STATUS OF EVAR FOR RUPTURED AAAs

DEBATE: IN SUPPORT OF EVAR

FRANK J. VEITH

3rd INTERNATIONAL MEETING ON AORTIC DISEASES

LIEGE, BELGIUM – OCT 5, 2012
ENDOVASCULAR TOOLS IN THE MANAGEMENT OF RAAAAs CONCEPT WE HAVE HAD SINCE FIRST EVAR IN 1992
REASON TO PURSUE EVAR TREATMENT OF RUPTURED AAAs

- High Mortality (35-55%) And Morbidity From Standard Open Surgical Repair (OR)

∴ Clear Room For Improvement
HAVING OUR OWN SURGEON-MADE GRAFT AVAILABLE & STERILE IN 1994
FIRST EVAR FOR RAAA APRIL 1994

SURVIVED >3 YEARS
IN 1994 & 1995 WE TREATED BY EVAR

11 Other Pts With Ruptured AAAs & Prohibitive Risk For Open Surgical Repair (OR)
OUR RESULTS OF EVAR FOR RUPTURED AAAs In 1994 & 95

12 Patients Treated

12 Aneurysms Excluded

2 Postoperative Deaths

17% Mortality
OUR HYPOTHESIS IN 1995

EVAR And Endovascular Techniques
For All Ruptured AAAs With OK Anatomy Even In Good Risk Patients
OUR RESULTS OF ENDOVASCULAR TREATMENT OF RUPTURED AAAs

57 Patients Treated (EVAR If Poss)

45 With EVAR (79%)

12 Open Operations (21%)

7 Deaths – 12% Mortality
THESE AND OTHERS’ RESULTS SUGGEST THAT EVAR IMPROVES Rx OUTCOMES FOR RAAAs
HOWEVER

SOME GROUPS HAVE HAD POOR RESULTS WITH EVAR FOR RAAAAs
3 CONTROLLED STUDIES SHOWED EVAR NO BETTER THAN OPEN REPAIR (OR)

- PEPPELENBOSCH, BUTH ET AL J VASC SURG 43:1111, 2006
- CHO, ET AL - JVS 2012
EVAR FOR RUPT AAAs

- REMAINS CONTROVERSIAL

- SOME STILL SAY WE NEED RCT

- THREE PLANNED — i IN UK
  i IN FRANCE; i IN NETHERLANDS
BECAUSE OF THIS CONTROVERSY
COLLECTED WORLD EXPERIENCE WITH ENDOVASCULAR Rx (EVAR) FOR RUPT AAAs

FJ VEITH, M LACHAT, M MALINA E VERHOEVEN, G COPPI, T LARZON M MEHTA & RAAA INVESTIGATORS

ANN SURG -- NOV 2009; 250 : 818-824
RESULTS – UPDATED THROUGH 2009

• FROM 13 CTRS – EVAR ON ALL ANAT POSS RAAA PTS
  680 RAAA PTS RxS BY EVAR
  763 RAAA PTS RxD BY OR

30-DAY MORTALITY

EVAR OR

19.7% VS 36.3% (P < .0001)
HOWEVER NOT A RCT

CASES MAY NOT BE COMPARABLE – PTS WITH BAD ANATOMY & TREATED BY OR MAY BE WORSE RISK
THAT UNLIKELY POSSIBILITY OFFSET BY 10-15% PTS CATEGORICALLY IMPOSSIBLE TO TREAT BY OPEN REPAIR WHO WERE SUCCESSFULLY Rx'D BY EVAR
86 y/o Jehovah’s Witness; BP=80
Hct 40% → 27%; INR = 4

RUPTURE

10 CM AAA
BAD NECK – REFUSED BLOOD
HCT DECR TO 17%; BP to 60 mm

Left renal
DESpite BAD NECK
HCT 27 →17% - BP →60
AneuRx EVAR

Left Renal
HCT = 17% → 24% → 40%
WELL >6 YEARS LATER
WHY CAN SOME GROUPS LIKE THE 13 CENTERS GET GOOD RESULTS & OTHERS NOT ???
WE BELIEVE
TREATMENT STRATEGIES
ADJUNCTS & TECHNIQUES
MAKE A DIFFERENCE AND
ACCOUNTS FOR BETTER
RESULTS
SOME KEY ELEMENTS

