FUTURE OF AORTIC ARCH REPAIR

ROGER GREENHALGH
Disclosure

Speaker name:
Roger Greenhalgh

I have the following potential conflicts of interest to report:

☐ Consulting
☐ Employment in industry
☐ Stockholder of a healthcare company
☐ Owner of a healthcare company
☐ Other(s)

☒ I do not have any potential conflict of interest
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Octav Botnar – Grateful Patient
Learn the Future from the Past

- Tuberculosis
- Stomach
- Breast
- Aorta

<table>
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<tr>
<th>Nothing</th>
<th>Major surgery</th>
<th>Minor intervention</th>
<th>Medicine</th>
<th>Prevention</th>
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<td>Open</td>
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Major Open Surgery 1908-2008
Major open surgery 1908-2008

1975 peak: The can opener

Stanley Crawford

“Critical issues” at the SVS
Very minor intervention

The tear away: medical student

Thomas Fogarty

Embolectomy
Lesser invasive

“Is he Crazy Charlie?”

Dotter
Lesser procedure

Percutaneous transluminal angioplasty

Grüntzig
Palmaz Stent heralds EVAR
EVAR before 1990

Volodos

He referred to Dotter
EVAR 1990

Parodi
Palmaz
Barone
Argentina
Abdominal aortic aneurysm referral has fallen

1994-2000

- Smoking cessation
- Statins
- Surgery for >75 years of age

Prevention is with us already
STEP INVESTIGATORS
Aims of the STEP Study

To provide best practice for endovascular procedures for the ascending aorta, aortic arch, great vessel branches and high TEVAR to lower the risk of cerebral embolism

- Ascending aorta: tube grafts, scalloped stent-grafts
- Arch procedures: fenestrated and branched aortic arch stent-grafts (Great vessel involvement)
- Descending aorta: high standard TEVAR procedures landing in zone 2 (Ishimaru)

STEP    Built to learn from each other
Pathologies

- Air
- Thrombus
- Particles / Plaque

Stroke from Thoracic Endovascular Procedures
The 18 STEP Collaborators

- Stéphan Haulon
- Tilo Kölbel
- Frank Arko
- Carlos Bechara
- Adam Beck
- Dittmar Böckler
- Martin Czerny
- Michael Dake
- Matthew Eagleton
- Dennis Gable
- William Jordan
- Ahmed Koshty
- Gustavo Oderich
- Jean Panneton
- Geert Schurink
- Santi Trimarchi
- Rod White
- Marwan Youssef

2 Investigators

16 Collaborators
The STEP Advisors

Neurologist – Hugh Markus

Interventional Cardiologist – Simon Redwood

Cardiothoracic Surgeon – Heinz Jakob

Neuroradiologist - Kyriakos Lobotesis
STEP Questionnaire

General Questions on experience

Questions on current practice:

Pre-Procedural

Intra-Procedural

Post-Procedural

Key Findings
STEP Results

Experience of KOL (n = 18)

Numbers of procedures per Zone and per year

- Zone 0, n = 135 (17%)
- Zone 1, n = 171 (21%)
- Zone 2, n = 510 (62%)

Cumulative years of experience

- Zone 0 = 143 years (range 3 – 15)
- Zone 1 = 193 years (range 4 – 15)
- Zone 2 = 232 years (range 6 – 20)
Manufacturers of devices used by the 18 Operators

- Terumo Aortic: 7 of 18
- Cook Medical: 13 of 18
- Gore: 9 of 18
- Jotec: 1 of 18
- Medtronic: 8 of 18
Interdisciplinary team central to the final decision for treatment strategy
MAJOR OPEN ERA → 1908 - 2008

ENDOVASCULAR ERA → NOW

MEDICAL ERA → SLOW TO COME

PREVENTION → ALREADY

THE SEQUENCE IS INEVITABLE
THE SURGEON MUST ADAPT
BE THOUGHTFUL
DRIVE ADVANCE