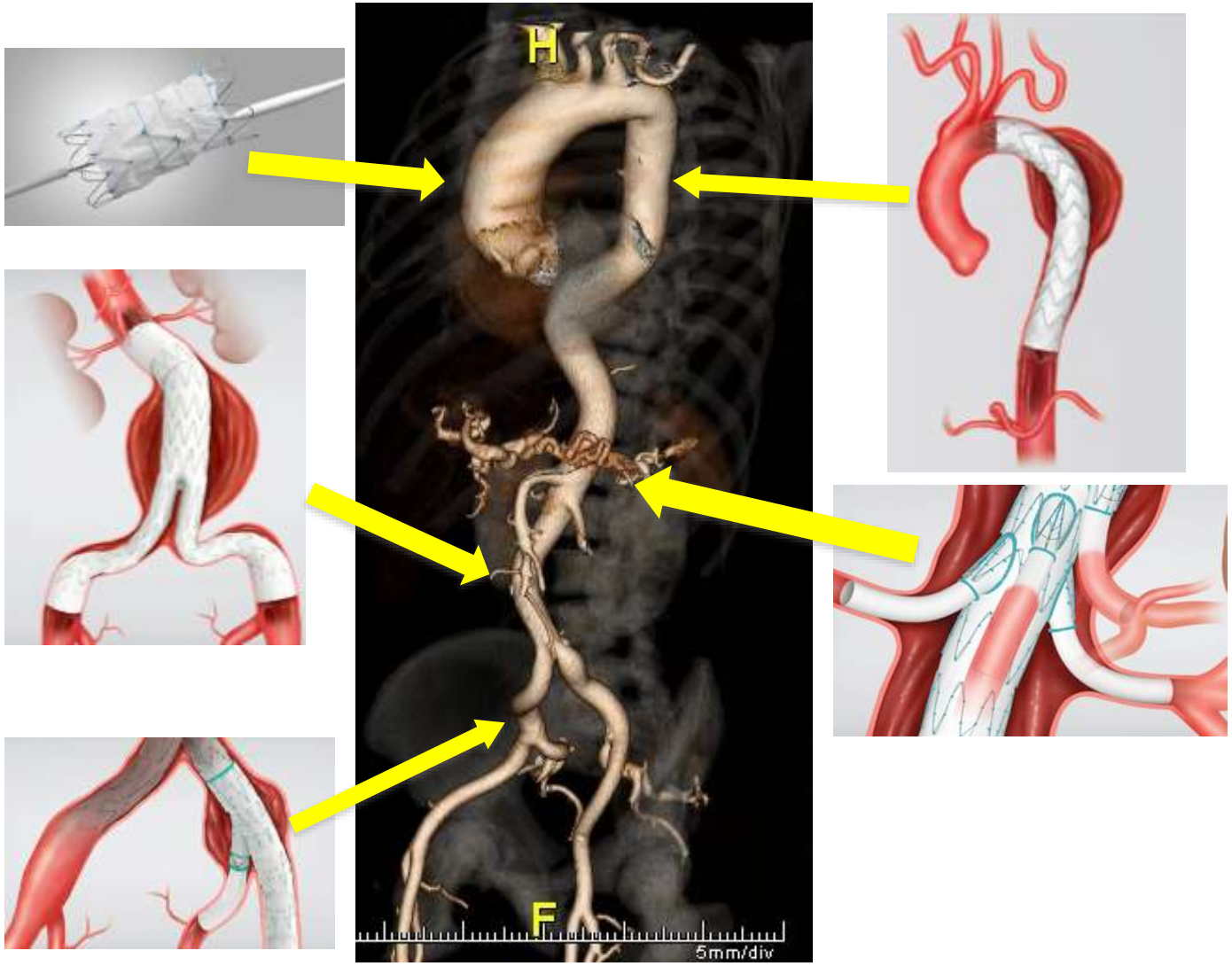
Le malattie dell'aorta toracica e addominale e l'ipertensione

Prof Fabio Verzini, MD, FEBVS

Associate Professor of Vascular Surgery,

University of Turin,

Città della Salute e della Scienza, Turin, Italy


H
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The XXI century's endovascular surgeon

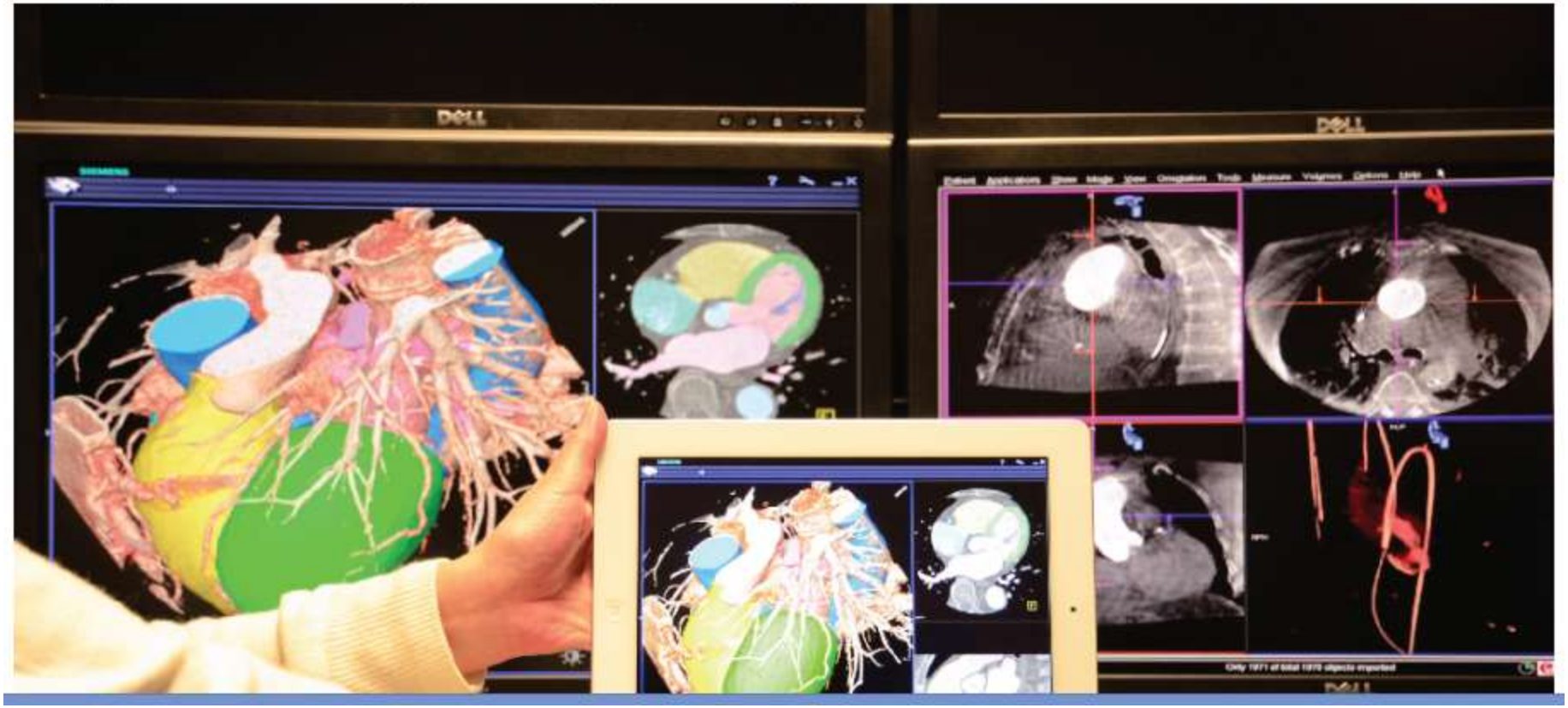
1. Surgical skill
2. Endo skill
3. High tech experience
   - Imaging
   - Materials

How data fusion will transform tomorrow's operating rooms

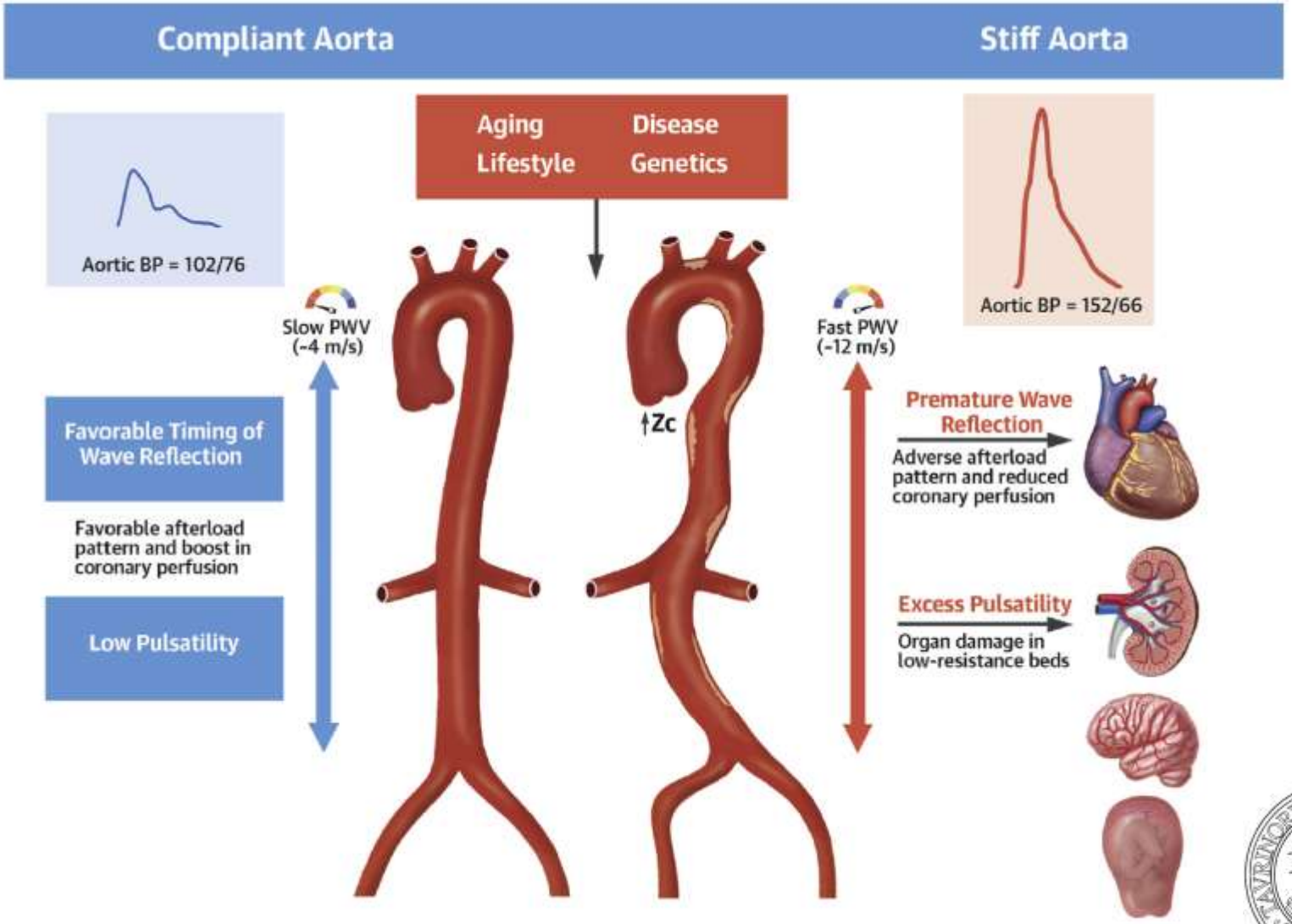
Enquiry

SATURDAY, 23 AUGUST 2014

Imagine driving to an appointment at night without the benefit of streetlights, signs, people who can help, or even windshield. All you have is two displays to the side of the steering wheel: One shows a street map; the other shows where you are. Wouldn't things be a lot simpler if the images could be combined?



Conseguenze dell'aumento della rigidità aortica



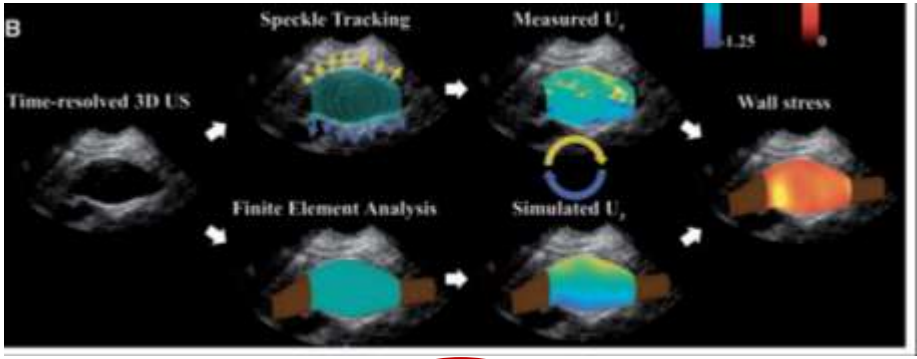
Chirinos, J.A. et al. J Am Coll Cardiol. 2019;74(9):1237-63.

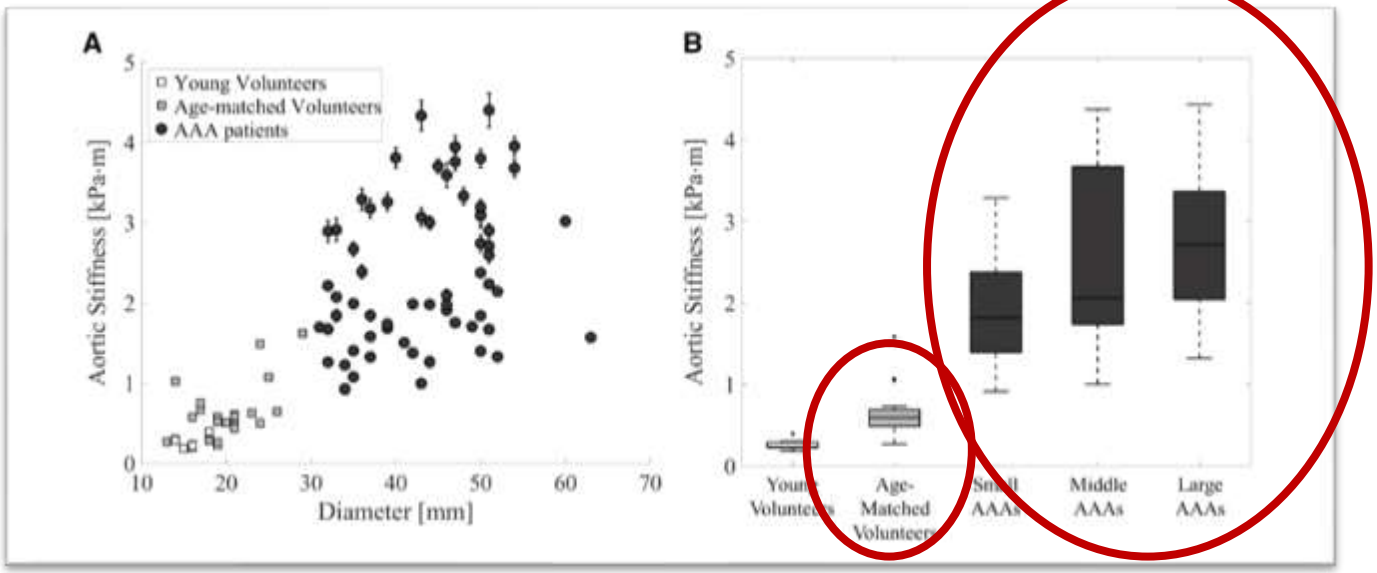
“Arterial stiffness” e patologia aneurismatica

ESC European Society of Cardiology | European Heart Journal - Cardiovascular Imaging (2019) 20, 185–191

Quantification of aortic stiffness and wall stress in healthy volunteers and abdominal aortic aneurysm patients using time-resolved 3D ultrasound: a comparison study

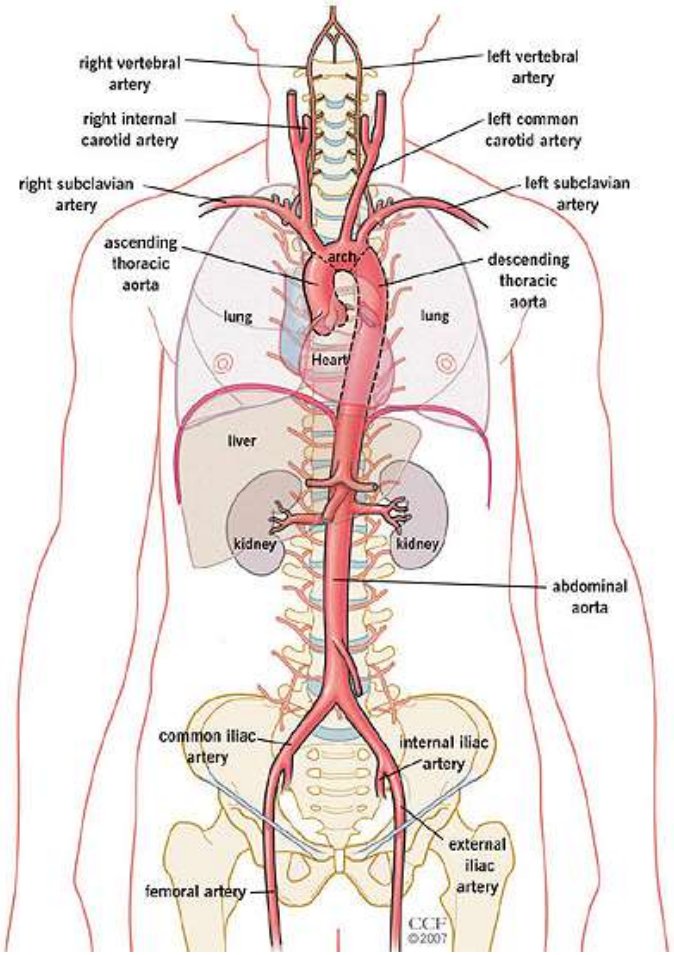
Emiel M.J. van Disseldorp[1,2]*, Niels J. Petterson[1], Frans N. van de Vosse[1], Marc R.H.M. van Sambeek[1,2], and Richard G.P. Lopata[1]





