Fondazione IRCCS Ca' Granda
Ospedale Maggiore Policlinico

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What is Non-A non-B dissection and how and when do we treat it best?

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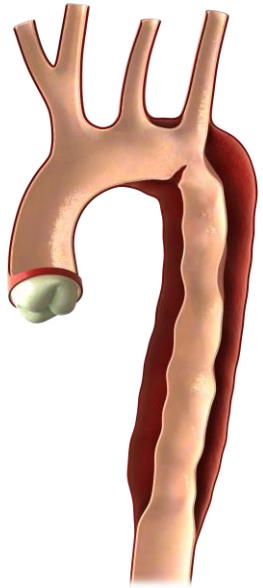
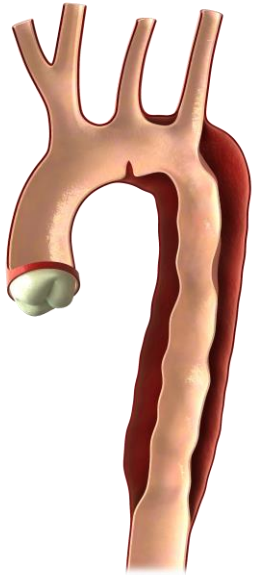
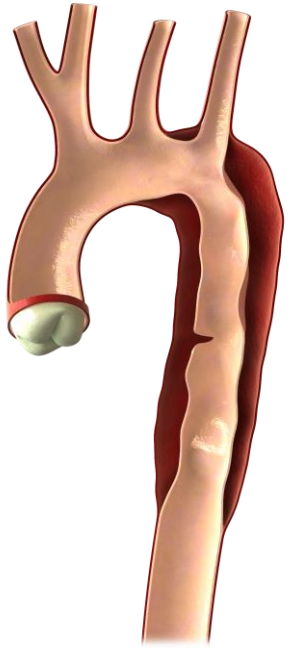
non A – non B Aortic Dissection

- Situation in which the arch is dissected but not ascending aorta







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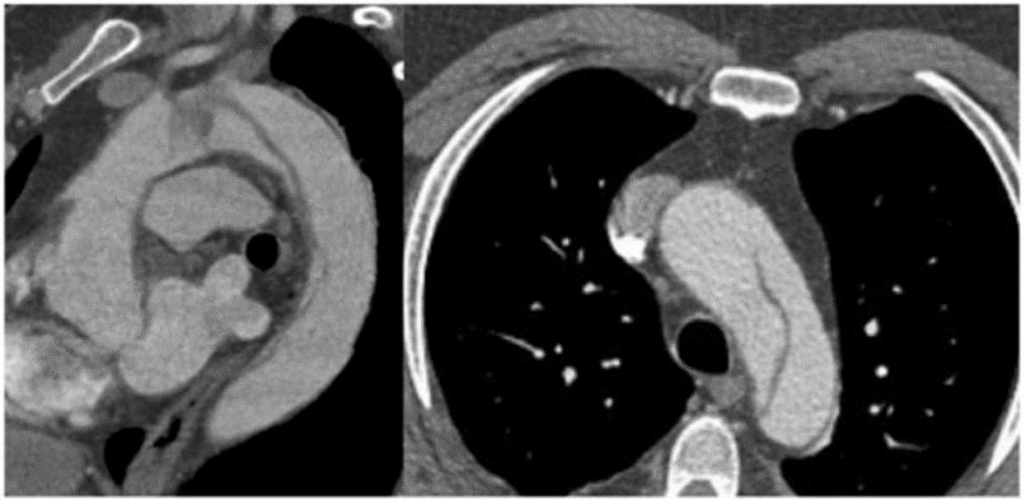
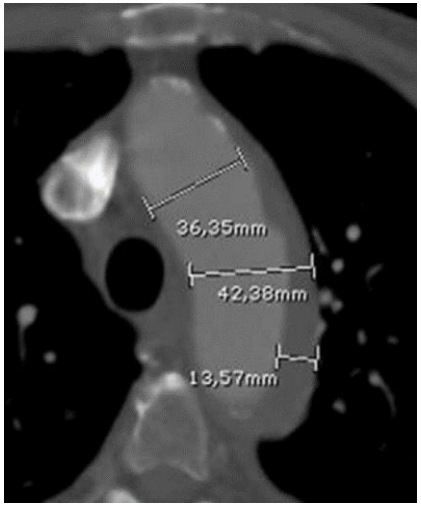
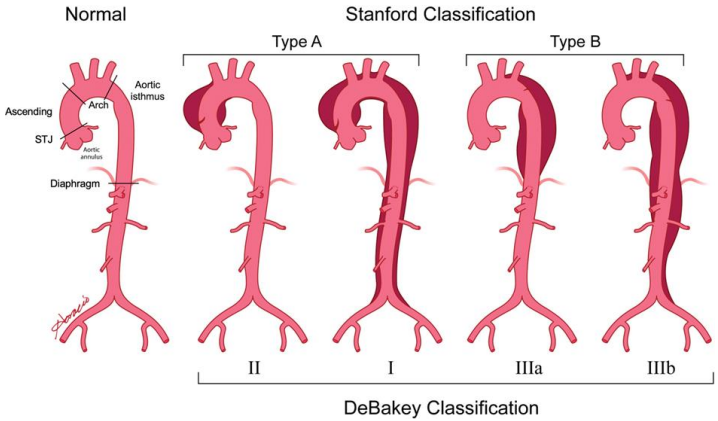
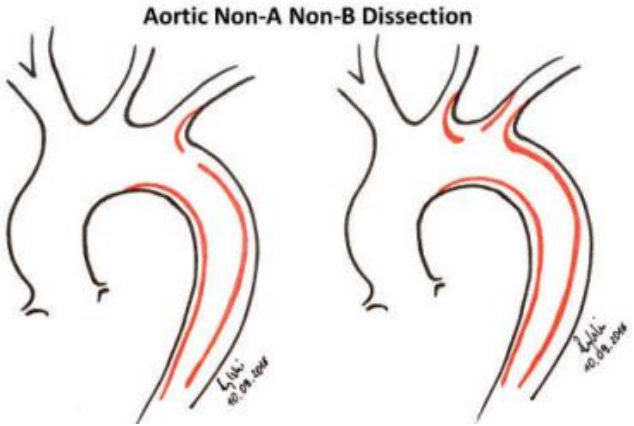




non A – non B Aortic Dissection



- Descending Entry
- Arch Entry



European Journal of Cardio-Thoracic Surgery 52 (2017) 1111–1117
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ORIGINAL ARTICLE

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Acute non-A non-B aortic dissection: incidence, treatment and outcome

Bartosz Rylski[a,*], Marta Pérez[a], Friedhelm Beyersdorf[a], Diana Reser[b], Fabian A. Kari[a], Matthias Siepe[a], and Martin Czerny[a]