TOP TIPS

VEITH, ET AL
ANN SURG, 2009
250:818-824
TOP TIP # 1

RESTRICT
RESUSCITATION

“HYPOTENSIVE
HEMOSTASIS”

IF MOVING & TALKING - OK
IF BP 50-70 mm Hg, IT’S OK
TOP TIP # 2

• IN OR – 50-70% REQ OPEN COMPONENT
• PLAN & PREPARE
• SET UP EQUIPMENT
• REHEARSE, PROTOCOL
• ORGANIZATION
TOP TIP # 3

• PLACE TRANSFEMORAL WIRE IN SUPRACELIAC AORTA UNDER LOCAL ANESTHESIA
• LOCAL THEREAFTER CONTROVERSIAL
TOP TIP # 4

- ONLY PLACE LG SHEATH & INFLATE BALLOON IF NECESSARY (~25% OF CASES)
TIP # 5 WHEN HYPOTENSIVE HEMOSTASIS DOES NOT WORK & NEED SUPRACELIAC BALLOON TECHNIQUE IS KEY CANNOT LOSE CONTROL

MALINA VEITH IVANCEV, JEVT 2005 VIDEO – SVS – 2010; JVS 2013
TOP TIP # 5 (CONTD)
FAVOR FEMORAL INSERTION SITE FOR ANGIO & BALLOON
FEMORAL INSERTION

- EASIER
- QUICKER, BUT
- BLOWDOWN
- CUMBERSOME
- CANT LOSE CONTROL
FEMORAL INSERTION WITH MODULAR EVG

- 14 Fr SHEATH VIA LEFT(L) FEM
- SUPRACELIAC BALLOON VIA L
- FLUORO-GUIDED INFLATION WITH SHEATH SUPPORT
- DEPLOY BODY & IPSI LIMB VIA R
- 2nd BALLOON VIA R SIDE
- INFLATE IN BODY, REMOVE 1st BALLOON VIA SHEATH, FINISH
SUPRACELIAC BALLOON

SHEATH W BALLOON & PIGTAIL VIA L FEM

MAIN ENDOGRAFT VIA R FEM
TOP TIP # 6

• WATCH FOR & Rx ABD COMPARTMENT SYNDROME
• DECOMPRESS PRN
• VAC DRESSING, ETC
• LACHAT, MAYER, VEITH ET AL – JVS JULY 09
TOP TIP # 7

- MUST USE EVAR ON ALL POSSIBLE PATIENTS
- MANY ONLY DO STABLE PTS WRONG BECAUSE...
- BIG SURVIVAL GAIN IS WITH HIGH RISK UNSTABLE PTS
TOP TIP # 8

WHEN EVAR NOT POSSIBLE OPEN REPAIR WITH OR WITHOUT BALLOON - ? CHIMNEY GRAFT
CONCLUSION I

AS WITH EVERYTHING ELSE IN THIS WORLD

• HOW YOU DO EVAR FOR RAAAs MATTERS - &

• MUST INCLUDE TOP TECH TIPS MENTIONED
CONCLUSION II

THE LOW MORTALITY (< 20%) & MANY INOPERABLE CASES TREATED SUCCESSFULLY SHOW EVAR IS A BETTER WAY TO TREAT RUPTURED AAAs IN ANATOMICALLY SUITED PTS
AN INSTITUTION HAS THE SKILLS, FACILITIES, GRAFTS EQUIPMENT, ORGANIZATION & WILL TO DO EVAR FOR RAAAs
CONCLUSION III

• A RCT (EVAR VS OR) IS NOT NEEDED
• WILL BE DIFFICULT
• LIKE DOING RCT OF PROX CONTROL IN ART BLEEDING