I pazienti vascolari e l'ipertensione

dati relativi alla casistica della Chirurgia Vascolare Universitaria 2015-2020



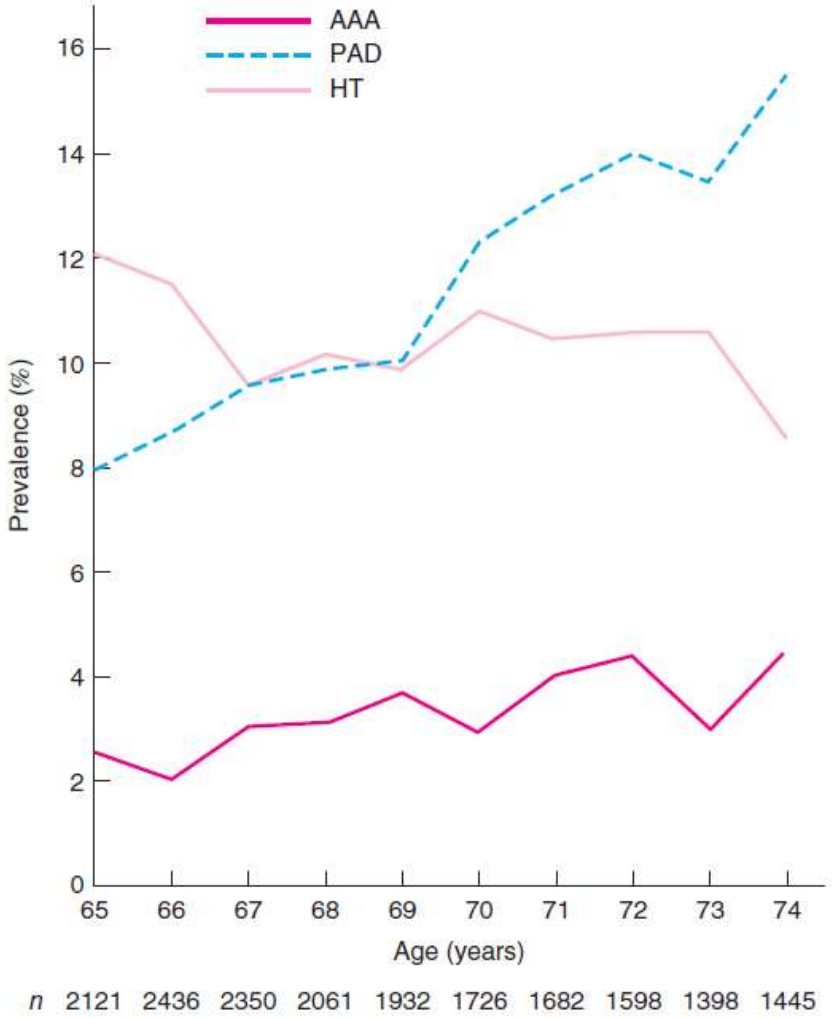
	pz ipertesi (%)
CEA	790/889 (88%)
CAS	146/160 (90%)
TEVAR (2018-2020)	41/48 (85%)
AAA OPEN	391/511 (78%)
AAA EVAR	252/310 (81%)
AOCP	816/970 (84%)

Prevalence

Baseline prevalence of abdominal aortic aneurysm, peripheral arterial disease and hypertension in men aged 65–74 years from a population screening study (VIVA trial)

BJS 2015; **102**: 902–906

N. Grøndal[1], R. Søgaard[2] and J. S. Lindholt[1,3]



Prevalence in Danish males= 3.3%, it was 4% in 1998

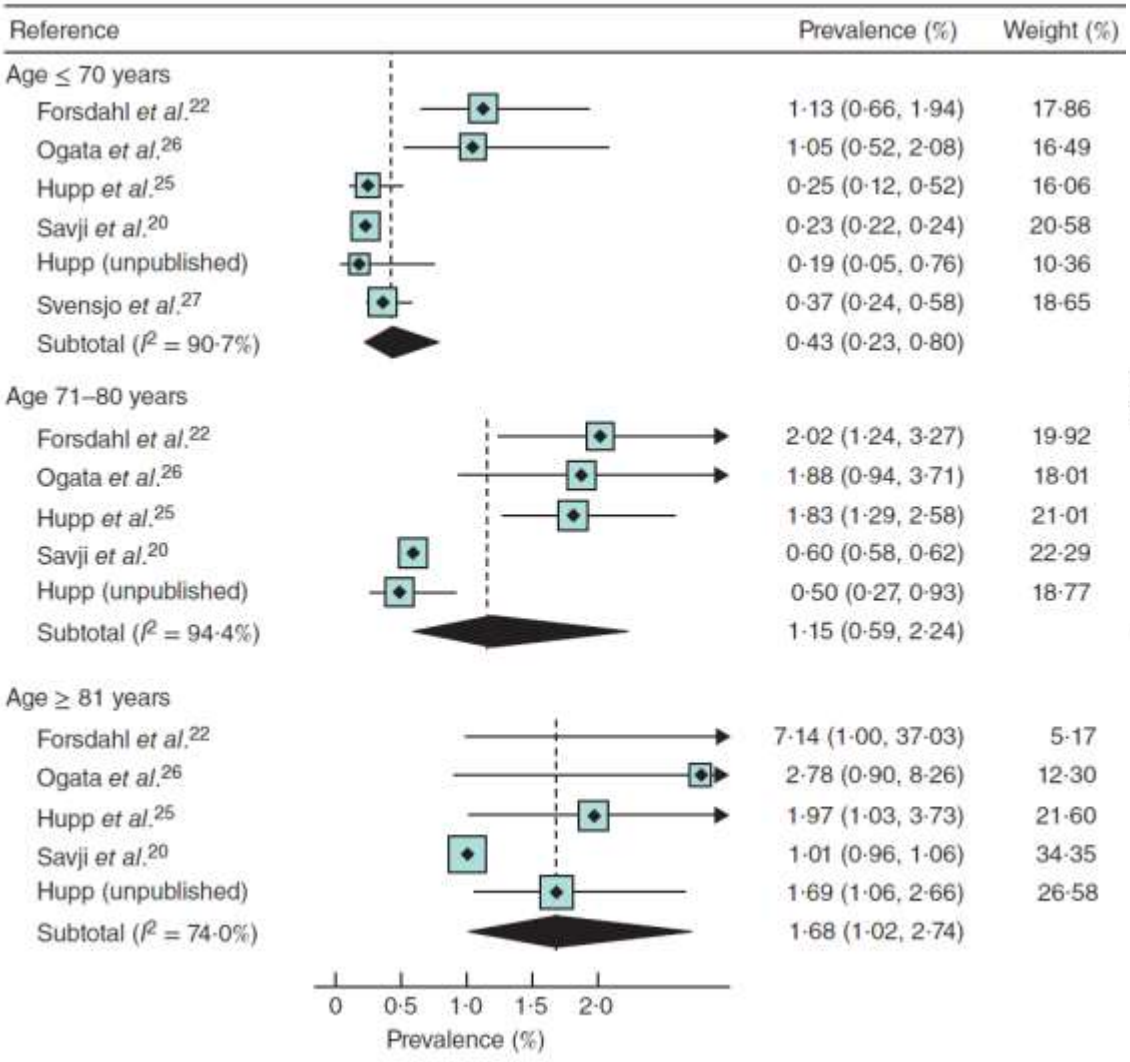
4% in USA smokers
1.3% in UK
2.2 in Sweden

Prevalence

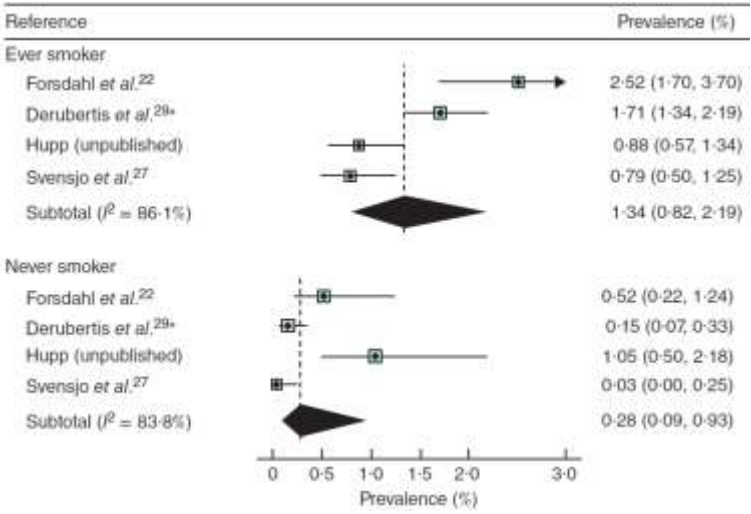
Meta-analysis of the current prevalence of screen-detected abdominal aortic aneurysm in women

P. Ulug[1], J. T. Powell[1], M. J. Sweeting[2], M. J. Bown[3] and S. G. Thompson[2], on behalf of SWAN

BJS 2016; **103**: 1097–1104

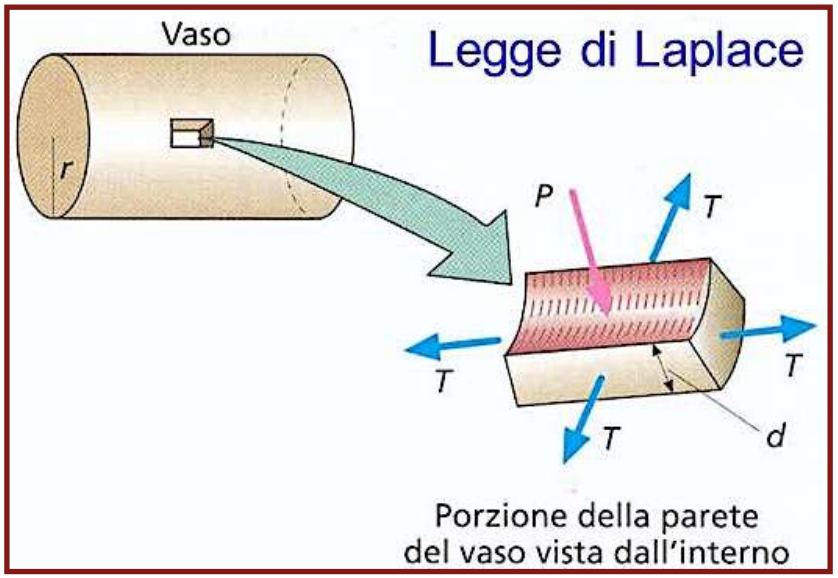


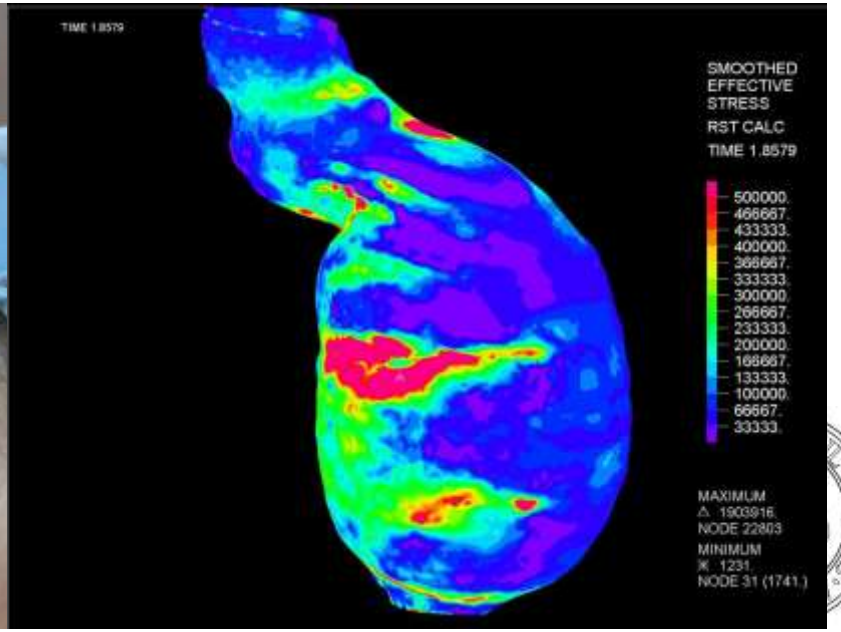
Pooled prevalence: 0.74%



Patologia aneurismatica e rischio di rottura

Legge di Laplace: T=P×r/d





Risk of rupture

Rupture rates of untreated large abdominal aortic aneurysms in patients unfit for elective repair

Fran Parkinson, MB BCh,[a] Stuart Ferguson, MB BChir,[a] Peter Lewis, MB BCh,[a] Ian M. Williams, MD,[b] and Christopher P. Twine, MD,[a] for the South East Wales Vascular Network, *Newport and Cardiff, United Kingdom*

J Vasc Surg 2015;61:1606-12.

AAA Diameter range, cm	Yearly risk of rupture % (CI)
> 5.5	5.3 (3.1-7.5)
5.5-6.0	3.5
6.1-7	4.1
> 7	6.3

EVAR 2 trial: 5% ruptured after randomization, before treatment, mean diam 6.4cm

CAESAR TRIAL

Comparison of surveillance versus Aortic Endografting for Small Aneurysm Repair

Steering Committee:

P.I. Piergiorgio Cao (Perugia, Italy)
Fabio Verzini (Perugia, Italy)
Paola De Rango (Perugia, Italy)
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Carlo Setacci (Siena, Italy)
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Giovanni Torsello (Muenster, Germany)

Core Lab:

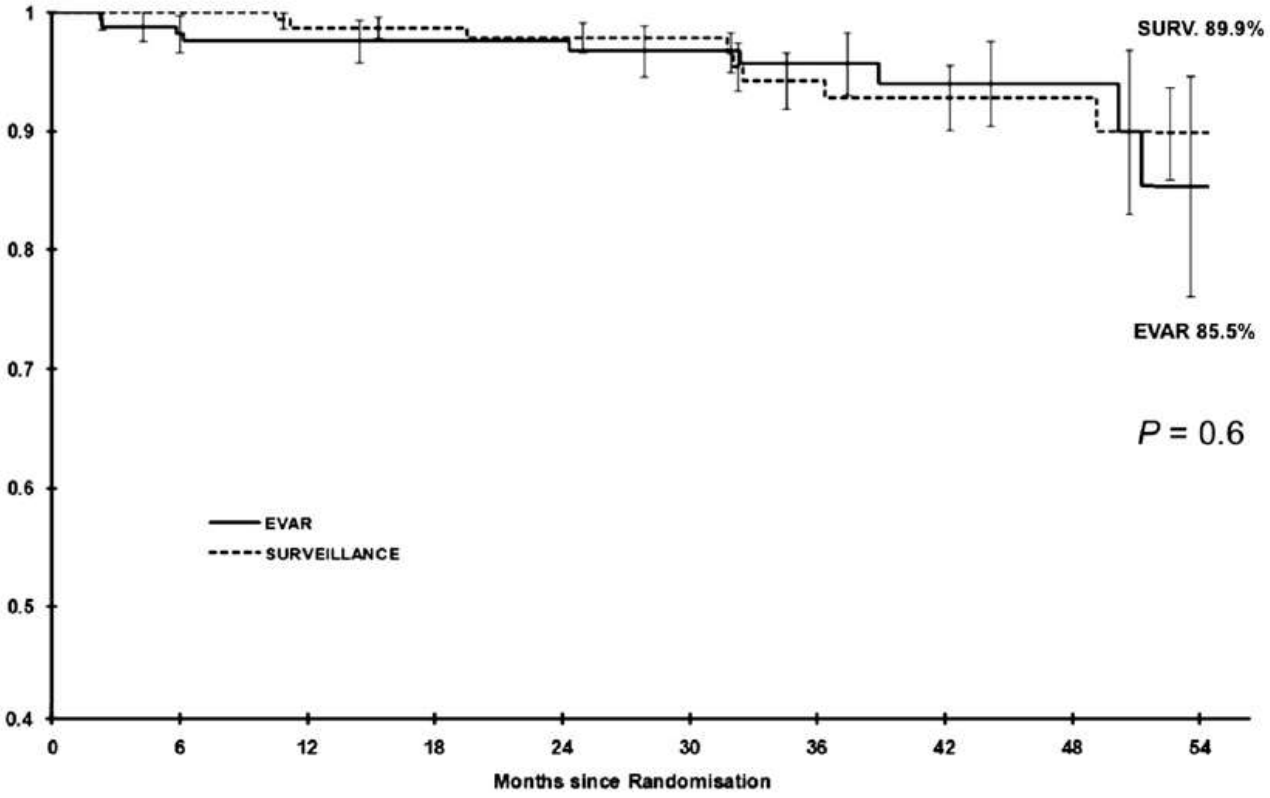
Fabio Verzini (Perugia, Italy)
Lydia Romano (Perugia, Italy)

Comparison of Surveillance Versus Aortic Endografting for Small Aneurysm Repair (CAESAR): Results from a Randomised Trial

Eur J Vasc Endovasc Surg (2011) 41, 13–25

P. Cao [a,*], P. De Rango [b], F. Verzini [b], G. Parlani [b], L. Romano [b], E. Cieri [b], for the CAESAR Trial Group [1]

K-M of survival in early EVAR and surveillance arms (54 months) N=360



MONTHS	0	6	12	18	24	30	36	42	48	54
EVAR	182	162	157	145	128	106	83	57	37	21
SURVEILLANCE	178	162	154	139	118	98	77	60	39	29