[a] Department of Cardiovascular Surgery, Heart Centre Freiburg University, Faculty of Medicine, University of Freiburg, Freiburg, Germany
[b] Division of Cardiovascular Surgery, University Hospital Zurich, University of Zurich, Zurich, Switzerland

non A – non B Aortic Dissection

Table 3: Treatment details and outcome

Parameter	All $n=43$	Descending entry $n=21$	Arch entry $n=22$	*P*-value
TEVAR	29 (67.4)	14 (66.7)	15 (68.2)	0.826
Zone 1	1 (2.3)	0	1 (4.5)	1.000
Zone 2	9 (20.9)	0	9 (40.9)	0.001
Zone 3	19 (44.2)	14 (66.7)	5 (22.7)	0.010
Open surgery via sternotomy	6 (14.0)	3 (14.3)	3 (13.6)	1.000
FET	4 (9.3)	3 (14.3)	1 (4.5)	0.345
Hybrid arch repair	1 (2.3)	0	1 (4.5)	1.000
Conventional arch replacement	1 (2.3)	0	1 (4.5)	1.000
Other intervention/surgery	6 (14.0)	3 (14.3)	3 (13.6)	1.000
Conservative treatment	2 (4.7)	1 (4.8)	1 (4.5)	1.000
Intervention/surgery timing				
Emergency	14 (32.6)	6 (28.6)	8 (36.4)	0.826
Urgent (<2 weeks)	17 (39.5)	9 (42.9)	8 (36.4)	0.259
Elective (>2 weeks)	7 (16.3)	5 (23.8)	2 (9.1)	0.240
Outcome				
Retrograde Type A dissection	5 (11.6)	1 (4.8)	4 (18.2)	0.345
Respiratory failure	3 (7.0)	2 (9.5)	1 (4.5)	0.607
Stroke	1 (2.3)	0	1 (4.5)	1.000
Re-thoracotomy for bleeding	1 (2.3)	1 (4.8)	0	0.488
ICU time (days)	2 (1; 3)	2 (1; 5)	2 (1; 3)	0.674
Hospital time (days)	15 (10; 21)	16 (11; 21)	12 (10; 21)	0.464
In-hospital mortality				
Overall	4 (9.3)	1 (4.8)	3 (13.6)	0.607
After emergency repair	4 (28.6)	1 (16.7)	3 (37.5)	0.580
After urgent repair	0	0	0	
After elective repair	0	0	0	
Aortic redo at follow-up	14 (32.6)	7 (33.3)	7 (31.8)	0.920
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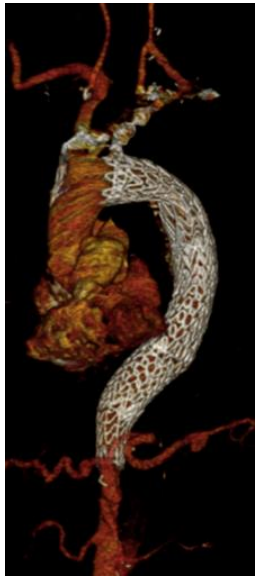

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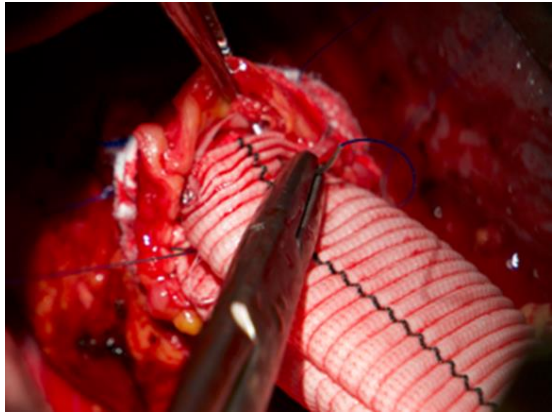

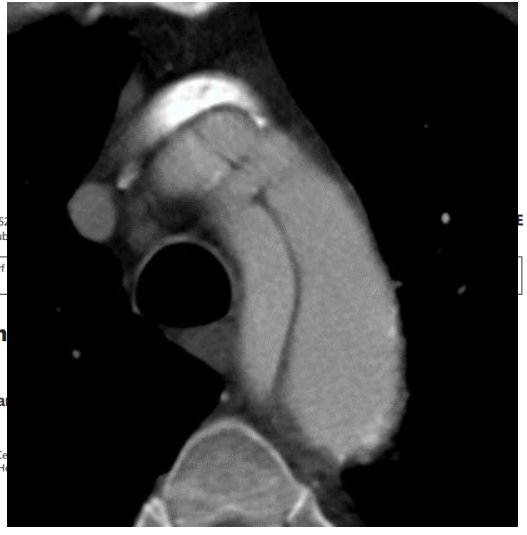

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[a] Department of Cardiovascular Surgery, Heart Ce
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non A – non B Aortic Dissection

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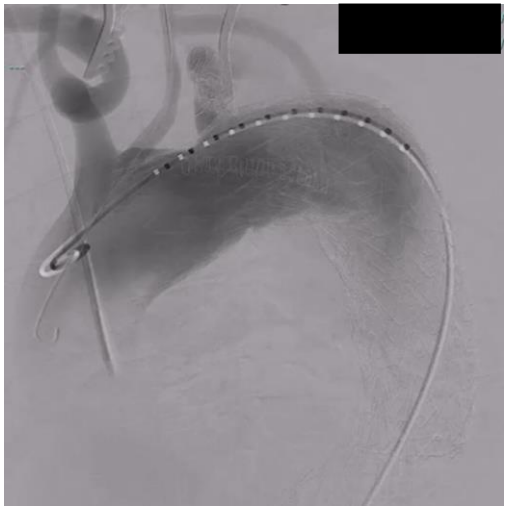

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non-A non-B aortic dissection: incidence, treatment and outcome

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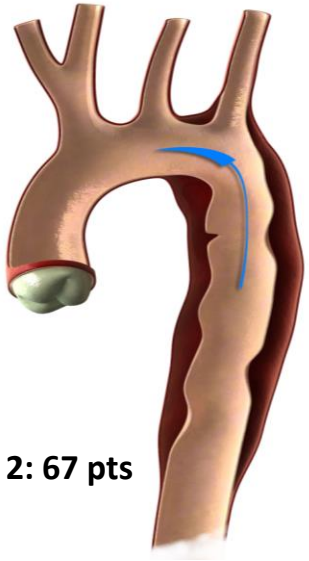
[b] Division of Cardiovascular Surgery, University Hospital Zurich, University of Zurich, Zurich, Switzerland

non A – non B Aortic Dissection -- Acute type B Dissection with RAE

- What is the significance of retrograde arch involvement in B dissection ?

Incidence
16.5%



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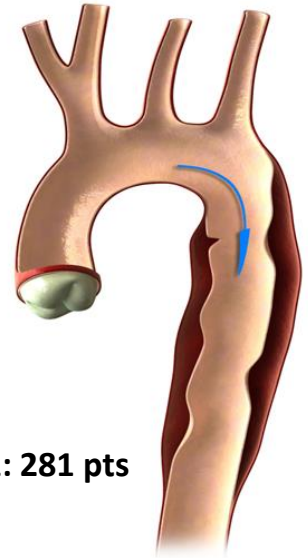


G 1: 281 pts

Impact of Retrograde Arch Extension in Acute Type B Aortic Dissection on Management and Outcomes

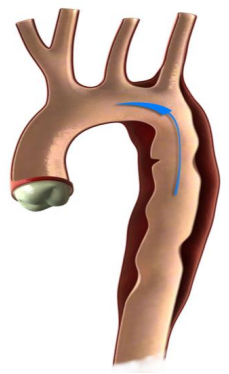
Nauta FJ, Tolenaar JL, Patel HJ, Appoo JJ, Tsai TT, Desai ND, Montgomery DG, Mussa FF, Upchurch GR, Fattori R, Hughes GC, Nienaber CA, Isselbacher EM, Eagle KA, Trimarchi S;

Ann Thorac Surg. 2016 Jul; pii: S0003-4975(16)30493-3.

non A – non B Aortic Dissection -- Acute type B Dissection with RAE

- No difference in management

Variable	No arch extension n = 337 (83.5%)	Arch extension n = 67 (16.5%)	p-value
Medical (%)	191 (56.5)	36 (53.7)	0.68
Surgery (%)	32 (9.5)	8 (11.9)	0.54
Endovascular (%)	**105 (31.1)**	**22 (32.8)**	**0.78**
Hybrid (%)	10 (3.0)	1 (1.5)	0.70



