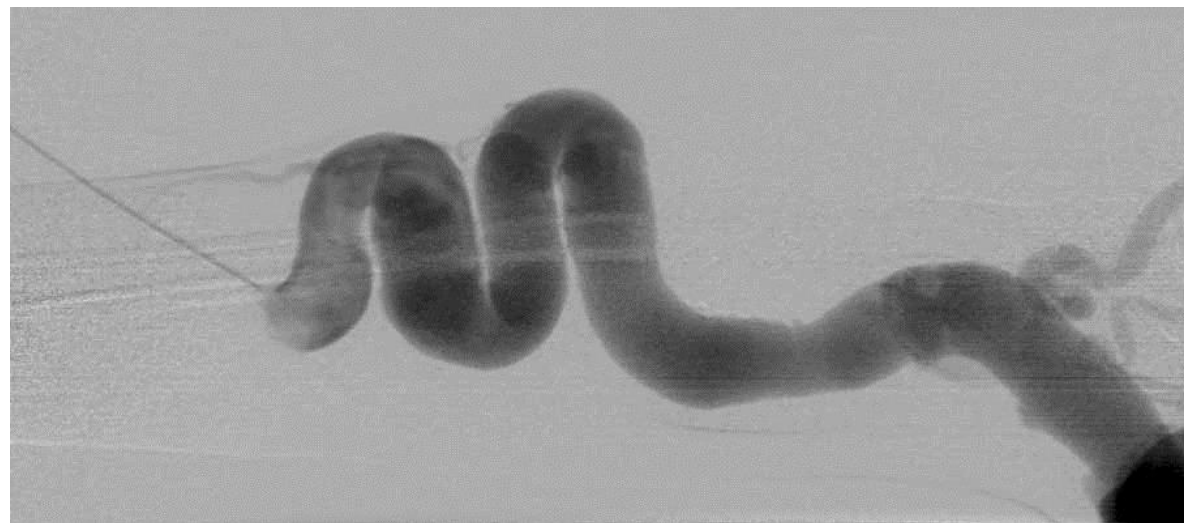


30 year old AVF





- 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



30 year old AVF



- 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



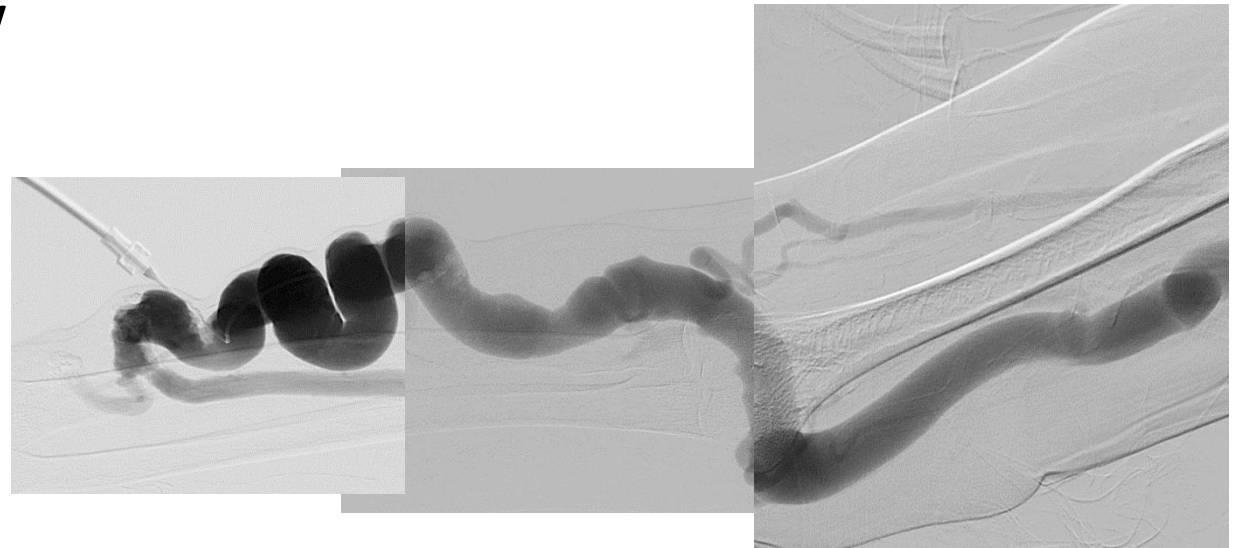
32 year old AVF



- “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