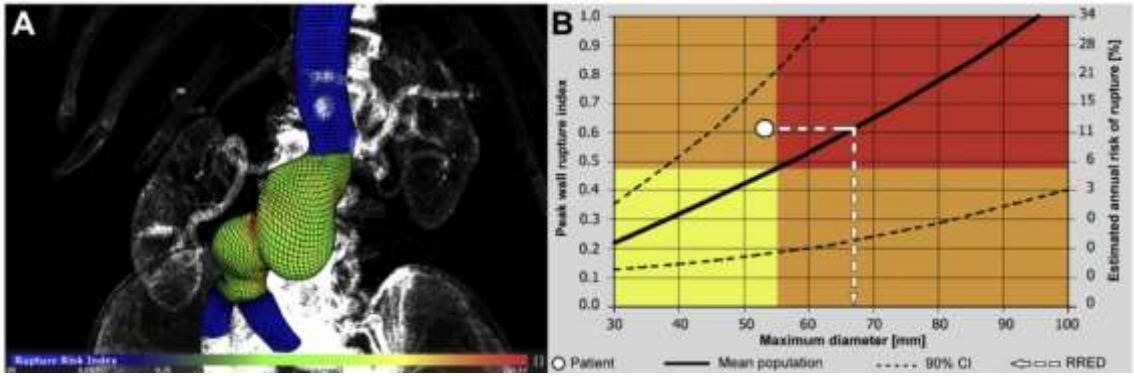
Il rischio di rottura di un aneurisma non dipende solo dal diametro massimo…

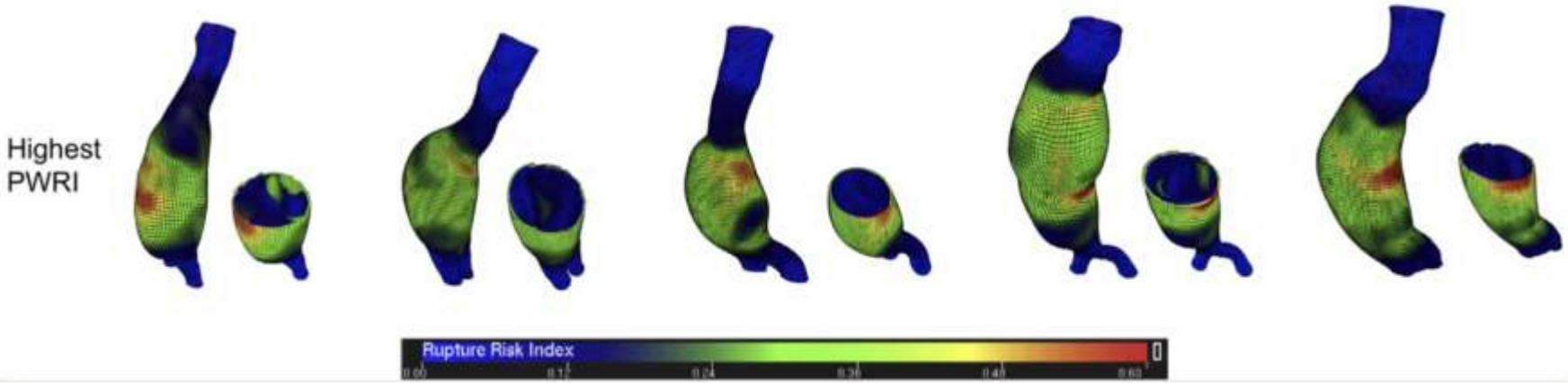
Gender, smoking, body size, and aneurysm geometry influence the biomechanical rupture risk of abdominal aortic aneurysms as estimated by finite element analysis

Moritz Lindquist Liljeqvist, MD,[a] Rebecka Hultgren MD, PhD,[a] Antti Siika, MD,[b] T. Christian Gasser, PhD,[b] and Joy Roy, MD, PhD,[a] *Stockholm, Sweden*

Finite element analysis
RRED rupture risk equivalent diameter

(J Vasc Surg 2017;65:1014-22.)





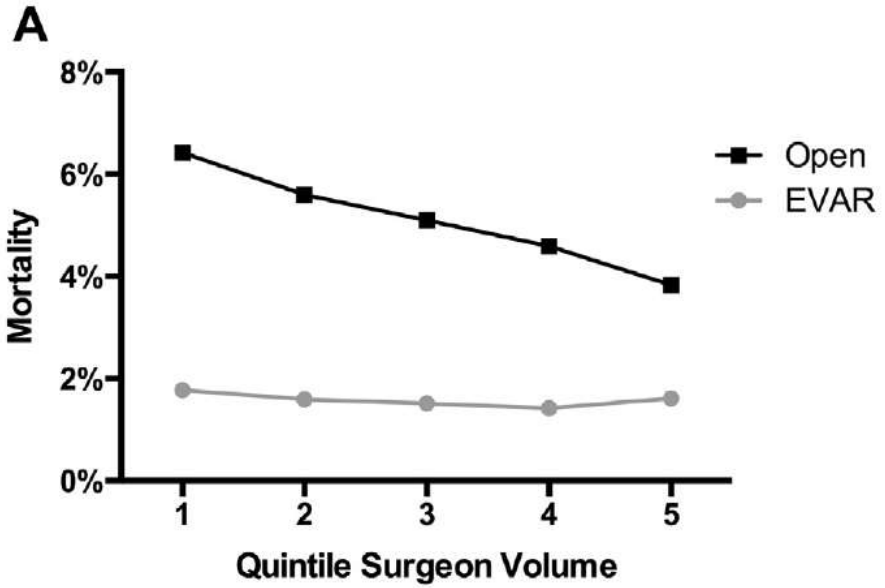
The effect of surgeon and hospital volume on mortality after open and endovascular repair of abdominal aortic aneurysms

Sara L. Zettervall, MD, MPH,[a] Marc L. Schermerhorn, MD,[a] Peter A. Soden, MD,[a] John C. McCallum, MD,[a] Katie E. Shean, MD,[a] Sarah E. Deery, MD,[a] A. James O'Malley, PhD,[b] *and* Bruce Landon, MD, MBA,[c,d]
Boston, Mass; and Lebanon, NH

J Vasc Surg 2017;65:626-34

Medicare 2001/2008
122,495 Pts.

Quintile	EVAR		Open repair	
	Hospital	Doctor	Hospital	Doctor
1	0-9	0-6	0-5	0-3
2	10-18	7-11	6-10	4-5
3	19-29	12-17	11-17	6-8
4	30-48	18-27	18-28	9-13
5	49-198	28-151	29-121	14-62



P < .05 for open repairs for Quintile 1-4 compared to Quintile 5. No significant difference seen for EVAR.

Abdominal Aortic Endografting Beyond the Trials:
A 15-Year Single-Center Experience Comparing Newer to Older Generation Stent-Grafts

Fabio Verzini, MD, PhD, FEBVS[1]; Giacomo Isernia, MD[1]; Paola De Rango, MD, PhD, FEBVS[1]; Gioele Simonte, MD[1]; Gianbattista Parlani, MD[1]; Diletta Loschi, MD[1]; and Piergiorgio Cao, MD, FRCS[2]

J Endovasc Ther. 2014;21:439–447

1,412 EVAR

Old vs New- generation devices @ 7 years:

Freedom from late conversion: 96.1%vs. 89.1% , p<0.0001),
reintervention: 83.6% vs. 74.2%; p=0.015
diameter growth >5mm: 85.8% vs. 76.5%; p=0.022,

Were all significantly lower in the new generation group.

New generation device = negative independent predictor for

reintervention (HR 0.67, 95% CI 0.49 - 0.93; p=0.015)

aneurysm growth (HR 0.63, 95% CI 0.45- 0.89; p=0.010.14

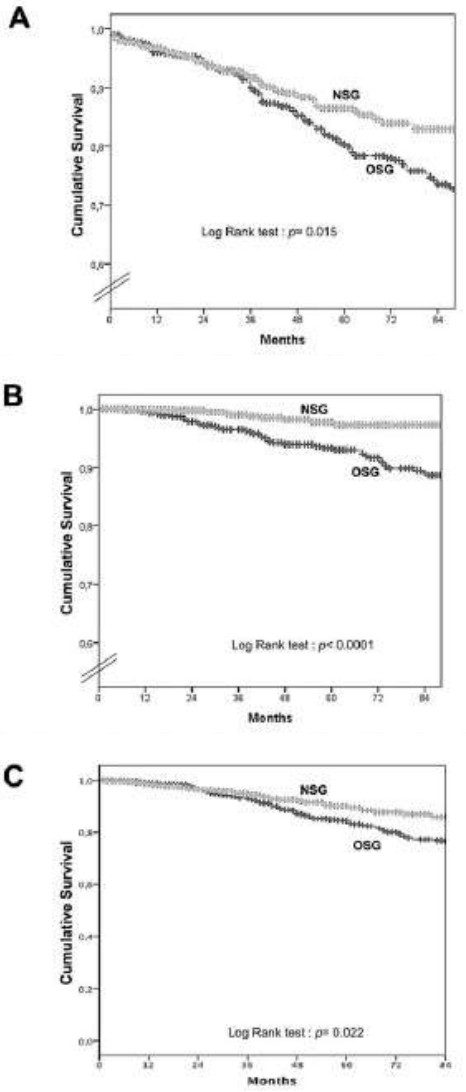


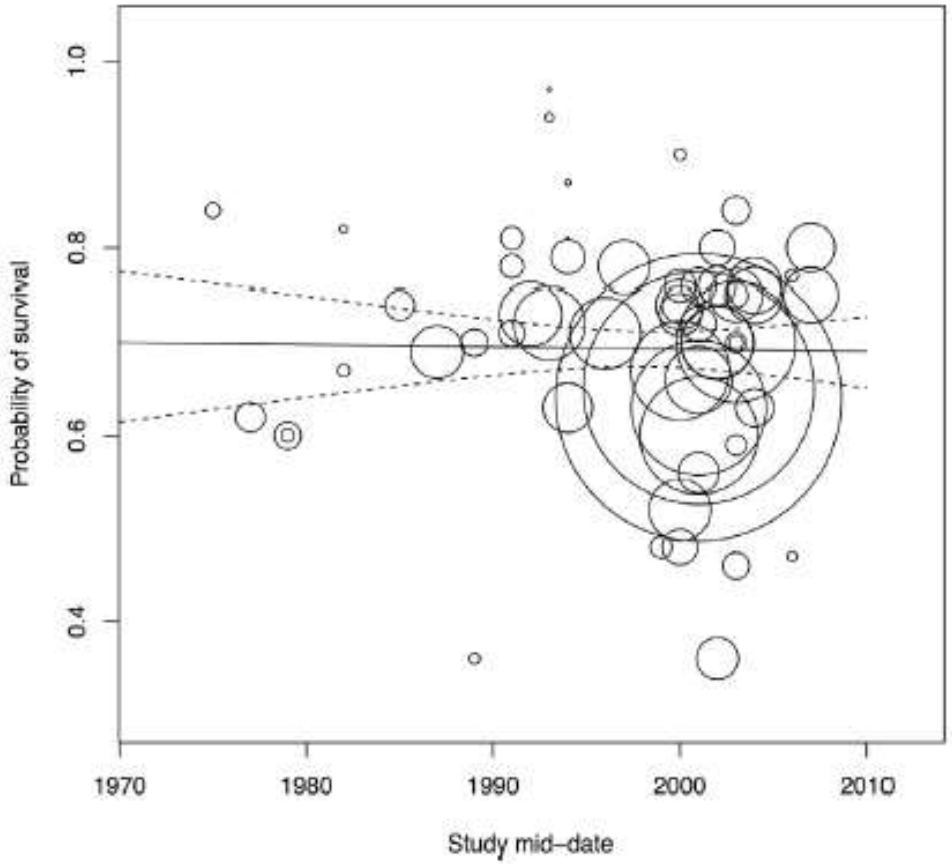
Figure 2 ◆ Kaplan-Meier estimates of freedom (**A**) from late reintervention, (**B**) from late conversion, and (**C**) from AAA growth >5 mm in the new (NSG) vs. old stent-graft (OSG) groups. The standard error did not exceed 10% at 84 months.

Quality control

Systematic Review and Meta-analysis of Long-term survival After Elective Infrarenal Abdominal Aortic Aneurysm Repair 1969–2011: 5 Year Survival Remains Poor Despite Advances in Medical Care and Treatment Strategies

S.S. Bahia [a,*], P.J.E. Holt [a], D. Jackson [b], B.O. Patterson [a], R.J. Hinchliffe [a], M.M. Thompson [a], A. Karthikesalingam [a]

http://dx.doi.org/10.1016/j.ejvs.2015.05.004



Editor's Choice – Pharmaceutical Management of Small Abdominal Aortic Aneurysms: A Systematic Review of the Clinical Evidence

V.B.C. Kokje, J.F. Hamming, J.H.N. Lindeman *

Eur J Vasc Endovasc Surg (2015) 50, 702–713

- 27 studies, most of moderate quality
- General cardiovascular risk management (antihypertensive agents, statins, anti-platelet therapy)
- "Anti-inflammatory" strategies: macrolides, tetracyclines, and mast cell inhibition
- Metformin??

In conclusion, there is currently no established medical therapy for the stabilization of growing AAA.

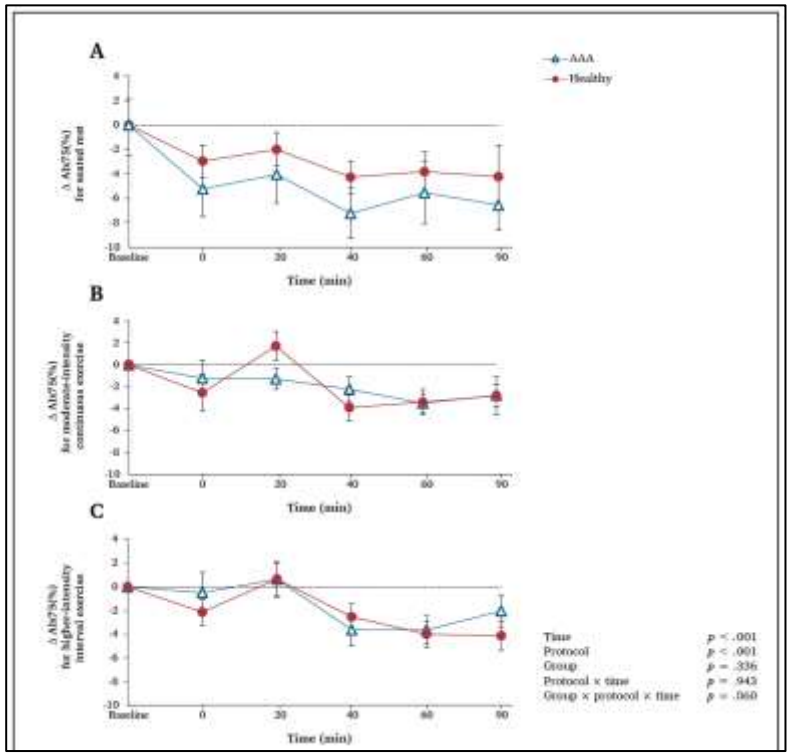
Utilità dell'esercizio fisico nei pazienti portatori di AAA

Eur J Vasc Endovasc Surg (2019) 58, 708–718

Aortic and Systemic Arterial Stiffness Responses to Acute Exercise in Patients With Small Abdominal Aortic Aneurysms

Maria Perissiou [a], Tom G. Bailey [a,b], Mark Windsor [a], Kim Greaves [a,c], Michael C.Y. Nam [c], Fraser D. Russell [a], Jill O'Donnell [c], Rebecca Magee [c], Pankaj Jha [c], Karl Schulze [d], Anthony S. Leicht [e], Jonathan Golledge [f,g,i], Christopher D. Askew [a,c,h,i]

[a] VasoActive Research Group, School of Health and Sport Sciences, University of the Sunshine Coast, Sippy Downs, QLD, Australia
[b] Centre for Research on Exercise, Physical Activity and Health, School of Human Movement and Nutrition Sciences, University of Queensland, Brisbane, QLD, Australia
[c] Sunshine Coast Hospital and Health Service, Birtinya, QLD, Australia
[d] Sunshine Vascular Surgery, Buderim, QLD, Australia
[e] Sport and Exercise Science, James Cook University, Townsville, QLD, Australia
[f] Queensland Research Centre for Peripheral Vascular Disease, James Cook University and the Townsville Hospital, Townsville, QLD, Australia



44 pazienti:
- 22 portatori piccolo AAA (36±5 mm)
- 22 volontari sani

Valutazione a riposo, dopo esercizio ergometrico moderato ed intenso

Conclusioni:
- Simile riduzione della "stiffness" arteriosa dopo esercizio tra i due gruppi rispetto al basale
- Effetto di riduzione più pronunciato in caso di esercizio intenso

J Vasc Surg 2019;69:933-43

Meta-analysis of randomized controlled trials on safety and efficacy of exercise training in patients with abdominal aortic aneurysm

Michitaka Kato, PhD,[a] Akira Kubo, MD, PhD,[a] Fumi Nihei Green, MS,[b] and Hisato Takagi, MD, PhD,[c]
Shizuoka and Tokyo, Japan

Metanalisi RCT per valutazione sicurezza e beneficio esercizio fisico aerobico in pazienti con AAA

7 trials 489 partecipanti (diametro AAA< 55 mm)

Author	Cardiovascular adverse events		AAA diameter, mm					
			Baseline		Follow-up		Absolute change	
	Ex	Uc	Ex	Uc	Ex	Uc	Ex	Uc
Kothmann, 2009	1 (cardiac arrest)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Myers, 2010	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tew, 2012	0	N/A	40.9 ± 7.0	39.3 ± 6.4	41.4 ± 7.0	40.0 ± 5.7	0.5 ± 7.0	0.7 ± 6.1
Myers, 2014	0	N/A	34.7 ± 5.1	33.7 ± 5.1	36.2 ± 5.6	35.5 ± 5.6	1.5 ± 5.4	1.8 ± 5.4
Barakat, 2016	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lima, 2018	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Tew, 2017	1 (angina)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Ex, Exercise training; *N/A*, not applicable; *Uc*, usual care.
Data are shown as mean ± standard deviation.