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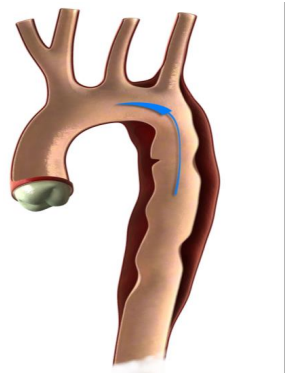
non A – non B Aortic Dissection -- Acute type B Dissection with RAE

- No difference in management or early outcome

Variable	No arch extension n = 337 (83.5%)	Arch extension n = 67 (16.5%)	p-value
Medical (%)	191 (56.5)	36 (53.7)	0.68
Surgery (%)	32 (9.5)	8 (11.9)	0.54
Endovascular (%)	105 (31.1)	22 (32.8)	0.78
Hybrid (%)	10 (3.0)	1 (1.5)	0.70
Complicated (%)	86 (31.7)	21 (36.8)	0.46
Mortality (%)	**36 (10.7)**	**7 (10.4)**	**0.96**



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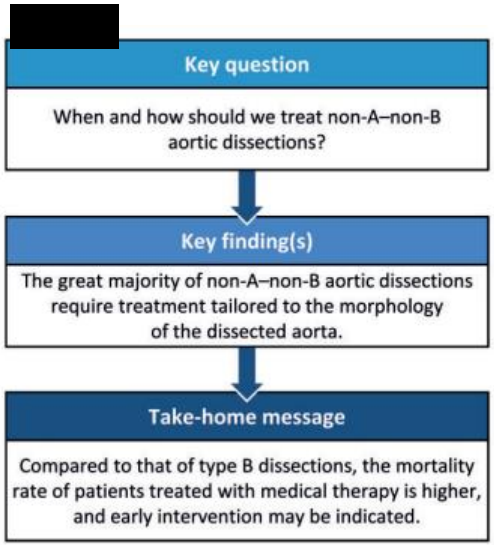

Table 4: Outcomes of patients treated surgically or endovascularly, with percentages

Author	30-Day mortality (%)	Stroke (%)	Retrograde type A dissection (%)
Rylski [E1]	4/41 (9)	1/41 (2)	2/36 (5)
Valentine [E2]	2/9 (22)	3/9 (33.3)	1/9 (11.1)
Urbanski [E3]	0/4 (0)	NA	NA
Nauta [E4]	4/31 (12)	1/31 (3)	0/31 (0)
Huang [E5]	0/27 (0)	2/27 (7)	0/27 (0)
Shu [E6]	0/8 (0)	NA	0/8 (0)
Zou [E7]	0/24 (0)	0/24 (0)	0/24 (0)
Liu [E8]	0/41 (0)	NA	5/41 (12)
Lu [E9]	2/22 (9)	1/22 (4)	0/22 (0)
Bunger [E10]	5/45 (11)	4/45 (9)	1/45 (2)
Kefeng [E11]	0/15 (0)	1/15 (7)	0/15 (0)
Zhu [E12]	0/34 (0)	0/34 (0)	NA
Zhao [E13]	0/24 (0)	0/24 (0)	NA
Zhang [E14]	4/55 (7)	1/55 (2)	1/55 (2)
	0 – 22%	**0 – 33%**	**0 – 12%**

Table 3: Outcomes of patients treated with medical therapy, with percentages

Author	Number of patients (%)	30-Day mortality (%)	Long-term mortality (%)	Long-term reoperation rate (%)
Rylski [E1]	2/43 (5)	0	NA	NA
Urbanski [E3]	4/8 (50)	0	3/4 (75)	1/4 (25)
Valentine [E2]	8/20 (40)	4/8 (50)	0	4/4 (100)
Nauta [E4]	36/67 (54)	3/36 (8)	NA	NA
	5 – 54%	**0 – 50%**		

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doi:10.1093/ejcts/ezy337 Advance Access publication 15 October 2018

ORIGINAL ARTICLE

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Non-A non-B aortic dissection: a systematic review and meta-analysis

Davide Carino[a,*], Mrinal Singh[b], Alberto Molardi[a], Andrea Agostinelli[a], Matteo Goldoni[c], Davide Pacini[d] and Francesco Nicolini[a]

Aortic Arch Dissection / Aneurysm: Consensus & Guidelines

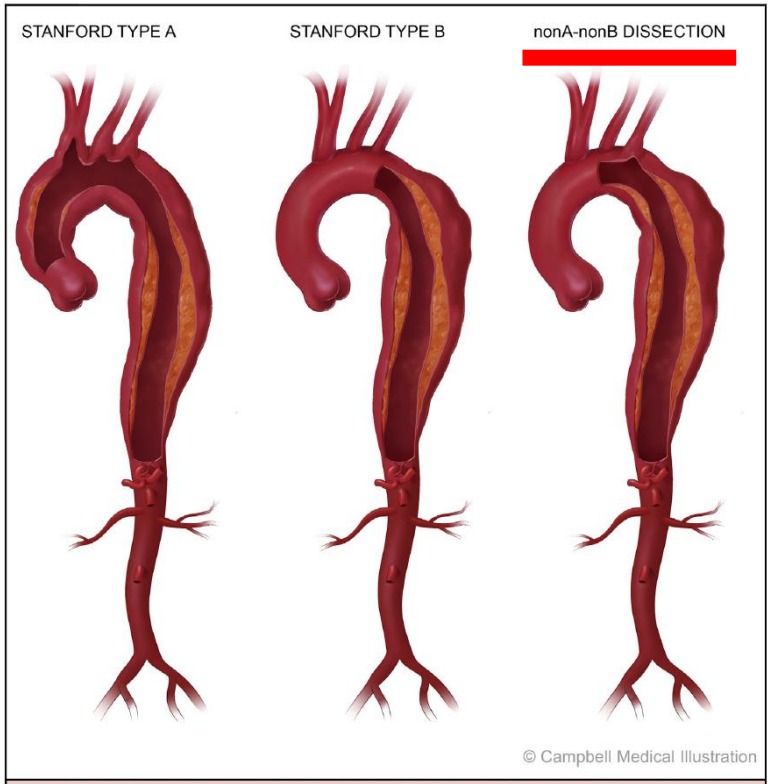


Figure 3. Definitions of aortic dissections (printed with permission from © Campbell Medical Illustration).

nonA-nonB: uncomplicated / complicated → conservative or surgery
case-specific approach

Eur J Vasc Endovasc Surg (2019) 57, 165–198

Editor's Choice – Current Options and Recommendations for the Treatment of Thoracic Aortic Pathologies Involving the Aortic Arch: An Expert Consensus Document of the European Association for Cardio-Thoracic Surgery (EACTS) & the European Society for Vascular Surgery (ESVS)

Martin Czerny [a,*], Jürg Schmidli [a], Sabine Adler [a], Jos C. van den Berg [a], Luca Bertoglio [a], Thierry Carrel [a], Roberto Chiesa [a], Rachel E. Clough [a], Balthasar Eberle [a], Christian Etz [a], Martin Grabenwöger [a], Stephan Haulon [a], Heinz Jakob [a], Fabian A. Kari [a], Carlos A. Mestres [a], Davide Pacini [a], Timothy Resch [a], Bartosz Rylski [a], Florian Schoenhoff [a], Malakh Shrestha [a], Hendrik von Tengg-Kobligk [a], Konstantinos Tsagakis [a], Thomas R. Wyss [a]

Document Reviewers [b], Nabil Chakfe, Sebastian Debus, Gert J. de Borst, Roberto Di Bartolomeo, Jes S. Lindholt, Wei-Guo Ma, Piotr Suwalski, Frank Vermassen, Alexander Wahba, Moritz C. Wyler von Ballmoos

Keywords: Expert consensus document, Aortic arch, Open repair, Endovascular repair

