EVAR

• Endovascular techniques revolutionized treatment of AAA
• EVAR-2 Trial, 2010 provided Level 1 evidence regarding high-risk patients with AAA:
  • “No survival advantage exists with EVAR over observation”

Level 1 Evidence*: (this is for you, Frank)

• Properly designed randomized control trials
• Demonstrate the effect size of an intervention
• Characterized by strict inclusion/exclusion criteria, are resource intensive, and can be difficult to replicate

*Enrolled individuals are frequently younger, white and affluent, receiving care at academic institutions, and clinical scenarios are scripted

Level II-1, II2, 2c Evidence*:

• Definition varies by region
• One example: use of large administrative and clinical datasets to compare outcomes from different interventions
  – subject to selection bias and limited granularity
• Characterized by high power (large numbers) and external validity*
  – Examples include VQI, NSQIP, NCDB, SEER, HCUP

*Includes “real life” patients and clinical scenarios
Level 2 Evidence (NSQIP)

- EVARs 2005-2013
- EVAR-2 criteria used to define “high risk” cohort
- 30 day post-operative outcomes

30-day Mortality for High-Risk Patients Following EVAR:
Contemporary Cohort: 1.9%
EVAR-2 Trial: 7.3%

Contemporary mortality following EVAR is substantially lower than reported in the EVAR-2 trial

How do we understand this?:
- Our interpretation…
- RCTs: include/exclude patients for analysis, use selected devices, include learning curve for new techniques
- Contemporary cohorts: inclusive population, limited granularity, allows for changing devices over time

Conclusions:
- Randomized controlled trials (level 1 evidence) demonstrate effect sizes for new therapies…
- Large retrospective data analysis augment the findings for these therapies across contemporary practice patterns and devices
Conclusions:
• Intelligent integration of data across study types leads to improved care of patients and preserves the role of critical thinking for surgeons

Key Points:
• Endovascular techniques and their indications for use are rapidly evolving
• Thoughtful assessment of literature allows surgeons to nimbly integrate evidence into practice

Our analysis of the current literature suggests we should NOT deny EVAR to high-risk patients

Thank you.