CONCLUSIONI: l'esercizio fisico in pazienti con AAA è generalmente sicuro e migliora la soglia anaerobica e l'ossigenazione tissutale

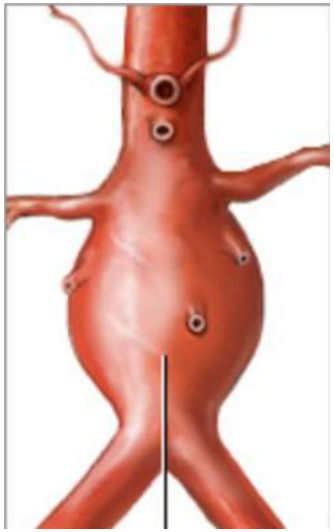
Eur J Vasc Endovasc Surg (2018) ■, 1–97

European Society for Vascular Surgery (ESVS) 2019 Clinical Practice Guidelines on the Management of Abdominal Aorto-iliac Artery Aneurysms

Anders Wanhainen [a,i,*], Fabio Verzini [a,i], Isabelle Van Herzeele [a], Eric Allaire [a], Matthew Bown [a], Tina Cohnert [a], Florian Dick [a], Joost van Herwaarden [a], Christos Karkos [a], Mark Koelemay [a], Tilo Kölbel [a], Ian Loftus [a], Kevin Mani [a], Germano Melissano [a], Janet Powell [a], Zoltán Szeberin [a]

ESVS Guidelines Committee [b], Gert J. de Borst, Nabil Chakfe, Sebastian Debus, Rob Hinchliffe, Stavros Kakkos, Igor Koncar, Philippe Kolh, Jes Lindholdt, Melina de Vega, Frank Vermassen

Document reviewers [c], Martin Björck, Stephen Cheng, Ronald Dalman, Lazar Davidovic, Konstantinos Donas, Jonothan Earnshaw, Hans-Henning Eckstein, Jonathan Golledge, Stephan Haulon, Tara Mastracci, Ross Naylor, Jean-Baptiste Ricco, Hence Verhagen



Recommendation 60	Class	Level
In most patients with suitable anatomy and reasonable life expectancy, endovascular abdominal aortic aneurysm repair should be considered as the preferred treatment modality.	IIa	B

Recommendation 61	Class	Level
In patients with long life expectancy, open abdominal aortic aneurysm repair should be considered as the preferred treatment modality.	IIa	B

Eur J Vasc Endovasc Surg (2017) 53, 4–52

Editor's Choice – Management of Descending Thoracic Aorta Diseases

Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)

V. Riambau [a], D. Böckler [a], J. Brunkwall [a], P. Cao [a], R. Chiesa [a], G. Coppi [a], M. Czerny [a], G. Fraedrich [a], S. Haulon [a], M.J. Jacobs [a], M.L. Lachat [a], F.L. Moll [a], C. Setacci [a], P.R. Taylor [a], M. Thompson [a], S. Trimarchi [a], H.J. Verhagen [a], E.L. Verhoeven [a], ESVS Guidelines Committee [b] P. Kolh, G.J. de Borst, N. Chakfé, E.S. Debus, R.J. Hinchliffe, S. Kakkos, I. Koncar, J.S. Lindholt, M. Vega de Ceniga, F. Vermassen, F. Verzini,
Document Reviewers [c] P. Kolh, J.H. Black III, R. Busund, M. Björck, M. Dake, F. Dick, H. Eggebrecht, A. Evangelista, M. Grabenwöger, R. Milner, A.R. Naylor, J.-B. Ricco, H. Rousseau, J. Schmidli

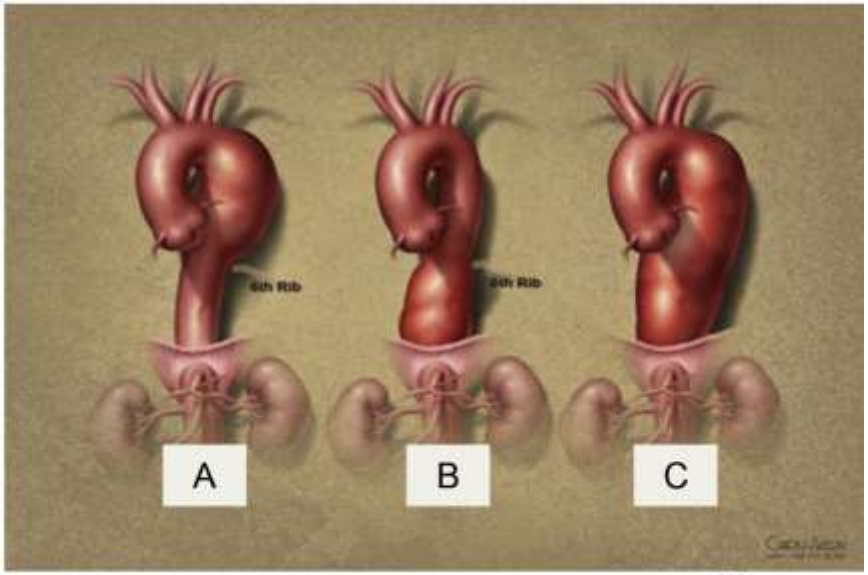


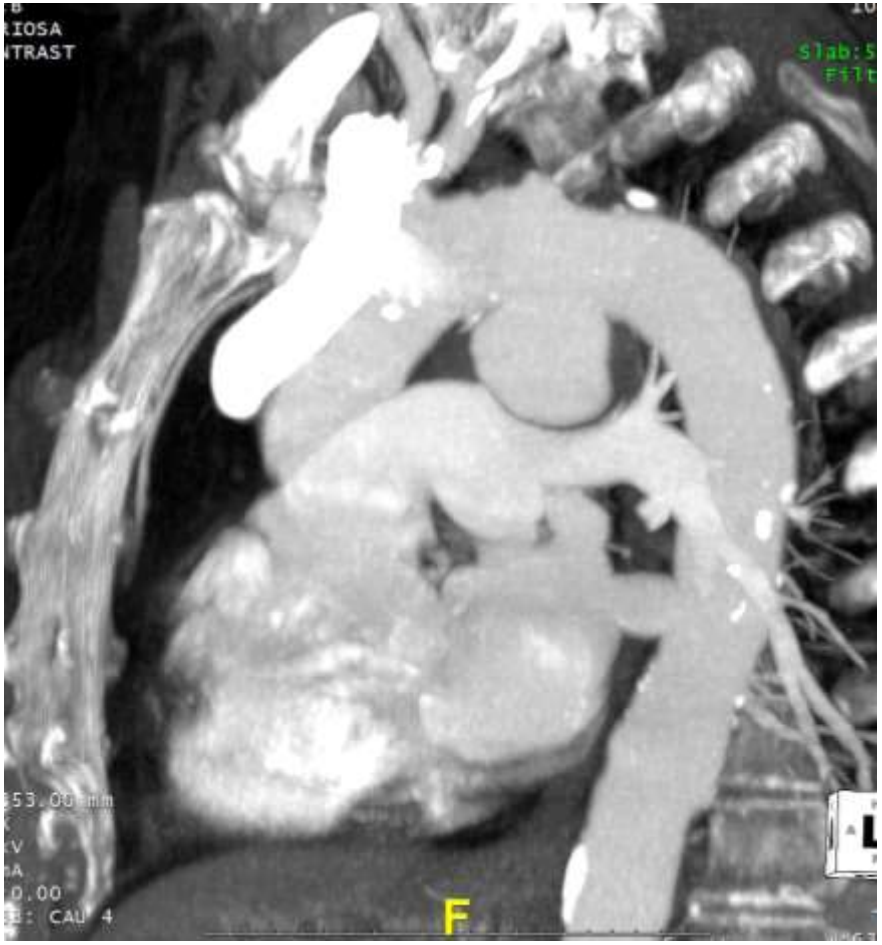
Figure 2. Classification of DTAA according to the extension.[202]

Recommendation 46b		
In fit and unfit patients with favourable anatomy, endovascular repair should be considered for descending thoracic aorta aneurysms >60 mm diameter	IIa	B

Caso clinico

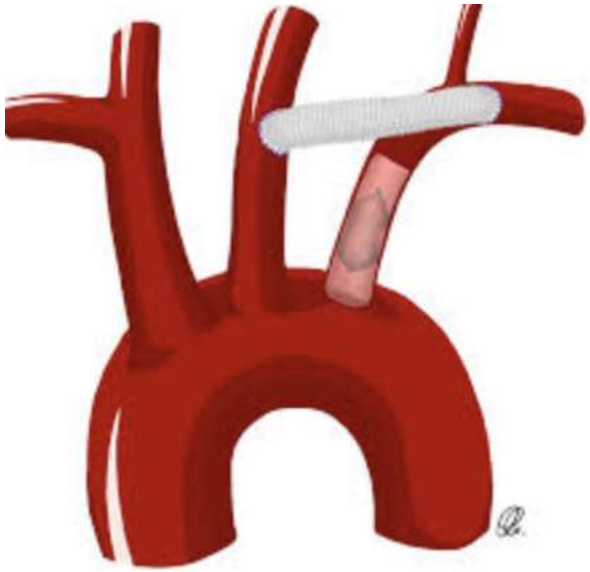
F
83 anni
Ipertensione
Ipercolesterolemia
FA in TAO

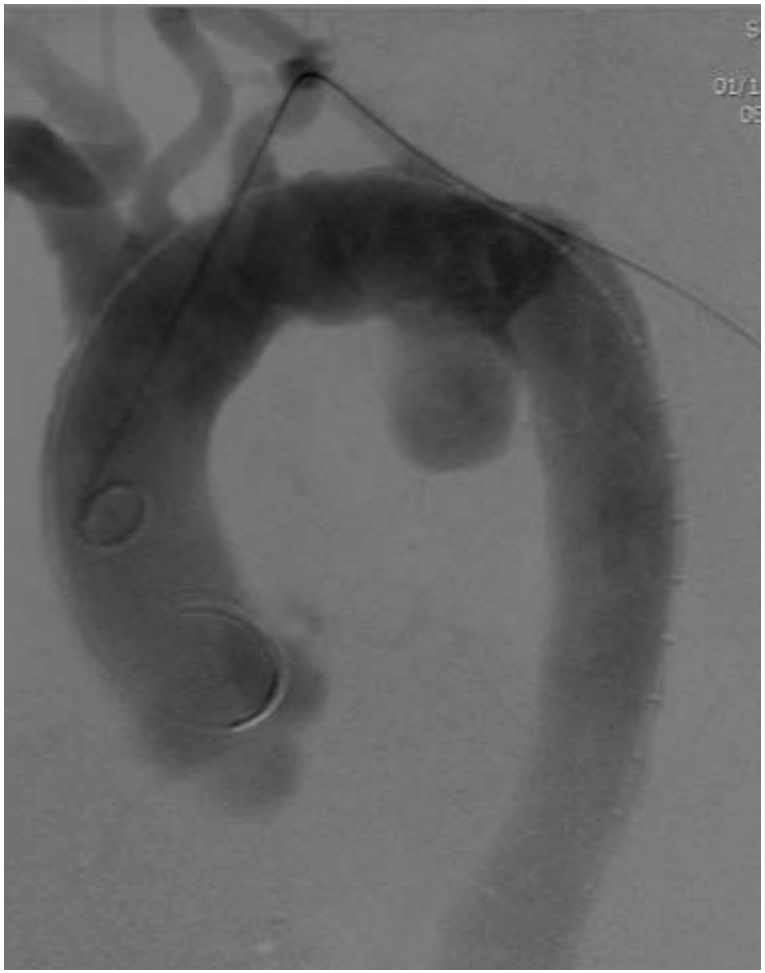
Tosse persistente e dispnea
disfonia



Alla TC riscontro di aneurisma sacculare pavimento arco

1 stage bypass carotid succlavio
2 stage TEVAR





TEVAR con Navion 34-28-175 FreeFlo

Amplatzer vascular Plug LSA

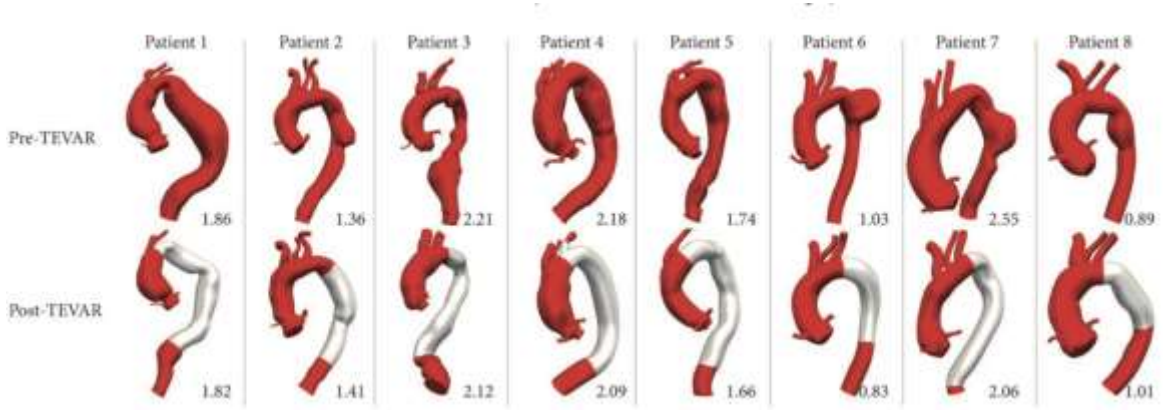

F

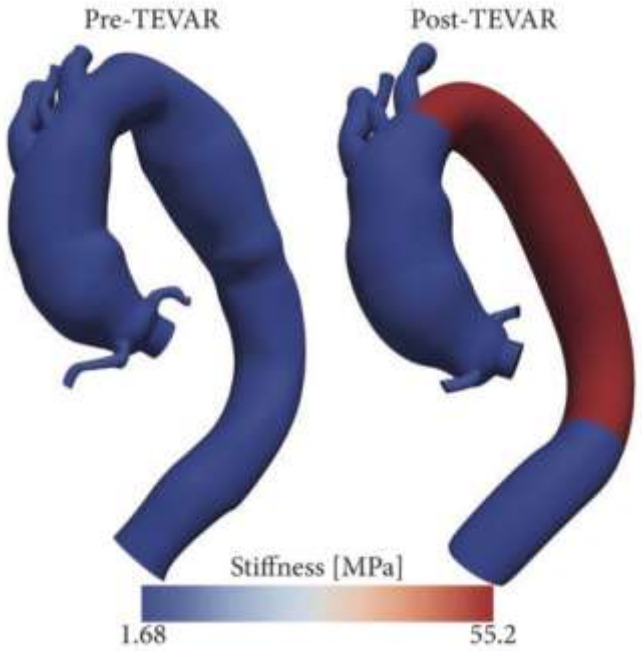
Le endoprotesi toraciche modificano tuttavia la stiffness aortica ed incrementano il lavoro cardiaco

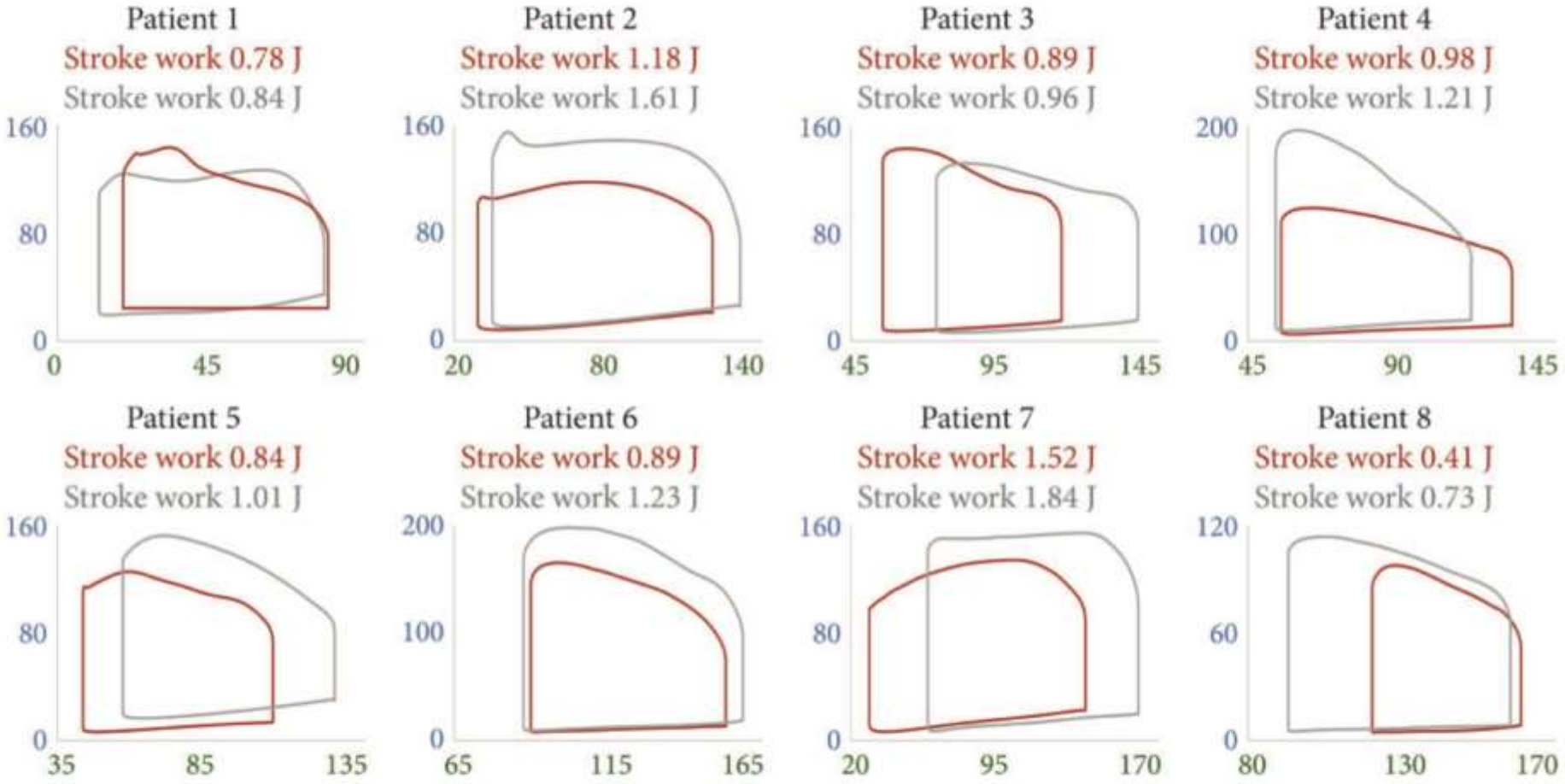
AORTIC VIENNA 8–11 SEPTEMBER 2020

Cardiac remodelling following thoracic endovascular aortic repair for descending aortic aneurysms