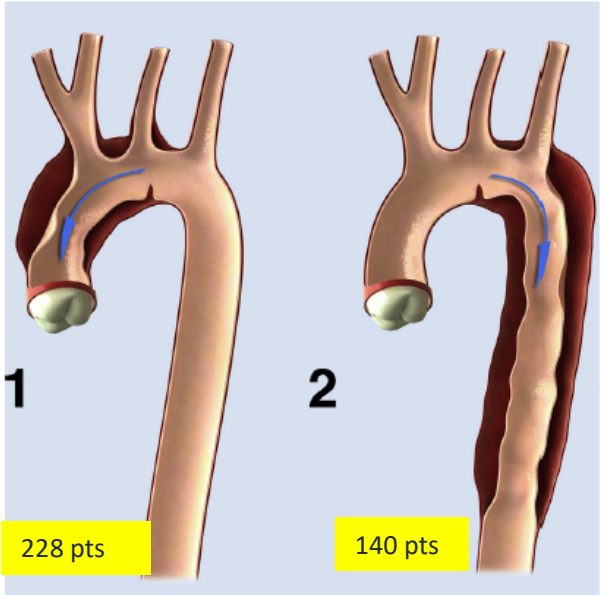
non A – non B Aortic Dissection with Entry Tear in the Aortic Arch

- Group 1 : Retrograde extension into the Ascending Aorta *with or without antegrade extension*

  Arch A

- Group 2: Antegrade extension into the Descending Aorta

  Arch B



AATS AORTIC SYMPOSIUM: AORTIC ARCH

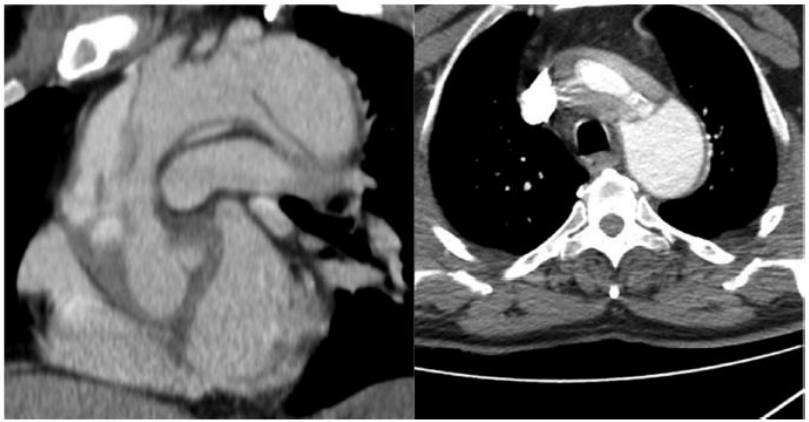
Acute aortic dissections with entry tear in the arch: A report from the International Registry of Acute Aortic Dissection

Santi Trimarchi, MD, PhD,[a,b] Hector W. L. de Beaufort, MD,[a] Jip L. Tolenaar, MD, PhD,[a] Joseph E. Bavaria, MD,[c] Nimesh D. Desai, MD, PhD,[c] Marco Di Eusanio, MD, PhD,[d] Roberto Di Bartolomeo, MD,[e] Mark D. Peterson, MD, PhD,[f] Marek Ehrlich, MD,[g] Arturo Evangelista, MD,[h] Daniel G. Montgomery, BS,[i] Truls Myrmel, MD, PhD,[j] G. Chad Hughes, MD,[k] Jehangir J. Appoo, MD,[l] Carlo De Vincentiis, MD,[a] Tristan D. Yan, MD, PhD,[m] Christoph A. Nienaber, MD, PhD,[n] Eric M. Isselbacher, MD,[o] G. Michael Deeb, MD,[p] Thomas G. Gleason, MD,[q] Himanshu J. Patel, MD,[p] Thoralf M. Sundt, MD,[r] and Kim A. Eagle, MD[s]

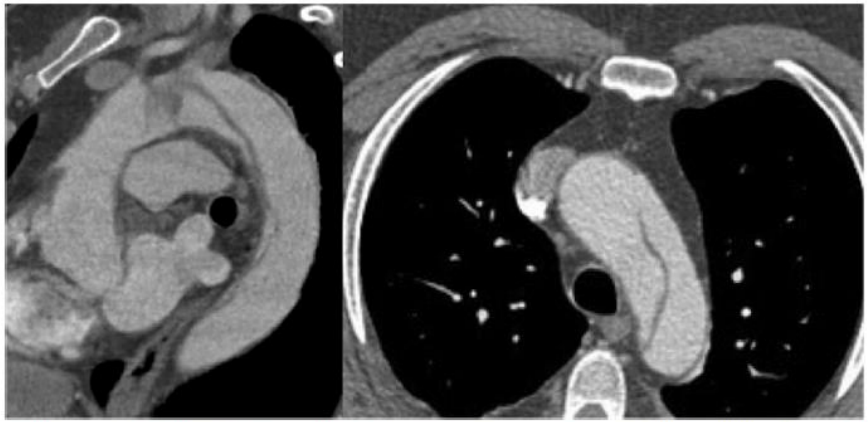
The Journal of Thoracic and Cardiovascular Surgery • January 2019

non A – non B Aortic Dissection with Entry Tear in the Aortic Arch

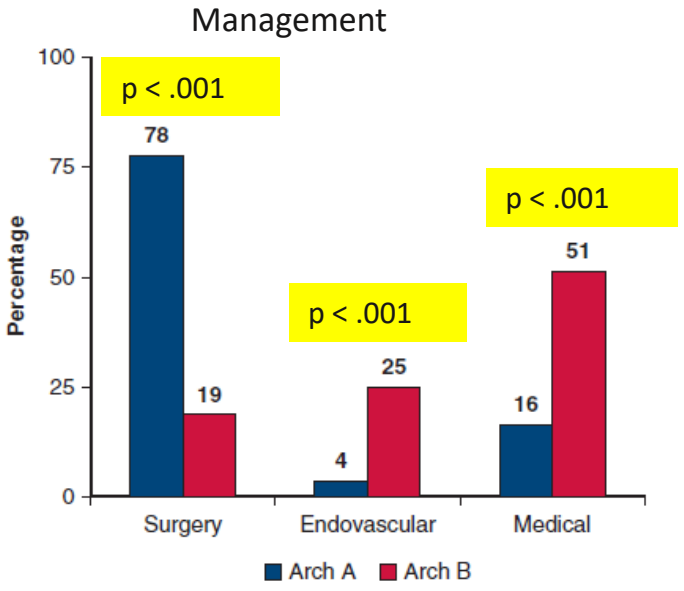
Arch A

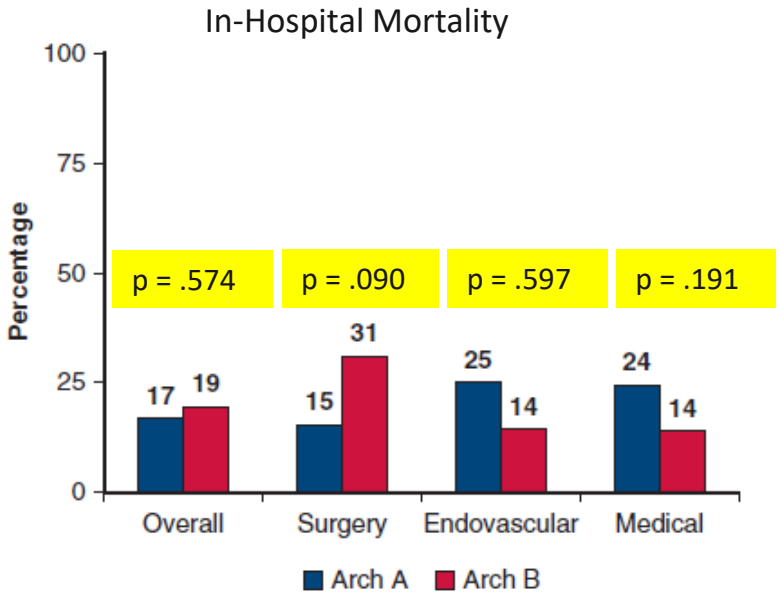


Arch B



Results


Management
p < .001
p < .001
p < .001
Percentage
100
75
50
25
0
78
19
4
25
16
51
Surgery
Endovascular
Medical
Arch A
Arch B


In-Hospital Mortality
p = .574
p = .090
p = .597
p = .191
Percentage
100
75
50
25
0
17
19
15
31
25
14
24
14
Overall
Surgery
Endovascular
Medical
Arch A
Arch B

Aortic Arch - Guidelines

1.3.3 Type A, type B and non-A-non-B aortic dissection.

The WC refers to the original proposal from Stanford that defines type A aortic dissection as any dissection involving the ascending aorta but refers to type B aortic dissection when only the descending thoracic aorta (DTA) is involved. Arch involvement either by the most proximal tear or by retrograde extension is referred to as non-A-non-B aortic dissection.

