AVMs - Complication vs Cure

Robert J. Rosen, M.D.
Lenox Hill Heart and Vascular Institute
New York

30 years of respectful disagreement

- Wayne is a giant in the field who I respect and honor for his contributions
- “Palliation vs cure” in the meeting program
- We both want to help patients with vascular malformations
- I believe alcohol has a higher complication rate.
- Just because he can do it doesn’t mean you can
- Different risk tolerance?
- The magic and mysticism of “finding the nidus”

We are not treating cancer here

- Most vascular malformations will follow a fairly benign clinical course
- No matter what technique is used, there is a significant likelihood of recurrence
- We have a century of experience with surgeons “taking the bull by the horns” in this condition, and the results have been less than stellar – we should not make the same mistakes

All about risk:benefit

And tolerance level for complications and prolonged recovery

Everyone has complications

- All risk cannot be eliminated – patients have died after dental procedures and face lifts
- How informed is “informed consent”? 
- Primum non nocere – first do no harm
- If you perform “high risk” procedures, your turn will come

How do we define “Cure”? 

- Clinical – presenting complaint resolved?
- Radiologic – no evidence of residual lesion?
- Long term – no subsequent treatment required for life?
Types of complication

• Transient – blistering, ulceration, discoloration, neuropathy
• Long term – scar, deformity, permanent neuropathy
• Catastrophic – paralysis or other permanent disability, intractable pain, amputation, death

intra-arterial ethanol

These are all outside cases from the past year

32 YEAR OLD TEACHER WITH RT PELVIC PAIN, AVM FOUND ON ULTRASOUND. UNDERWENT ETHANOL EMBOLIZATION OF RT HYPOGASTRIC AND IMA BRANCHES SUPPLYING LESION

POST EMBOLIZATION STUDY

STUDY SHOWS MARKEDLY REDUCED NIDUS. PT PERFORATED COLON REQUIRING COLOSTOMY, HAS NEUROGENIC BLADDER, SLOUGHED PERINEUM, PERMANENT SCATIC NERVE INJURY, AMBULATES WITH WALKER

CARDIOVASCULAR EFFECTS

Risk of complication must match severity of condition

• Transient complications may be warranted in a significantly symptomatic lesion
• Long term and catastrophic complication should only be risked when treating a life or limb-threatening condition – these are rare
OVERALL RESULTS
3015 Treated AVM Patients 1980-2016

- Cured, 16
- Improved, 67
- No change, 12
- Worse, 3

85% EITHER CURED, ASYMPTOMATIC OR SIGNIFICANTLY IMPROVED
(Includes only congenital (non-acquired) lesions, excludes hemangiomas)

NYU/Lenox Hill Experience 1980-2016

- 3015 pts treated over past 36 years
- 0 deaths
- 3 amputations, not direct result of embolization (1 digit, 1 BKA, 1 forearm after attempted resection)

Res ipsa loquitur
The thing speaks for itself