Theodorus M.J. van Bakel[a,b,c,*], Christopher J. Arthurs[d], Foeke J.H. Nauta[a,b,c], Kim A. Eagle[e], Joost A. van Herwaarden[b], Frans L. Moll[b], Santi Trimarchi[c,f], Himanshu J. Patel[g] and C. Alberto Figueroa[a,h]

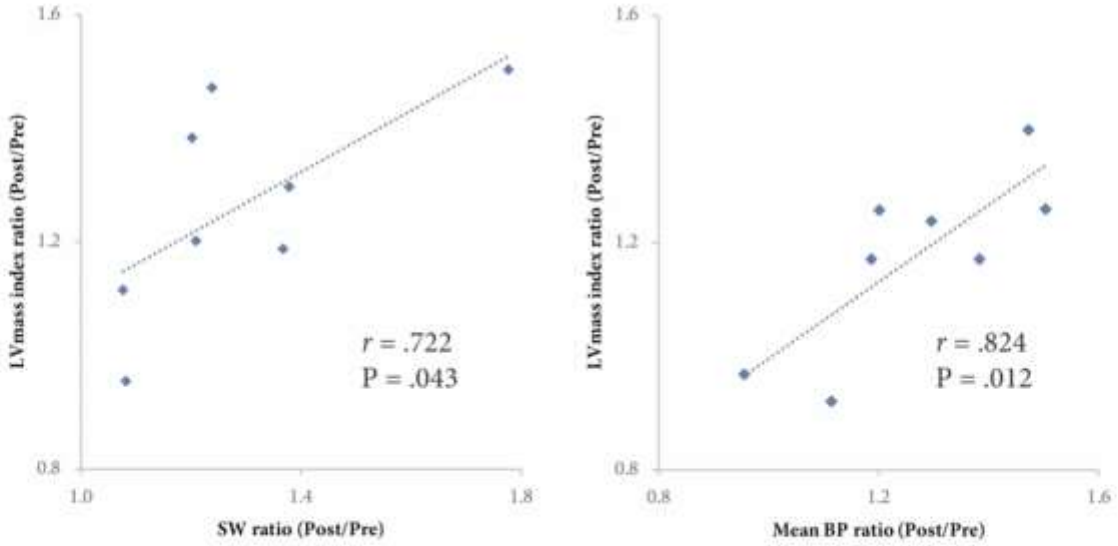





Patient 1
Stroke work 0.78 J
Stroke work 0.84 J
160
80
0
0
45
90
Patient 2
Stroke work 1.18 J
Stroke work 1.61 J
160
80
0
20
80
140
Patient 3
Stroke work 0.89 J
Stroke work 0.96 J
160
80
0
45
95
145
Patient 4
Stroke work 0.98 J
Stroke work 1.21 J
200
100
0
45
90
145
Patient 5
Stroke work 0.84 J
Stroke work 1.01 J
160
80
0
35
85
135
Patient 6
Stroke work 0.89 J
Stroke work 1.23 J
200
100
0
65
115
165
Patient 7
Stroke work 1.52 J
Stroke work 1.84 J
160
80
0
20
95
170
Patient 8
Stroke work 0.41 J
Stroke work 0.73 J
120
60
0
80
130
170
X-axis: Volume [mL]
Y-axis: Pressure [mmHg]
Pre-TEVAR
Post-TEVAR

Results

- LV mass index had a significant positive correlation with both the stroke work (SW) and mean blood pressure (BP)



Eur J Vasc Endovasc Surg (2017) 53, 4–52

Editor's Choice – Management of Descending Thoracic Aorta Diseases

Clinical Practice Guidelines of the European Society for Vascular Surgery (ESVS)

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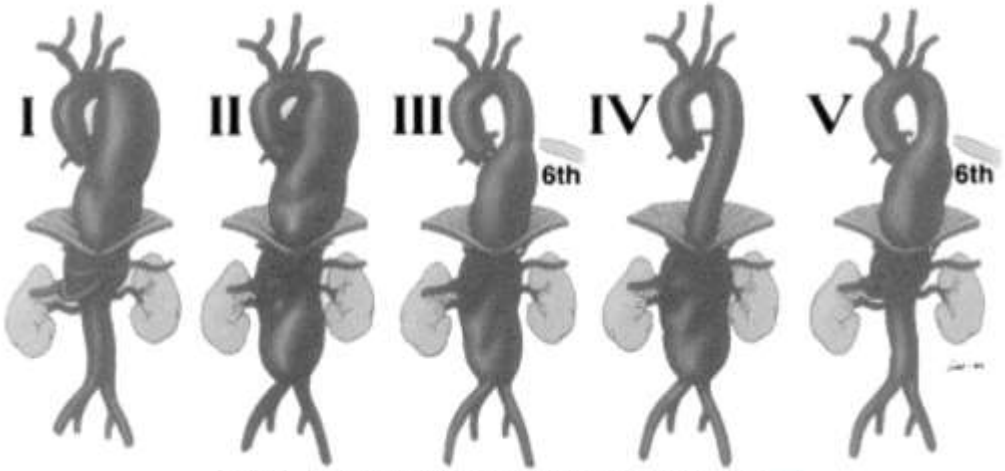
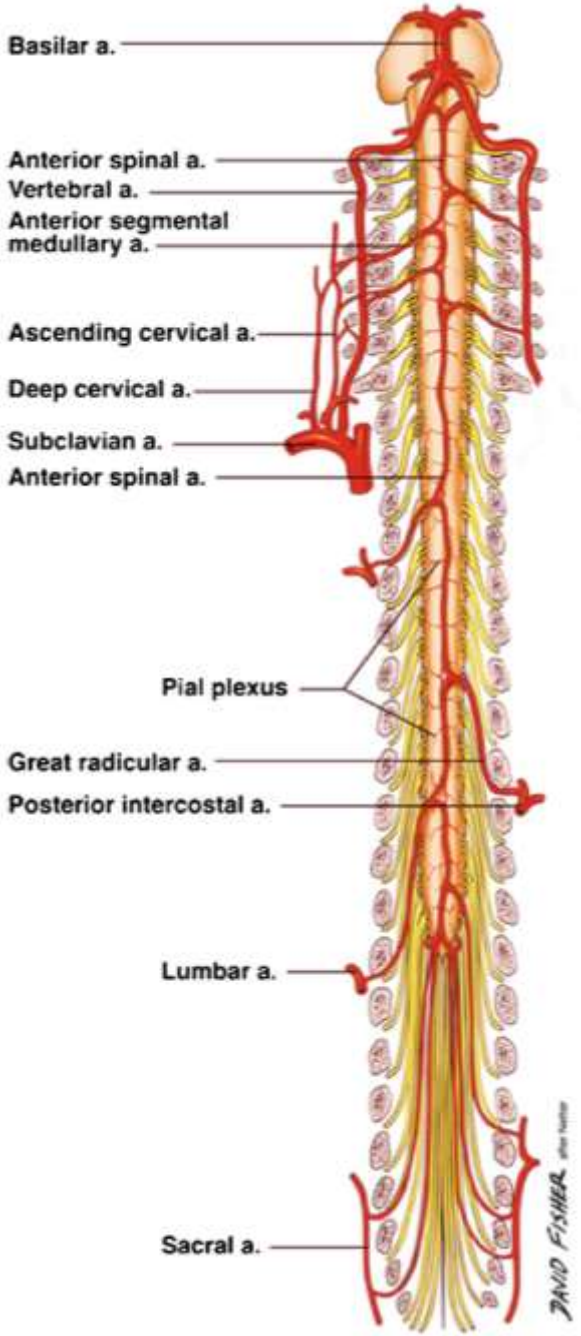


Figure 3. Crawford TAAA classification modified by Safi.[222]

Recommendation 47	Class	Level
Open or endovascular repair should be considered for patients at low to moderate surgical risk, with an atherosclerotic or degenerative thoraco-abdominal aortic aneurysm of 60 mm or larger diameter, rapid aneurysm enlargement (>10 mm/year), or aneurysm related symptoms	IIa	C

Una **moderata ipertensione (MAP>90mmHg)** è consigliata nel post-operatorio per ridurre rischio di complicanze ischemiche midollari



A propensity-matched comparison for endovascular and open repair of thoracoabdominal aortic aneurysms

Ciro Ferrer, MD,[a] Piergiorgio Cao, MD, FRCS,[a] Paola De Rango, MD, PhD,[b] Yamume Tshomba, MD,[c] Fabio Verzini, MD, PhD, FEBVS,[b] Germano Melissano, MD,[c] Carlo Coscarella, MD,[a] and Roberto Chiesa, MD,[c] *Rome, Perugia, and Milan, Italy*

J Vasc Surg 2016

2007 – 2014: 341 patients

84 TAAA endo repair (Group 1)

257 TAAA open repair (Group 2)

Operative technique (ER)

Group 1 (N = 65)

Branched: 37 (56.9%)

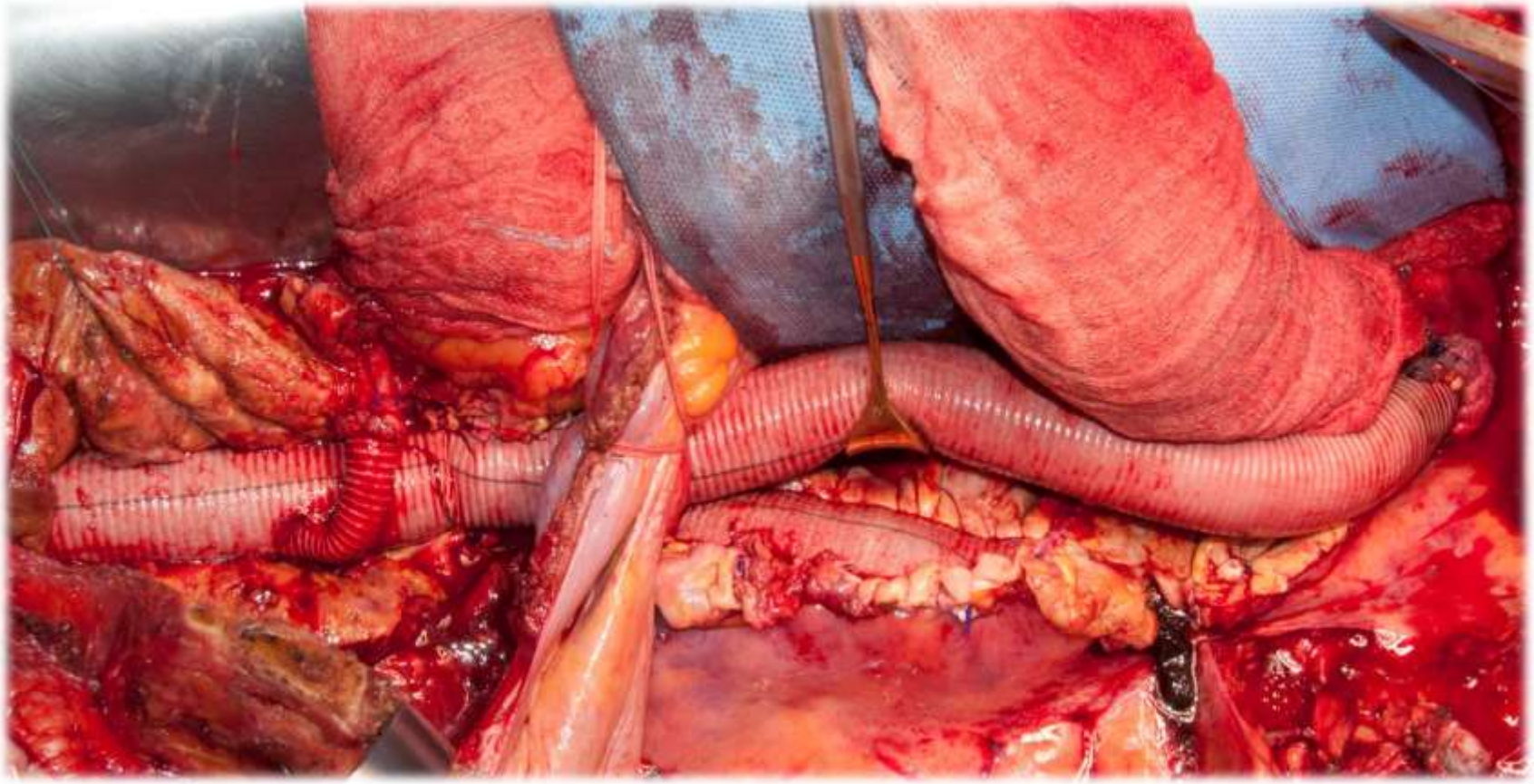
Fenestrated: 21 (32.3%)

Mix: 7 (10.8%)

Proximal thoracic component: 43 (66.1%)
CSFD: 64 (98.4%)
Staged: 21 (32.3%)

Operative technique (OS)

Group 2 (N = 65)



CSFD: 54 (83.1%)
LHBP: 56 (86.1%)
Intercostal artery reattachment: 32 (49.2%)

A propensity-matched comparison for endovascular and open repair of thoracoabdominal aortic aneurysms

J Vasc Surg 2016

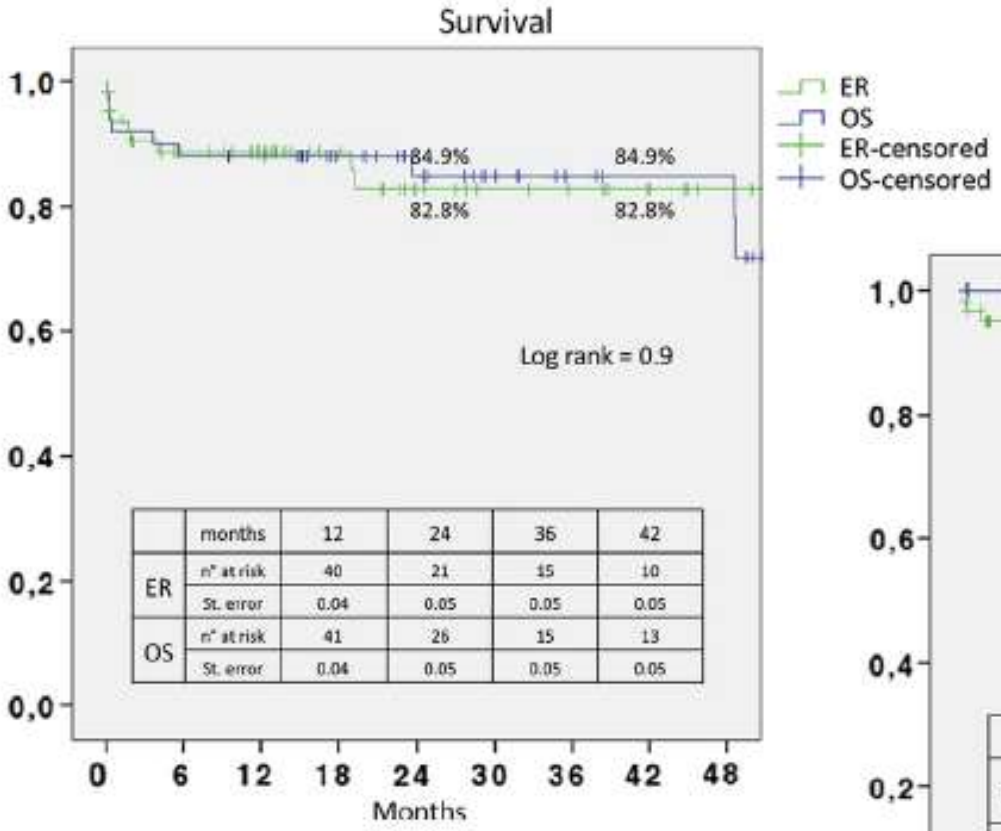
Ciro Ferrer, MD,[a] Piergiorgio Cao, MD, FRCS,[a] Paola De Rango, MD, PhD,[b] Yamume Tshomba, MD,[c] Fabio Verzini, MD, PhD, FEBVS,[b] Germano Melissano, MD,[c] Carlo Coscarella, MD,[a] and Roberto Chiesa, MD,[c] *Rome, Perugia, and Milan, Italy*