Recommendation 19: the FET technique or TEVAR to close the primary entry tear should be considered in patients with acute type A aortic dissection with a primary entry in the distal aortic arch or in the proximal half of the DTA to treat associated malperfusion syndrome or to avoid its postoperative development.	**Class IIA**	**Level C**

European Journal of Cardio-Thoracic Surgery 55 (2019) 133–162
doi:10.1093/ejcts/ezy313 Advance Access publication 12 October 2018

POSITION STATEMENT

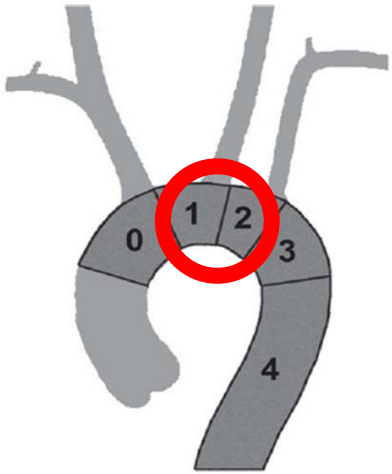
Cite this article as: Czerny M, Schmidli J, Adler S, van den Berg JC, Bertoglio L, Carrel T *et al.* Current options and recommendations for the treatment of thoracic aortic pathologies involving the aortic arch: an expert consensus document of the European Association for Cardio-Thoracic surgery (EACTS) and the European Society for Vascular Surgery (ESVS). Eur J Cardiothorac Surg 2019;55:133–62.

Current options and recommendations for the treatment of thoracic aortic pathologies involving the aortic arch: an expert consensus document of the European Association for Cardio-Thoracic surgery (EACTS) and the European Society for Vascular Surgery (ESVS)

Aortic Arch - Guidelines

- Arch Guidelines – **Zone 1 and 2**

Recommendation 24		
TEVAR in zones 1 and 2 should be considered in patients with suitable anatomy		
Class	**Level**	**References**
IIa	B	[4]



Eur J Vasc Endovasc Surg (2019) 57, 165–198

Editor's Choice — Current Options and Recommendations for the Treatment of Thoracic Aortic Pathologies Involving the Aortic Arch: An Expert Consensus Document of the European Association for Cardio-Thoracic Surgery (EACTS) & the European Society for Vascular Surgery (ESVS)

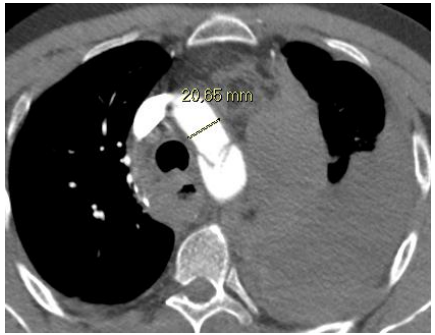
Martin Czerny [a,*], Jürg Schmidli [a], Sabine Adler [a], Jos C. van den Berg [a], Luca Bertoglio [a], Thierry Carrel [a], Roberto Chiesa [a], Rachel E. Clough [a], Balthasar Eberle [a], Christian Etz [a], Martin Grabenwöger [a], Stephan Haulon [a], Heinz Jakob [a], Fabian A. Kari [a], Carlos A. Mestres [a], Davide Pacini [a], Timothy Resch [a], Bartosz Rylski [a], Florian Schoenhoff [a], Malakh Shrestha [a], Hendrik von Tengg-Kobligk [a], Konstantinos Tsagakis [a], Thomas R. Wyss [a]

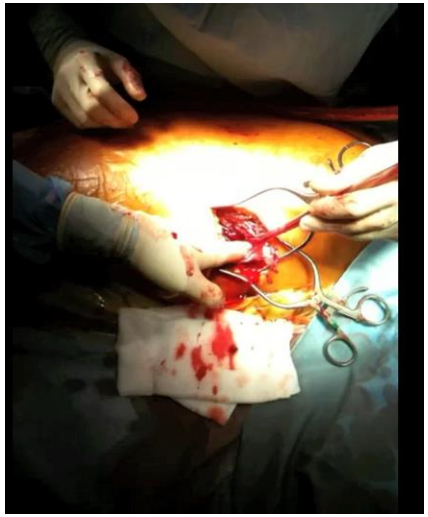
Document Reviewers [b], Nabil Chakfe, Sebastian Debus, Gert J. de Borst, Roberto Di Bartolomeo, Jes S. Lindholt, Wei-Guo Ma, Piotr Suwalski, Frank Vermassen, Alexander Wahba, Moritz C. Wyler von Ballmoos

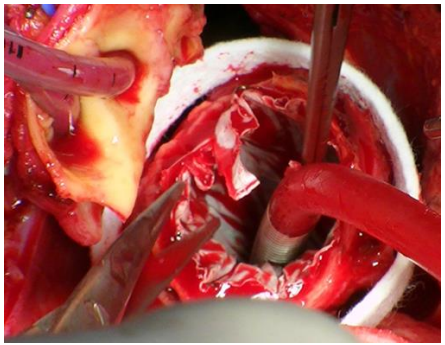
Aortic Arch - Guidelines

- Arch Guidelines – **TEVAR as Bridge**

Recommendation 41		
Endovascular repair may be considered for bridging purposes or definite treatment in inoperable patients with infections of the native aortic arch or aortic arch graft concomitant to antiinfectious therapy		
Class	**Level**	**References**
IIb	C	-







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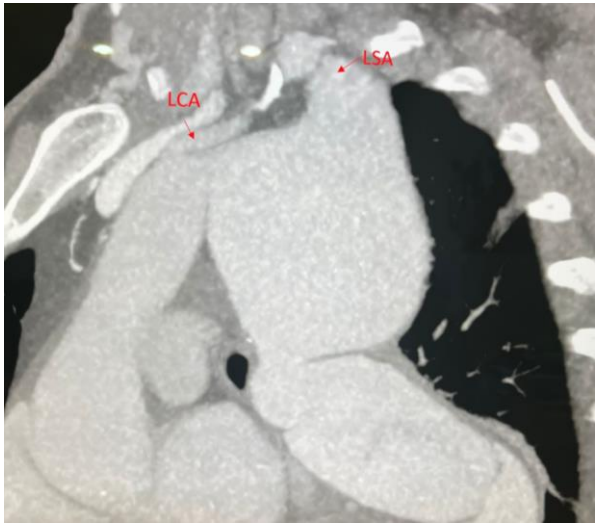
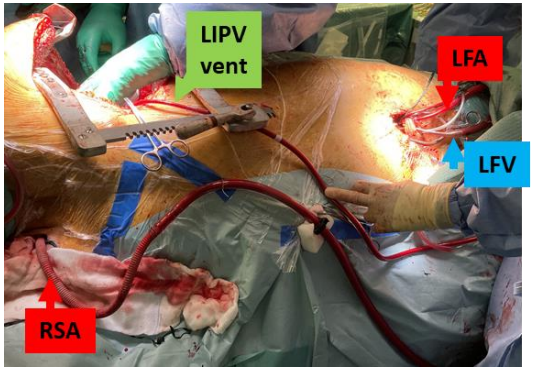
Document Reviewers [b], Nabil Chakfe, Sebastian Debus, Gert J. de Borst, Roberto Di Bartolomeo, Jes S. Lindholt, Wei-Guo Ma, Piotr Suwalski, Frank Vermassen, Alexander Wahba, Moritz C. Wyler von Ballmoos

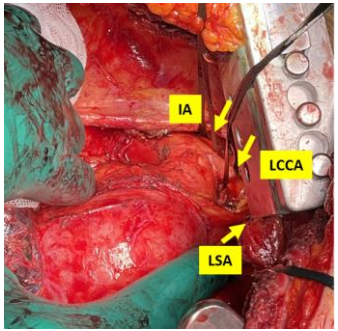
Aortic Arch and Descending

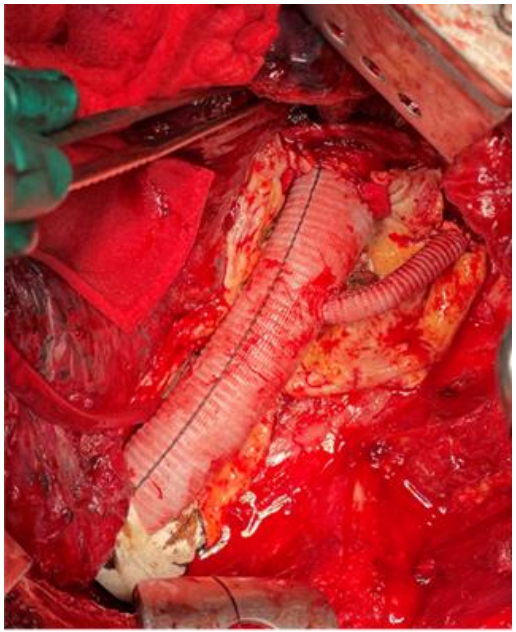
Complicated TBAD: Distal arch/descending TAA + descending acute Diss and Initial Visceral Malperfusion

47 yrs pt









Aortic Arch Dissection / Aneurysm: Consensus & Guidelines

2014 ESC Guidelines on the diagnosis and treatment of aortic diseases

Document covering acute and chronic aortic diseases of the thoracic and abdominal aorta of the adult

The Task Force for the Diagnosis and Treatment of Aortic Diseases of the European Society of Cardiology (ESC)

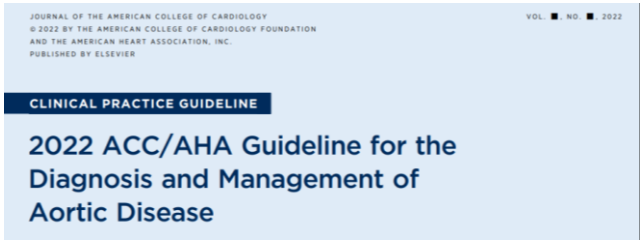

ADULT: STS/AATS CLINICAL PRACTICE GUIDELINES ON THE MANAGEMENT OF TYPE B AORTIC DISSECTION

The Society of Thoracic Surgeons/American Association for Thoracic Surgery clinical practice guidelines on the management of type B aortic dissection

Check for updates

Thomas E. MacGillivray, MD,[a] Thomas G. Gleason, MD,[b] Himanshu J. Patel, MD,[c] Gabriel S. Aldea, MD,[d] Joseph E. Bavaria, MD,[e] Thomas M. Beaver, MD,[f] Edward P. Chen, MD,[g] Martin Czerny, MD,[h] Anthony L. Estrera, MD,[i] Scott Firestone, MS,[j] Michael P. Fischbein, MD,[k] G. Chad Hughes, MD,[g] Dawn S. Hui, MD,[l] Kalie Kissoon,[j] Jennifer S. Lawton, MD,[m] Davide Pacini, MD,[n] T. Brett Reece, MD,[o] Eric E. Roselli, MD,[p] and John Stulak, MD[q]

J Thorac Cardiovasc Surg 2022;163:1231-49


JOURNAL OF THE AMERICAN COLLEGE OF CARDIOLOGY
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PUBLISHED BY ELSEVIER

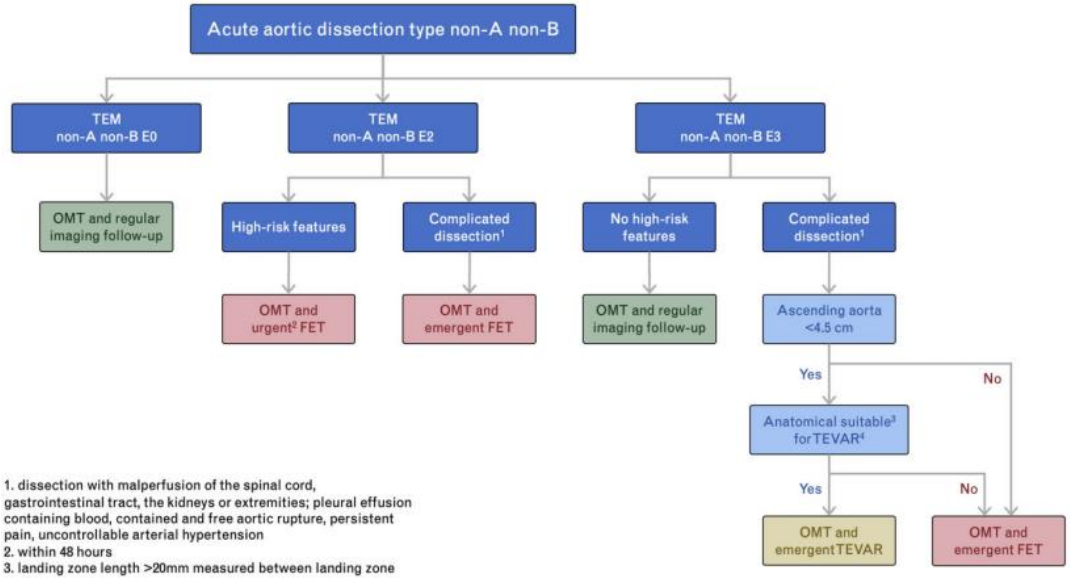
VOL. ■, NO. ■, 2022

CLINICAL PRACTICE GUIDELINE

2022 ACC/AHA Guideline for the Diagnosis and Management of Aortic Disease

No indications

Non-A non-B Dissection: Consensus & Guidelines



1. dissection with malperfusion of the spinal cord, gastrointestinal tract, the kidneys or extremities; pleural effusion containing blood, contained and free aortic rupture, persistent pain, uncontrollable arterial hypertension
2. within 48 hours
3. landing zone length >20mm measured between landing zone begin and entry location
4. TEVAR zone 2 with carotid-subclavian bypass or TEVAR zone 3

Recommendations	Class[a]	Level[b]	Ref[c]
In patients with complicated non-A non-B aortic dissection with arch entry tear, repair via the FET technique should be considered.	IIa	C	-
In patients with anatomical feasibility to cover the primary entry tear, a stent graft implantation may be considered.	IIb	C	-

EACTS/STS Guidelines for diagnosing and treating acute and chronic syndromes of the aortic organ