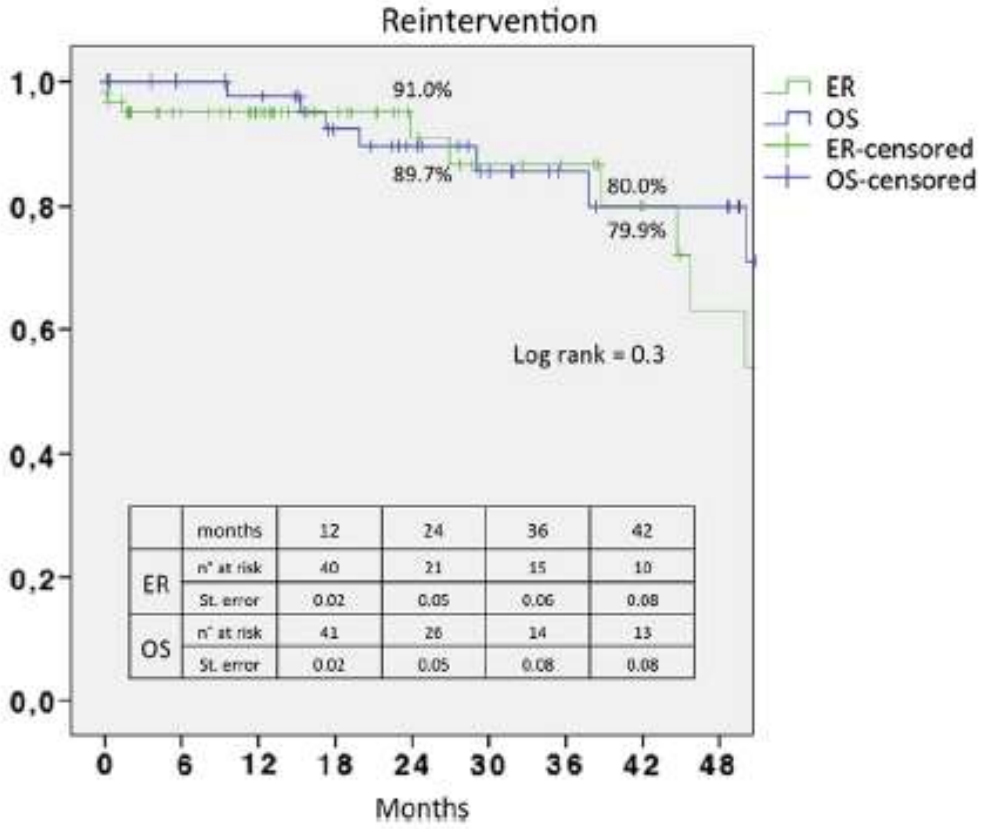
PERIOPERATIVE RESULTS	Group 1 N = 65 (%)	Group 2 N = 65 (%)	p
Composite endpoint	**12 (18.5)**	**24 (36.9)**	**0.03**
• Death	5 (7.7)	4 (6.2)	1
• Spinal cord ischemia	8 (12.3)	13 (20)	0.34
- Paraplegia	6 (9.2)	7 (10.8)	1
• Dyalisis	6 (9.2)	8 (12.3)	0.78
- Permanent	1 (1.5)	1 (1.5)	1
• Respiratory complications	0 (0)	8 (12.3)	0.006
ICU days	**1.6** (0-12)	**2.8** (1-13)	0.01
In-hospital days	**6.3** (3-23)	**16.3** (3-30)	<0.001

A propensity-matched comparison for endovascular and open repair of thoracoabdominal aortic aneurysms

J Vasc Surg 2016

Ciro Ferrer, MD,[a] Piergiorgio Cao, MD, FRCS,[a] Paola De Rango, MD, PhD,[b] Yamume Tshomba, MD,[c] Fabio Verzini, MD, PhD, FEBVS,[b] Germano Melissano, MD,[c] Carlo Coscarella, MD,[a] and Roberto Chiesa, MD,[c] *Rome, Perugia, and Milan, Italy*





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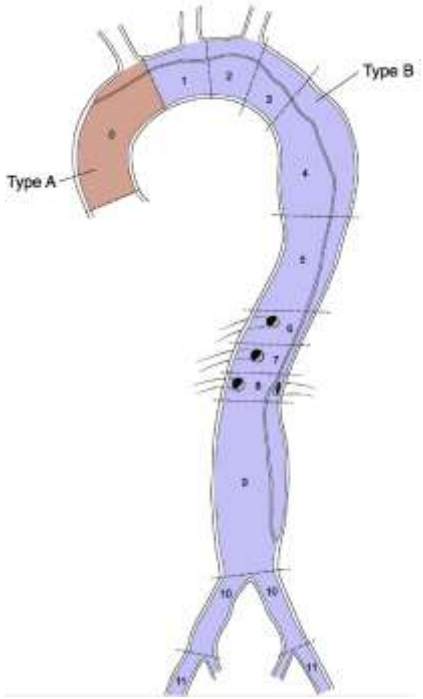
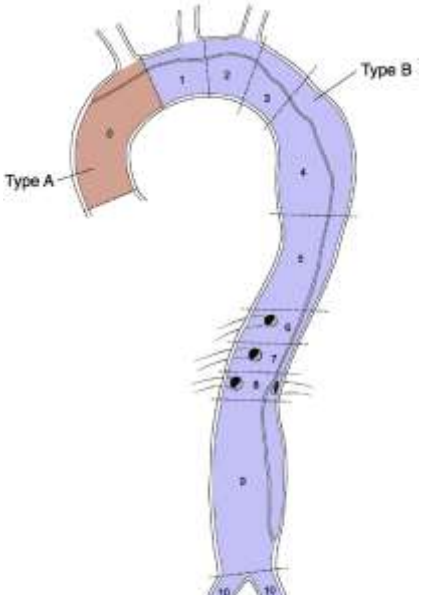


Recommendation 13	Class	Level of evidence
Medical therapy should always be part of the treatment of patients with acute type B dissection	I	C
Recommendation 14		
In patients with acute type B aortic dissection, β-blockers should be considered as the first line of medical therapy	IIa	C
Recommendation 15		
In patients with acute type B aortic dissection who do not respond or are intolerant of β-blockers, calcium channel antagonists and/or renin-angiotensin inhibitors may be considered as alternatives or complementaries	IIb	C



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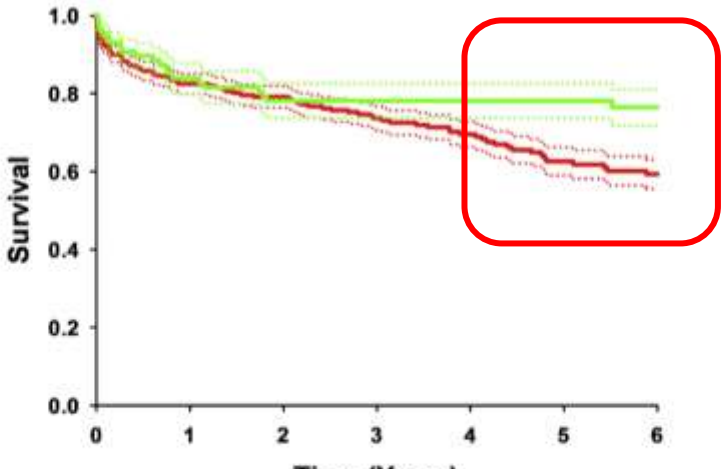
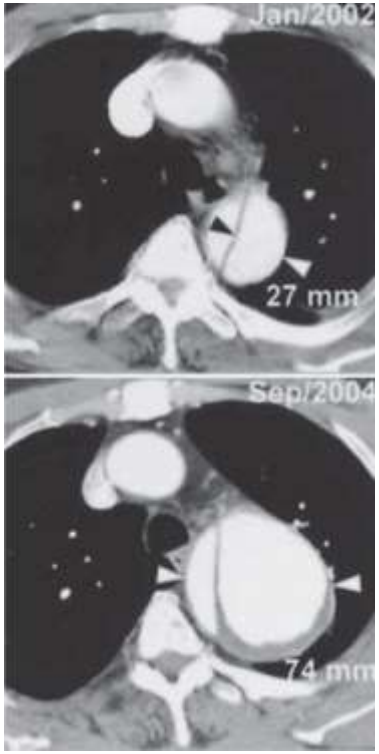
Recommendation 30	**Class**	**Level of evidence**
In patients with chronic aortic dissection, effective antihypertensive therapy should be given to reduce the risk of aortic related death	I	C
Recommendation 31		
In patients with chronic dissection, measures to reduce cardiovascular risk (such as treatment of hyperlipidaemia, anti-platelet therapy, management of hypertension, and smoking cessation) should be implemented to reduce the incidence of late cardiovascular death	I	C
Recommendation 32		
Long-term medical treatment with β-blockers should be given to patients with chronic uncomplicated aortic dissection as they reduce the progression of aortic dilatation, the incidence of subsequent hospital admission, and the need for late dissection related aortic procedures	I	C

Uncomplicated Type B Dissection: BMT



Intervention:							
At risk:	87	73	68	65	59	53	43
Survival:	100.0	83.9	78.2	78.2	78.2	78.2	76.4
SE(+/-):	0.0	3.9	4.4	4.4	4.4	4.4	4.7
Medically Managed:							
At risk:	211	174	167	136	108	82	65
Survival:	100.0	82.5	79.2	73.6	68.9	62.6	59.3
SE(+/-):	0.0	2.6	2.8	3.1	3.3	3.6	3.8



Conclusions: **The majority of patients with acute type B dissection will fail medical therapy over time as evidenced by a 6-year intervention-free survival of 41%.**

The natural history of medically managed acute type B aortic dissection

Christopher A. Durham, MD, Richard P. Cambria, MD, Linda J. Wang, MD, Emel A. Ergul, MS, Nathan J. Aranson, MD, Virendra I. Patel, MD, MPH, and Mark F. Conrad, MD, MSSc, *Boston, Mass*

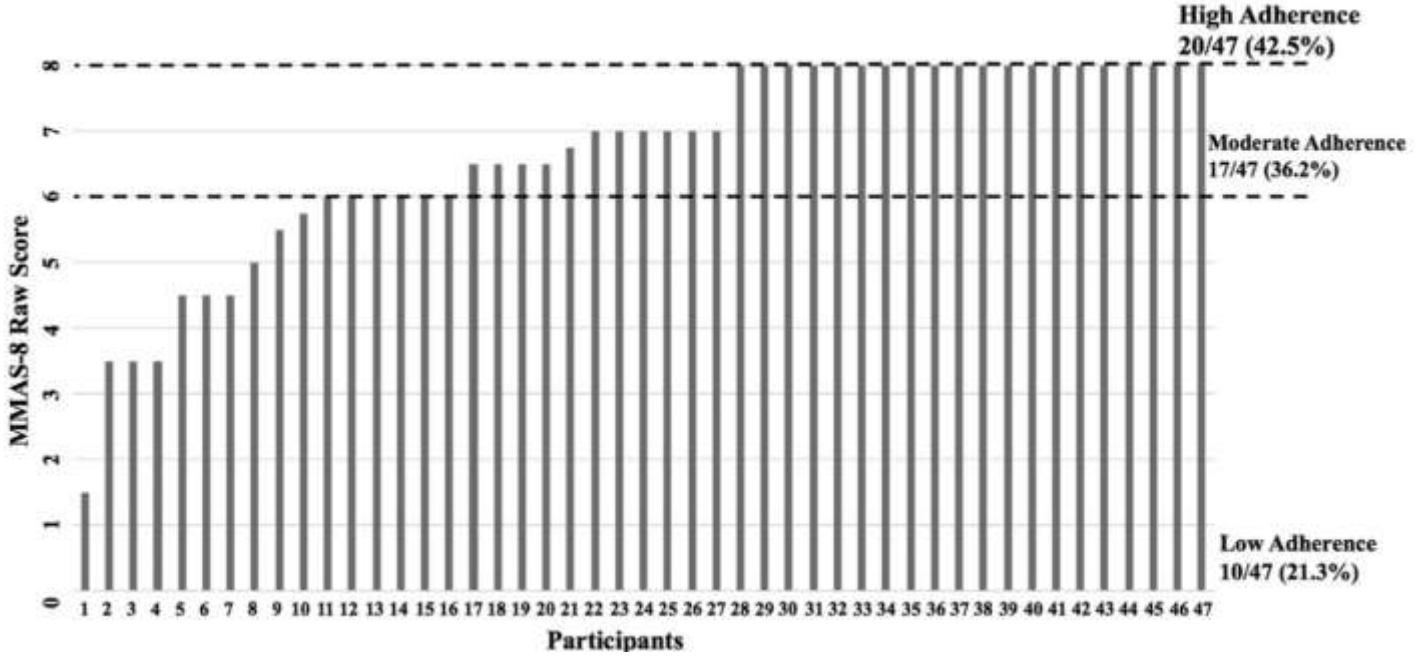
(J Vasc Surg 2015;61:1192-9.)

Antihypertensive medication adherence in chronic type B aortic dissection is an important consideration in the management debate

(J Vasc Surg 2018;68:693-700.)

Guy Martin, MRCS,[a,b] Nandesh Patel,[a] Yasmin Grant, MRCS,[a] Michael Jenkins, FRCS,[b] Richard Gibbs, FRCS,[a,b] and Colin Bicknell, FRCS,[a,b] *London, United Kingdom*

Compliance del paziente con TBAD alla terapia antiipertensiva

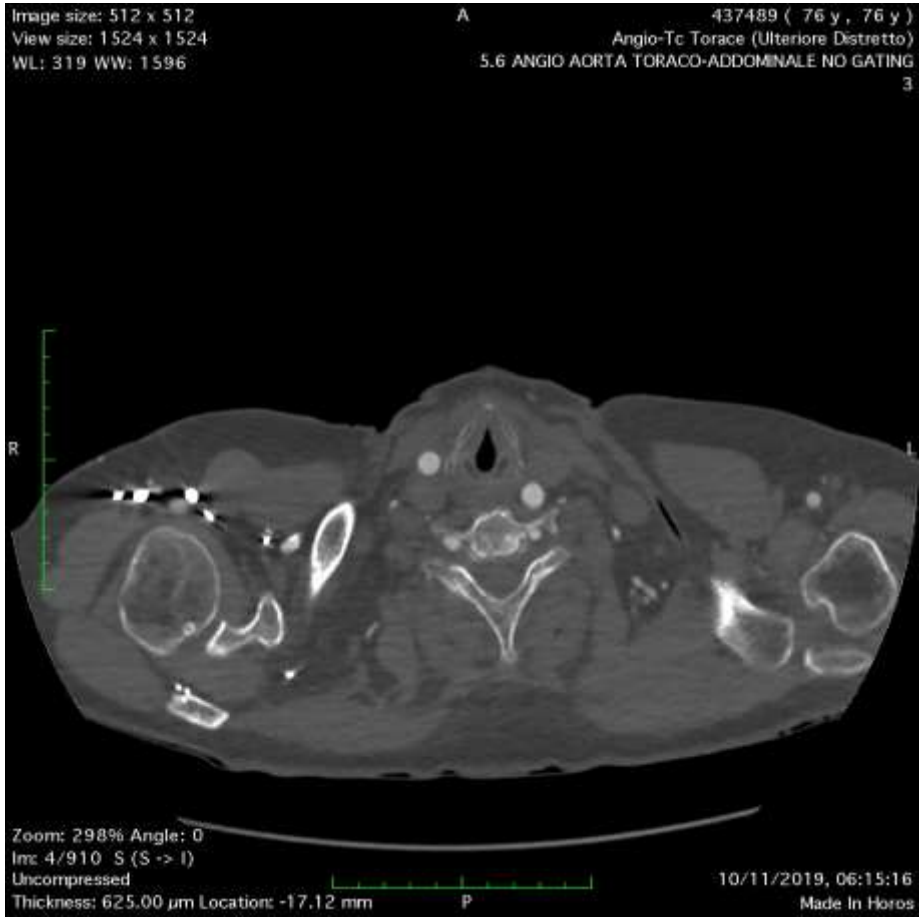


Talvolta BMT può fallire…

F
76 anni
Dolore toracico

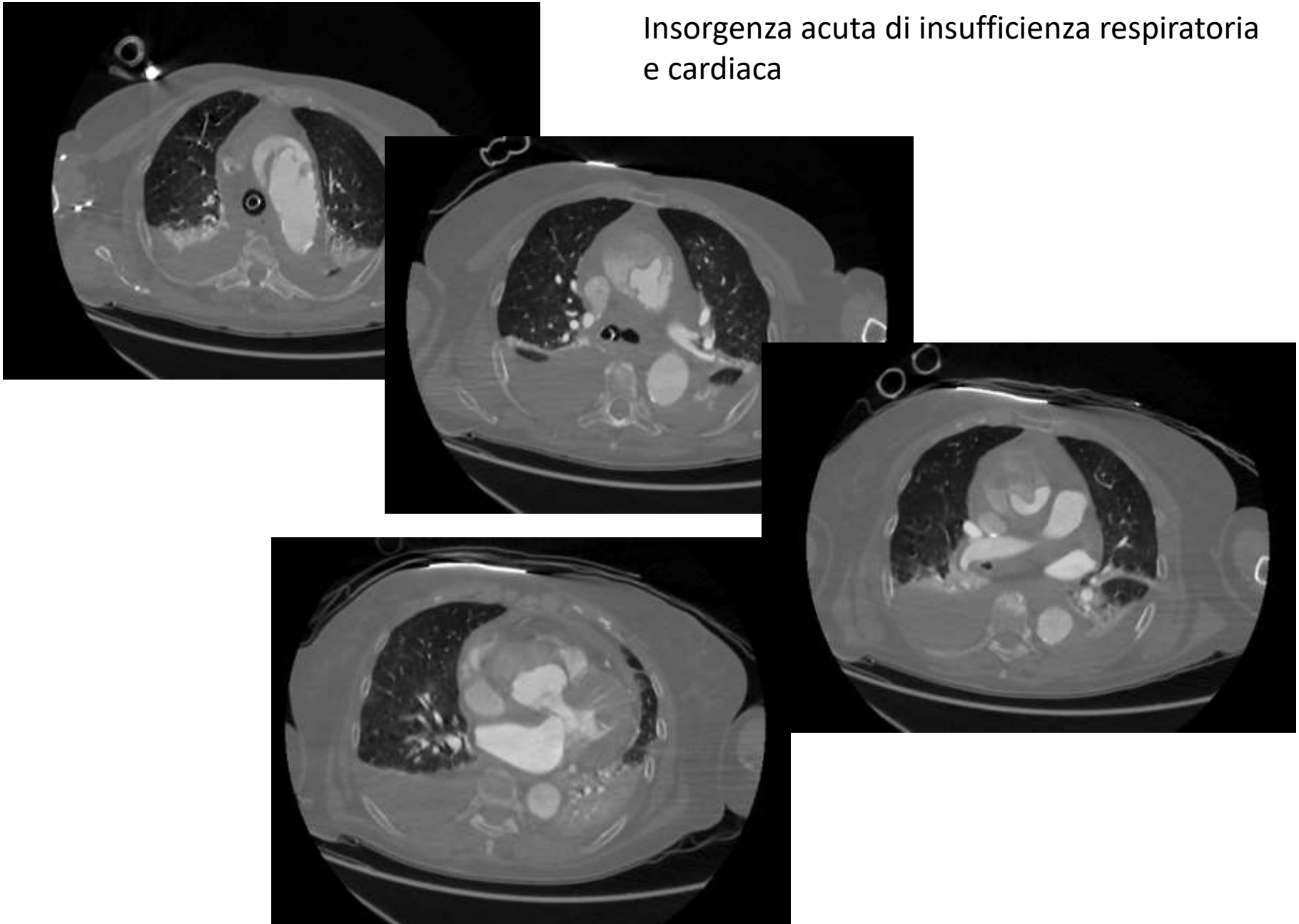
Ematoma intramurale
Tear a valle dell'origine succlavia

→ Trattata con terapia medica ottimale



Controllo TC a 48 ore → Trombosi dell'ematoma di parete
Persistenza di minimo dolore toracico

2 giorni dopo…



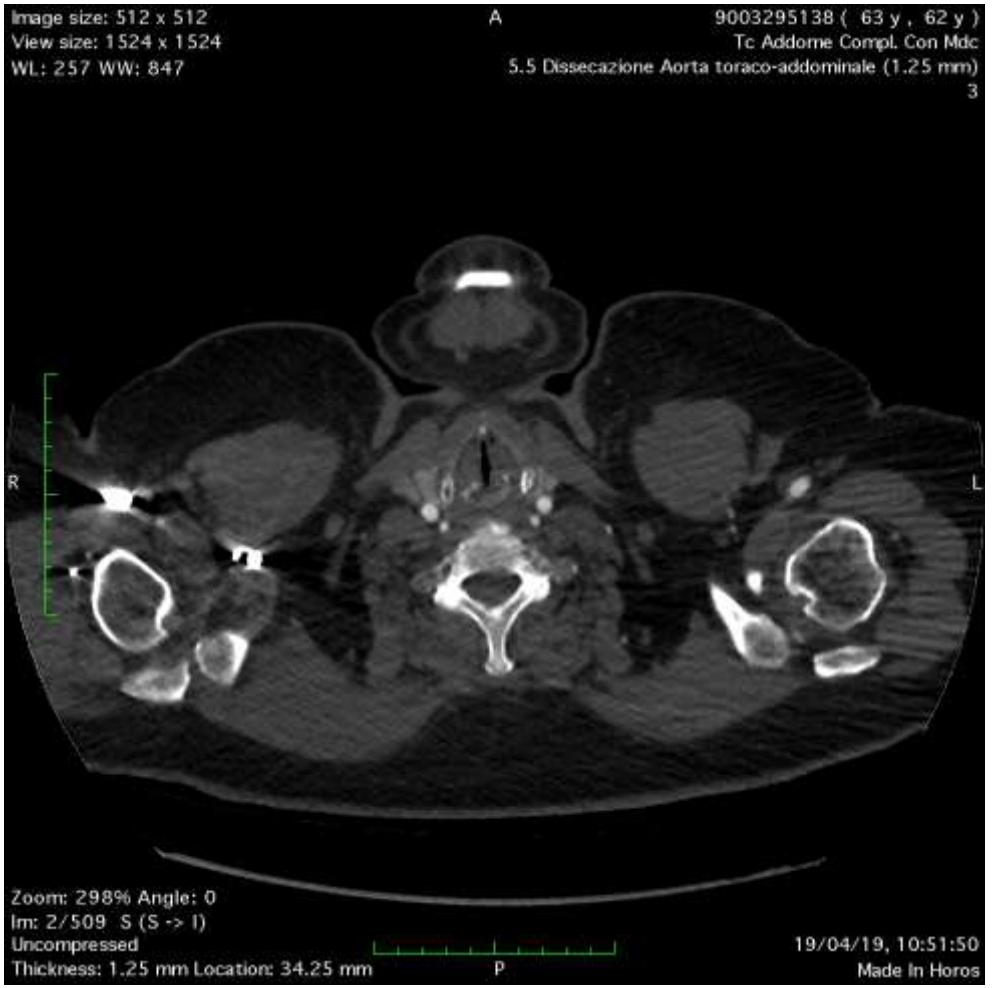
Insorgenza acuta di insufficienza respiratoria e cardiaca

F
62 anni

TBAD acuto trattato con TEVAR

Ipertensione
Dislipidemia
CAD (occlusione nota M01)

Giunge in PS per dolore toracioc e claudicatio glutea destra

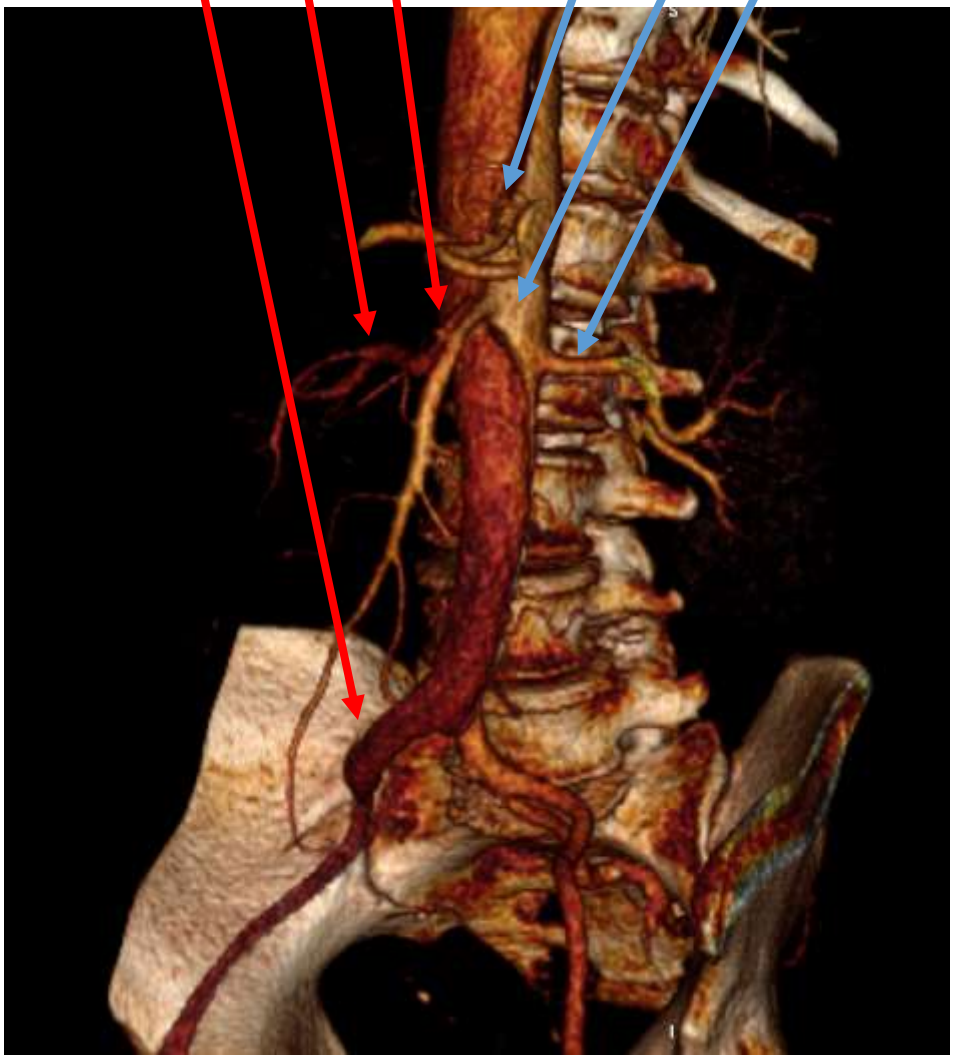


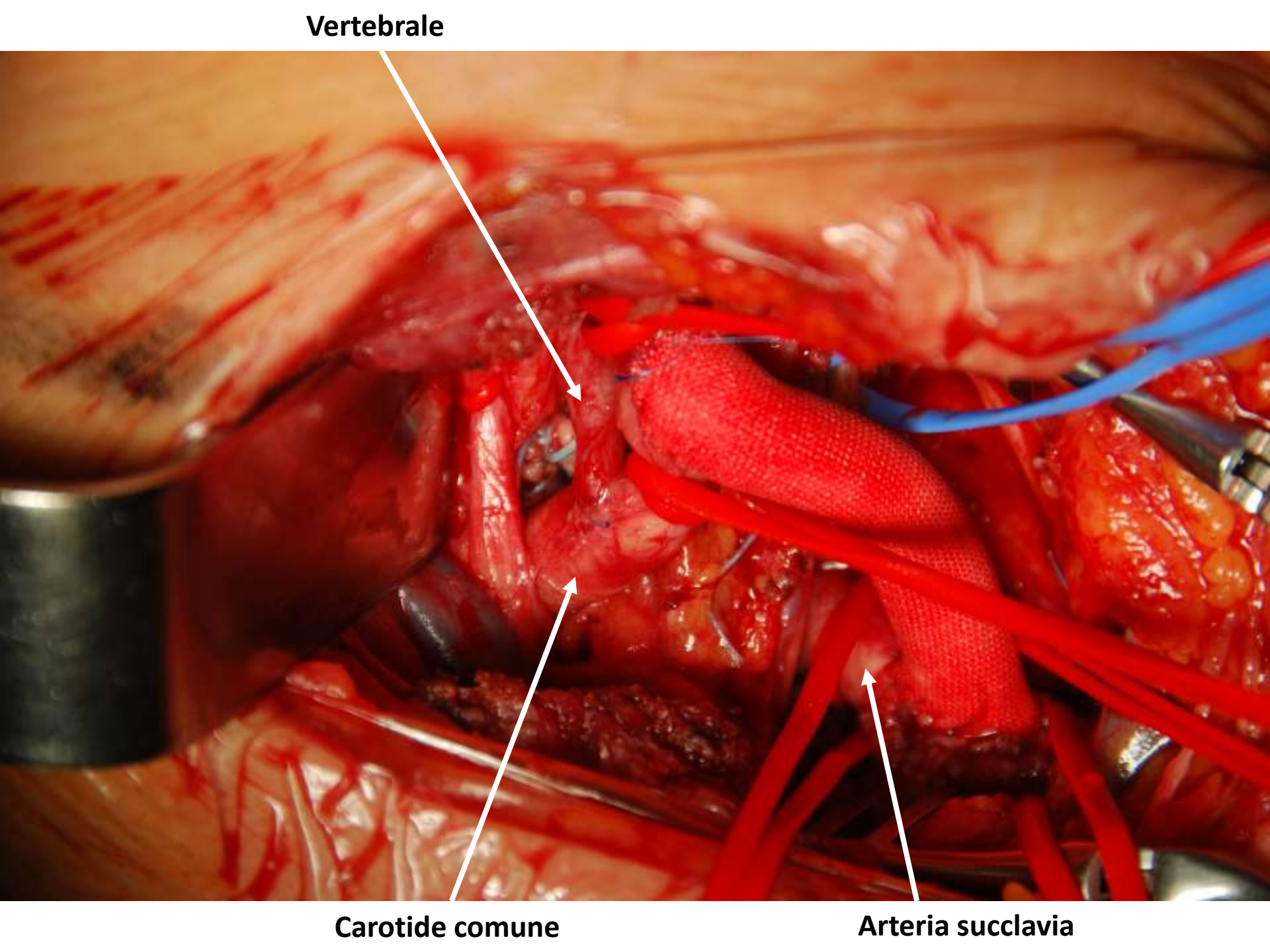
Porta di ingresso

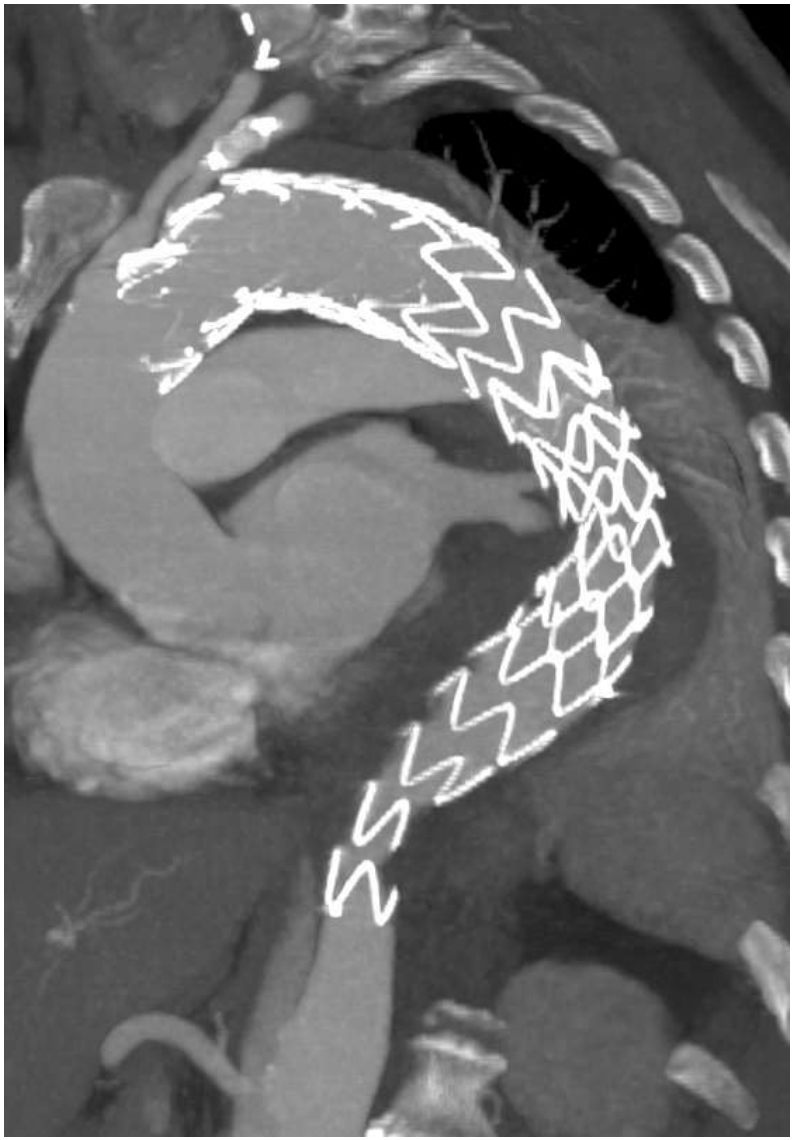
Origine anomala dell’arteria vertebrale sinistra

Origine dal **falso lume**:
R iliac, RRA, SMA

Origine da **vero lume:**
CT, SMA, LRA




Vertebrale
Carotide comune
Arteria succlavia




S 83
RADIOLOG
I 358

Cardiovasc Intervent Radiol (2020) 43:1440–1448
https://doi.org/10.1007/s00270-020-02555-w

CIRSE

CLINICAL INVESTIGATION ARTERIAL INTERVENTIONS

Mid-Term Outcomes of Complex Endografting for Chronic Post-Dissection Thoracoabdominal Aortic Aneurysms

Fabio Verzini[1] · Ciro Ferrer[2] · Gianbattista Parlani[3] · Carlo Coscarella[2] · Rocco Giudice[2] · Edoardo Frola[1] · Maria Antonella Ruffino[4] · Gianfranco Varetto[1] · Lorenzo Gibello[1]

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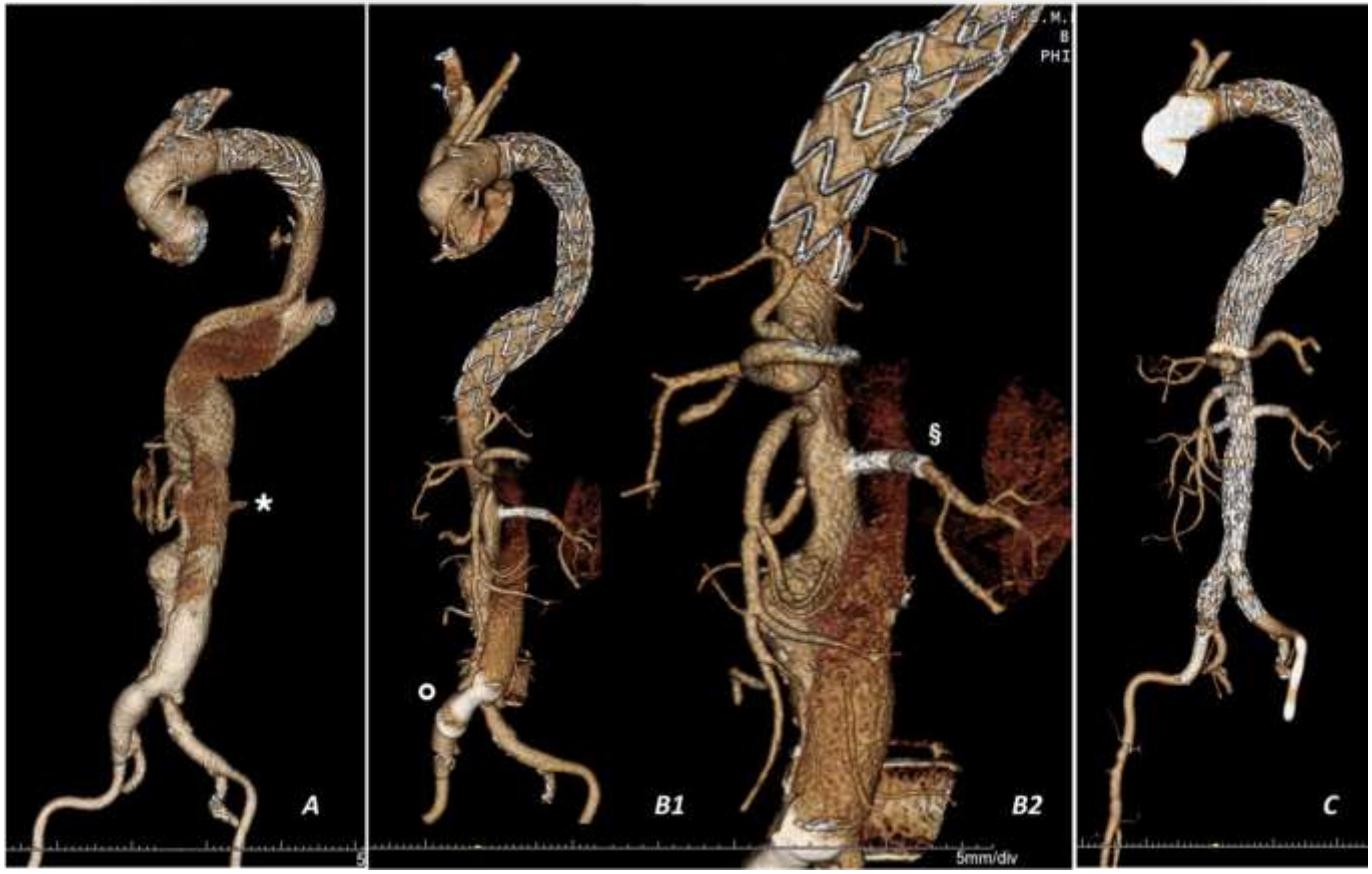