Authors/Task Force Members: Martin Czerny [a,b,*,†] (Co-Chairperson) (Germany), Martin Grabenwöger[c,d,*,†] (Co-Chairperson) (Austria), Tim Berger[a,b] (Task Force Coordinator), Victor Aboyans[e,f] (France), Alessandro Della Corte [g,h] (Italy), Edward P. Chen[i] (USA), Nimesh D. Desai[j] (USA) , Julia Dumfarth [k] (Austria), John A. Elefteriades[l] (USA), Christian D. Etz[m] (Germany), Karen M. Kim[n] (USA), Maximilian Kreibich[a,b] (Germany), Mario Lescan [o] (Germany), Luca Di Marco[p] (Italy), Andreas Martens [q,r] (Germany), Carlos A. Mestres [s] (South Africa), Milan Milojevic [t] (Serbia), Christoph A. Nienaber [u,v] (UK), Gabriele Piffaretti[w] (Italy), Ourania Preventza[x] (USA), Eduard Quintana[y] (Spain), Bartosz Rylski [a,b] (Germany), Christopher L. Schlett[b,z] (Germany), Florian Schoenhoff[aa] (Switzerland), Santi Trimarchi[ab] (Italy) and Konstantinos Tsagakis [ac] (Germany), EACTS/STS Scientific Document Group

EJCTS 2024

Type B Aortic Dissection: Consensus & Guidelines

UNCOMPLICATED TBAD

Management of TBAD With Arch Involvement

- **Optimal medical therapy is reasonable in patients with uncomplicated TBAD and retrograde extension of dissection from a tear at or distal to the LSA, as long as retrograde extension is limited to the arch (zones 1 and 2). (COR IIA, LOE C-LD)**

Uncomplicated
No rupture
No malperfusion
No high-risk features
High risk
Refractory pain
Refractory hypertension
Bloody pleural effusion
Aortic diameter >40 mm
Radiographic only malperfusion
Readmission
Entry tear: lesser curve location
False lumen diameter >22 mm
Complicated
Rupture
Malperfusion

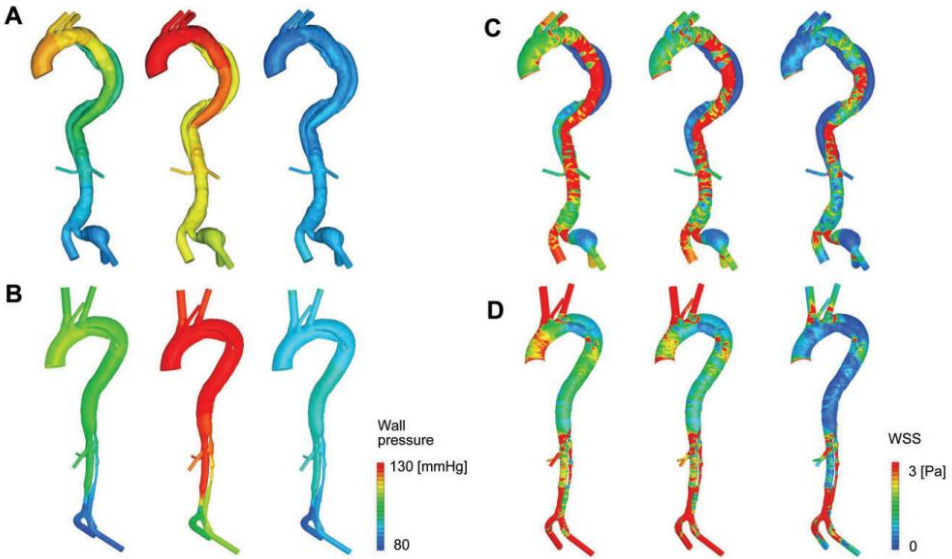
ADULT: STS/AATS CLINICAL PRACTICE GUIDELINES ON THE MANAGEMENT OF TYPE B AORTIC DISSECTION

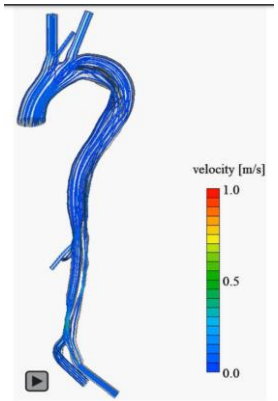
The Society of Thoracic Surgeons/American Association for Thoracic Surgery clinical practice guidelines on the management of type B aortic dissection

Thomas E. MacGillivray, MD,[a] Thomas G. Gleason, MD,[b] Himanshu J. Patel, MD,[c] Gabriel S. Aldea, MD,[d] Joseph E. Bavaria, MD,[e] Thomas M. Beaver, MD,[f] Edward P. Chen, MD,[g] Martin Czerny, MD,[h] Anthony L. Estrera, MD,[i] Scott Firestone, MS,[j] Michael P. Fischbein, MD,[k] G. Chad Hughes, MD,[g] Dawn S. Hui, MD,[l] Kalie Kissoon,[j] Jennifer S. Lawton, MD,[m] Davide Pacini, MD,[n] T. Brett Reece, MD,[o] Eric E. Roselli, MD,[p] and John Stulak, MD[q]

J Thorac Cardiovasc Surg 2022;163:1231-49

non A – non B Aortic Dissection: CFD





Video 2: Representative computational fluid dynamics-generated streamline pattern in acute non-A non-B aortic dissection.

Interactive CardioVascular and Thoracic Surgery 2022, 35(3), ivac138
https://doi.org/10.1093/icvts/ivac138 Advance Access publication 13 May 2022

ORIGINAL ARTICLE

Cite this article as: Kimura N, Nakamura M, Takagi R, Mieno MN, Yamaguchi A, Czerny M *et al.* False lumen/true lumen wall pressure ratio is increased in acute non-A non-B aortic dissection. Interact CardioVasc Thorac Surg 2022; doi:10.1093/icvts/ivac138.

False lumen/true lumen wall pressure ratio is increased in acute non-A non-B aortic dissection

Naoyuki Kimura [a,*], Masanori Nakamura [b,*], Reiya Takagi [b], Makiko Naka Mieno [c], Atsushi Yamaguchi [a], Martin Czerny [d], Friedhelm Beyersdorf [d], Fabian Alexander Kari [d] and Bartosz Rylski [d]

[a] Department of Cardiovascular Surgery, Saitama Medical Center, Jichi Medical University, Saitama, Japan
[b] Department of Electrical and Mechanical Engineering, Nagoya Institute of Technology, Nagoya, Japan
[c] Department of Medical Informatics, Center for Information, Jichi Medical University, Shimotsuke, Japan
[d] Department of Cardiovascular Surgery, University Heart Centre Freiburg, University of Freiburg, Freiburg, Germany

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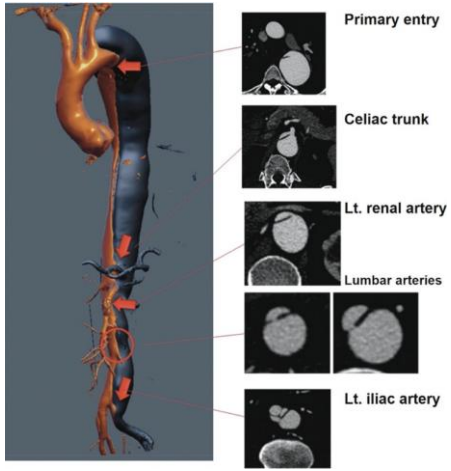
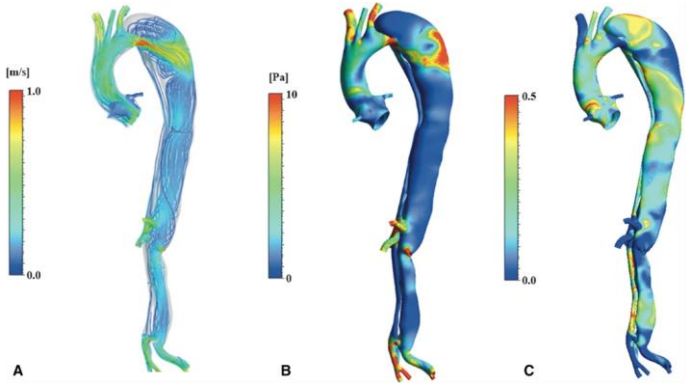
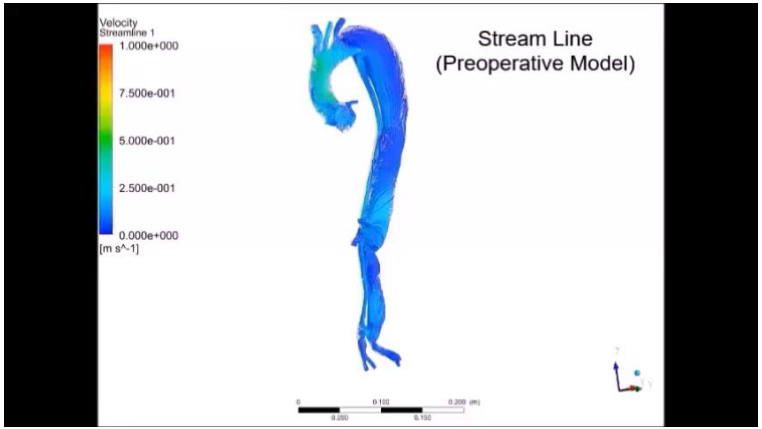
Type B Aortic Dissection: CFD