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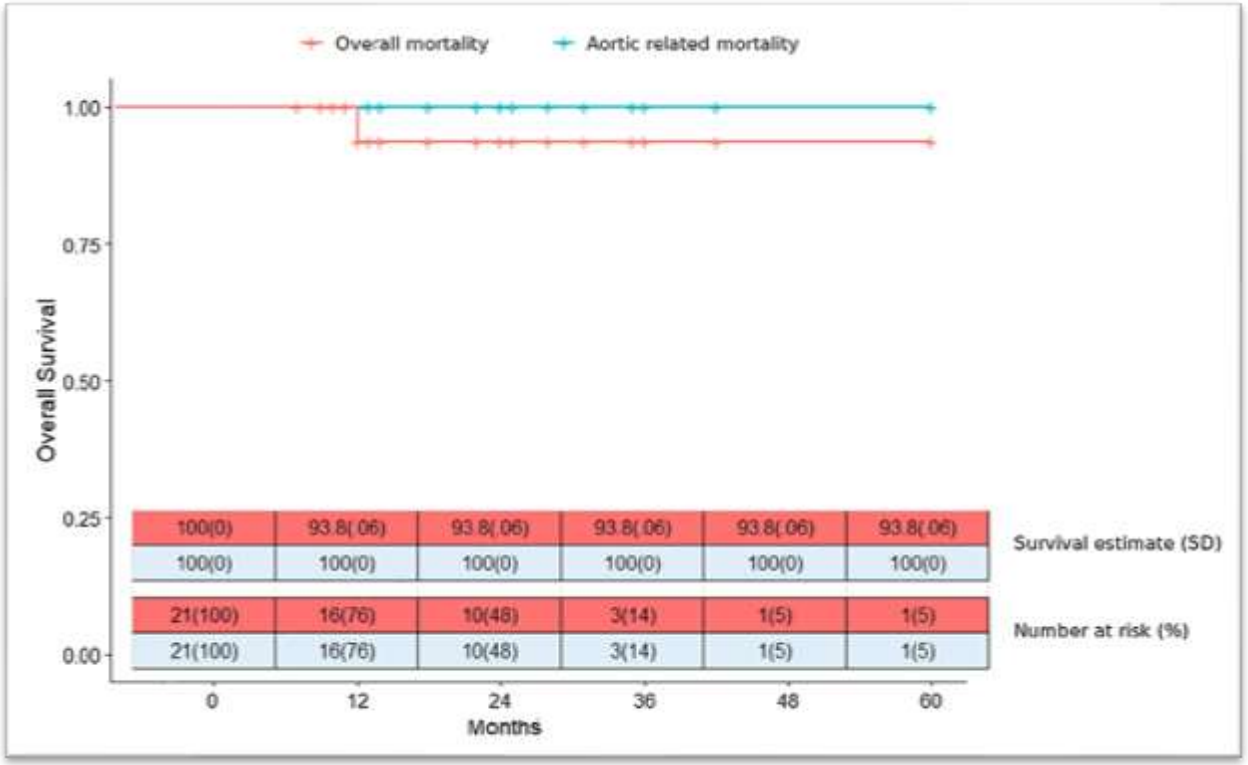
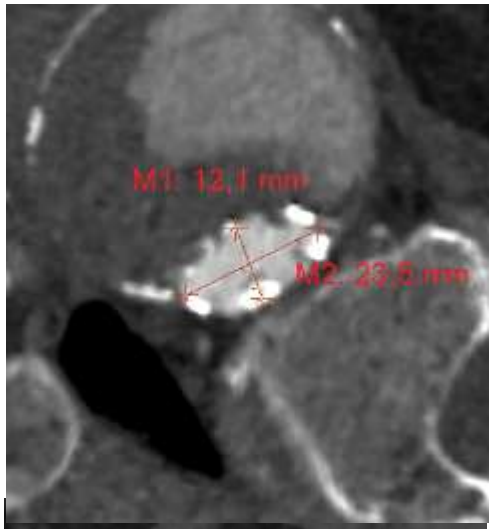
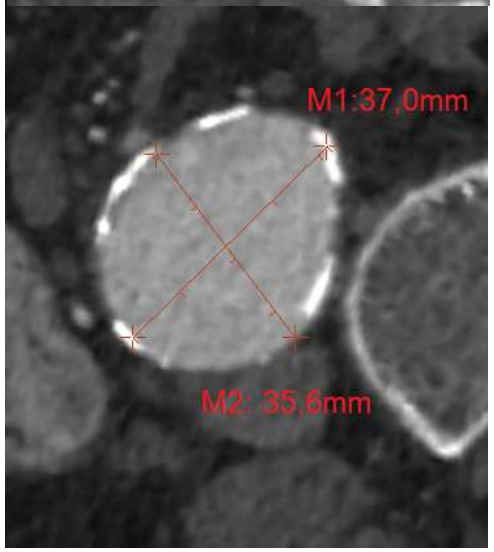


In urgenza..



Proximal landing zone



Distal landing zone

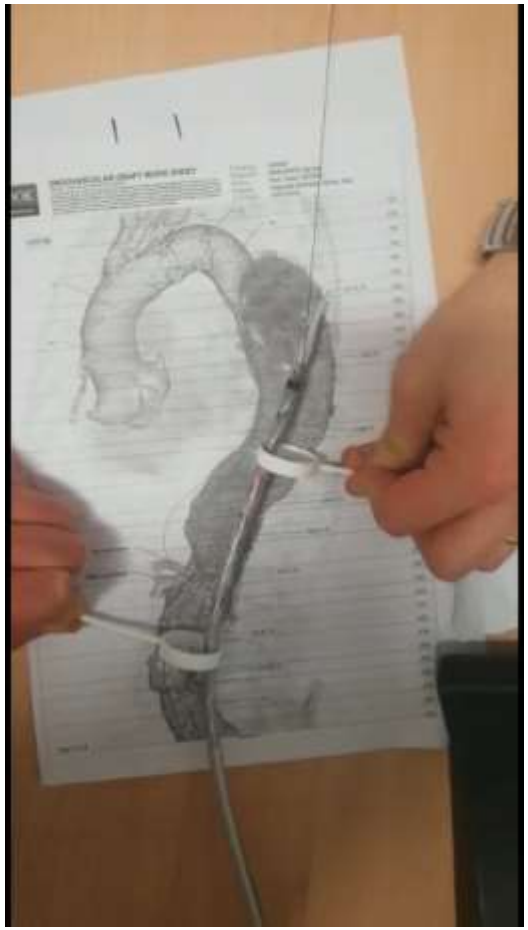
European Journal of Vascular & Endovascular Surgery esvs

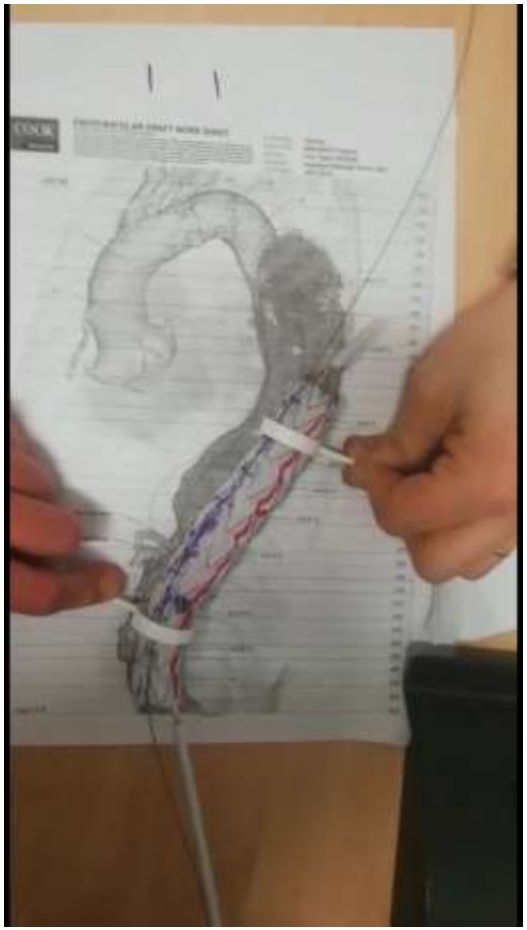
ABSTRACT ONLY | VOLUME 58, ISSUE 6, SUPPLEMENT 3, E741-E742, DECEMBER 01, 2019

Total Endovascular Management of a Symptomatic Post-dissection Thoracoabdominal Aneurysm with the New Physician Modified Fenestrated Thoracic Endograft

Edoardo Frola • Lorenzo Gibello • Gianfranco Varetto • ... Fabio Verzini • Flavia Spalla • Pietro Rispoli • Show all authors

Dal planning…

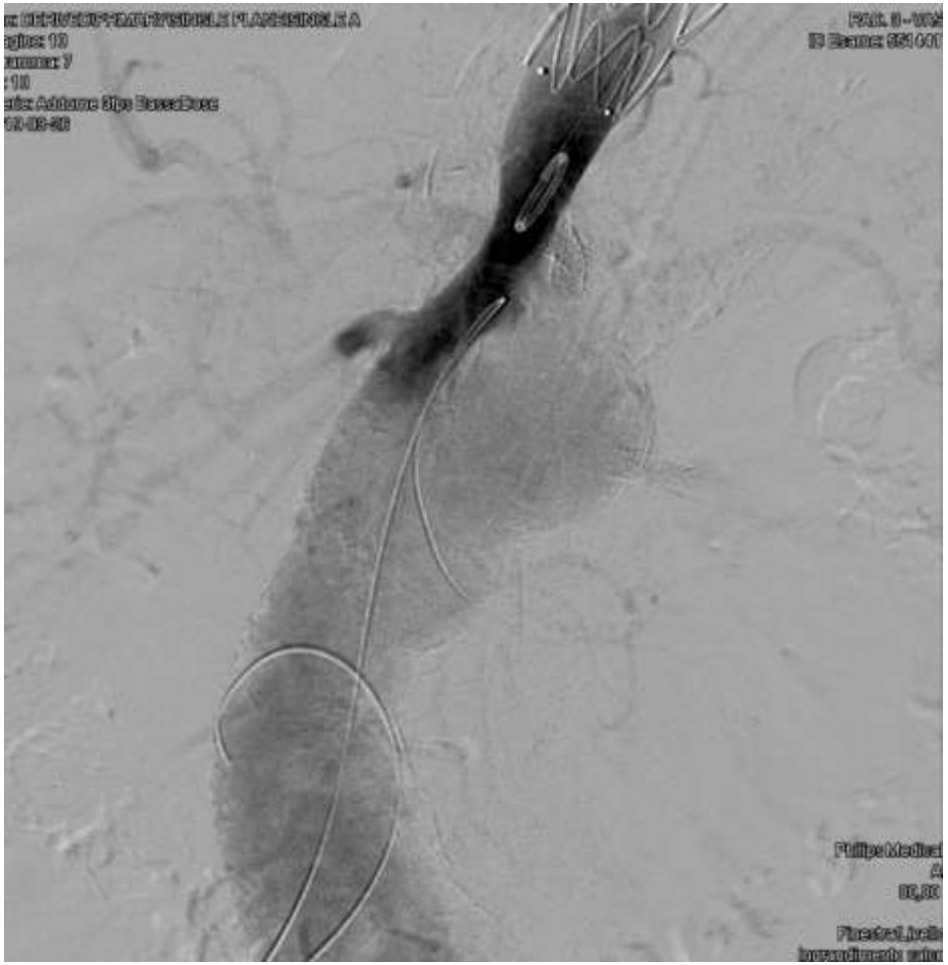




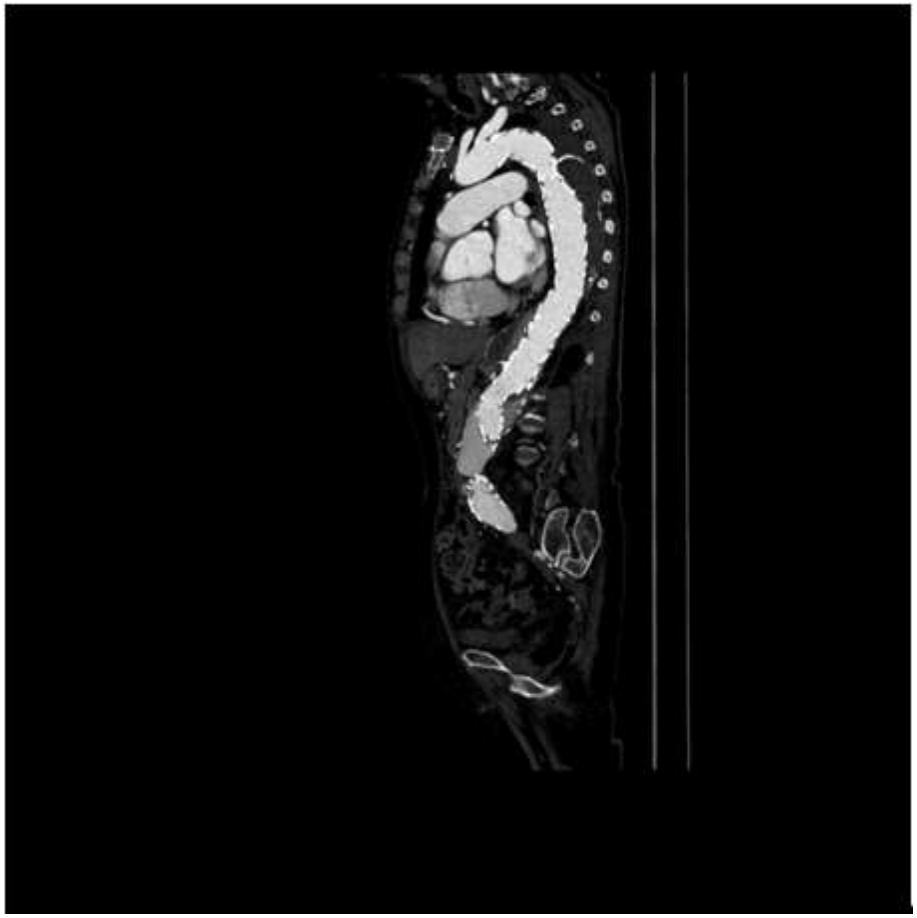
…al test su modello 3D

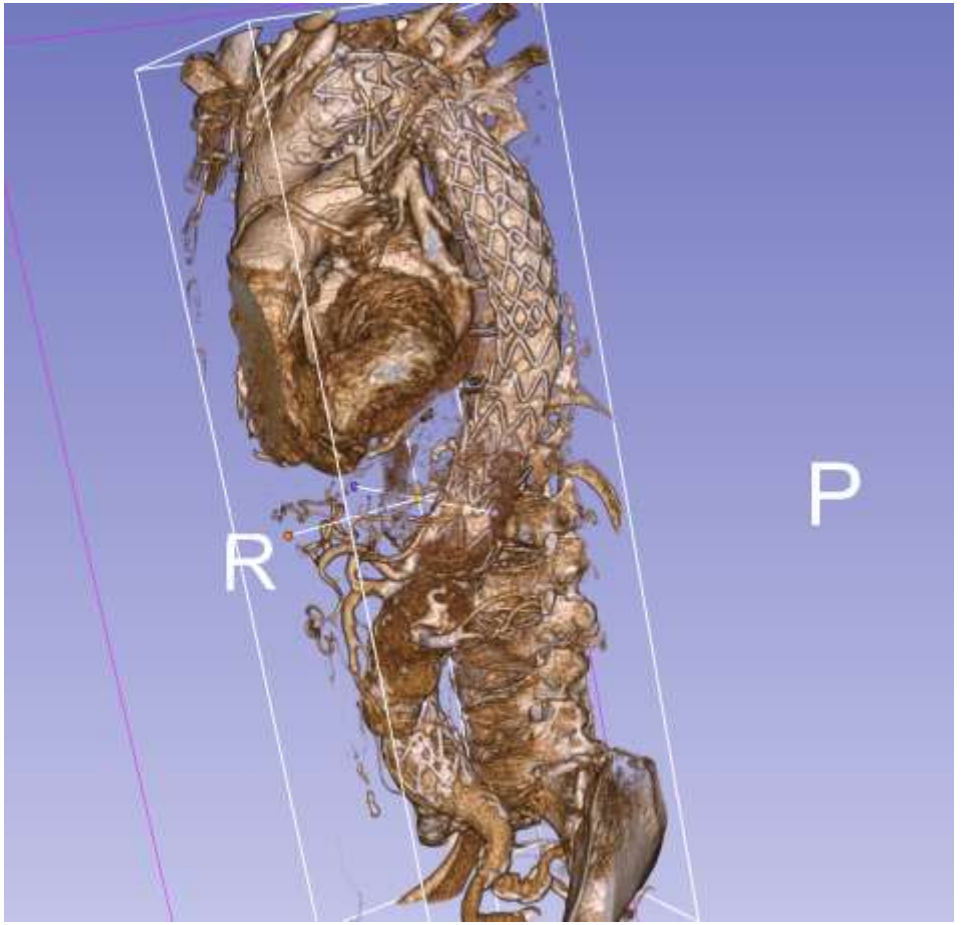
Fenestrazione a banco di endoprotesi toracica

Procedura angiografica



Risultato finale





Conclusioni

- I pazienti affetti da malattia aortica presentano co-morbidità ingravescenti
- La chirurgia aortica è in evoluzione
- La speranza di vita aumenta solo se riusciamo ad incidere sulla mortalità cardio-vascolare a distanza
- Il lavoro in team è cruciale per migliorare i risultati