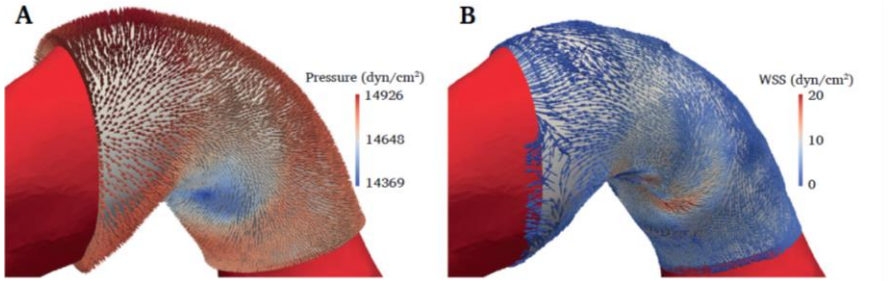
High wall shear-stress was seen at the future site of FL expansion.

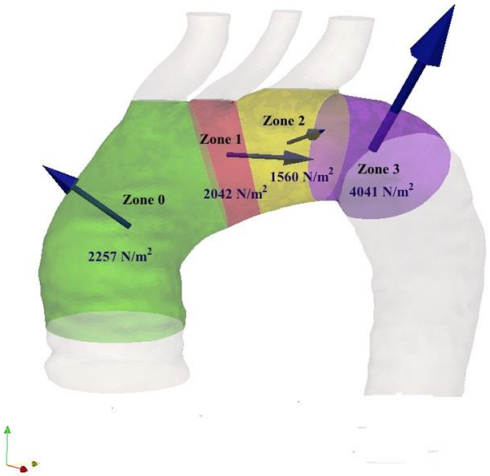
Late false-lumen expansion predicted by preoperative blood flow simulation in a patient with chronic type B aortic dissection

Chikara Ueki, MD, and Hiroshi Tsuneyoshi, MD, PhD

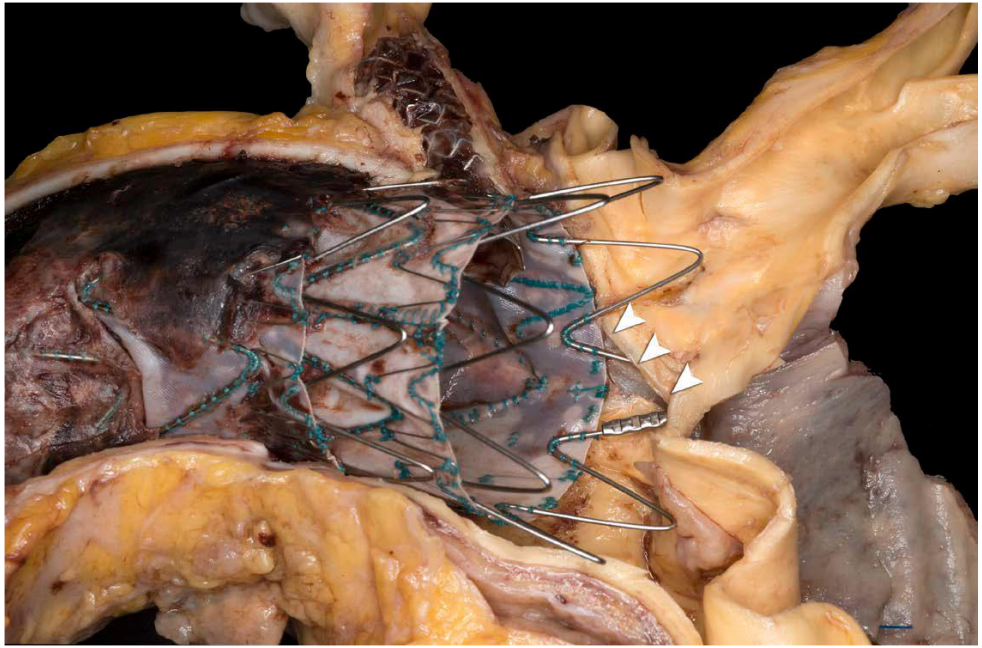
J Thorac Cardiovasc Surg 2019;157:e311-17

Fluid dynamics in TEVAR

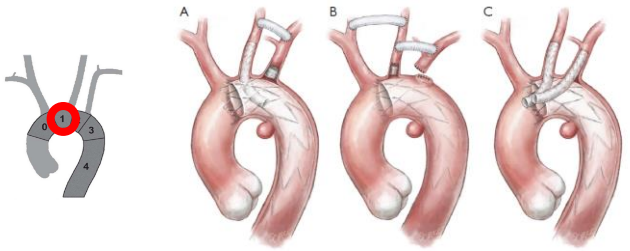


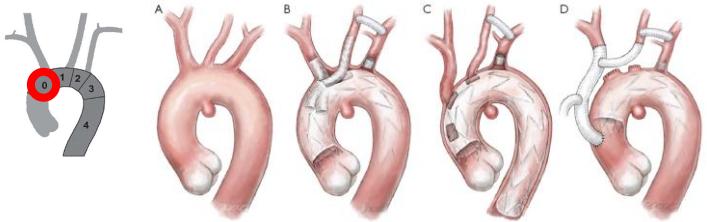


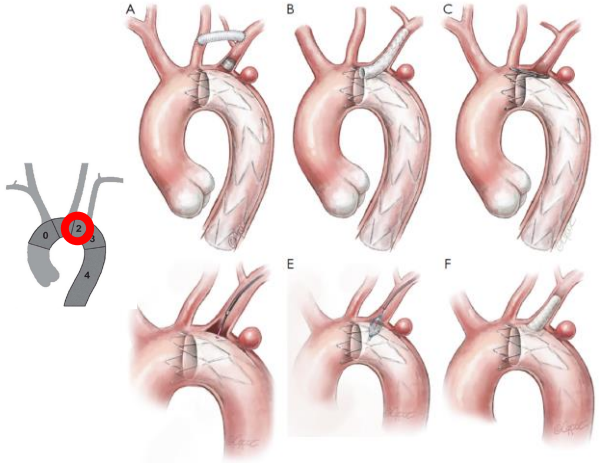
Preventing retro-AAD after TEVAR



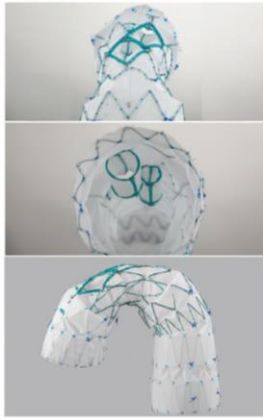
non A – non B Aortic Dissection

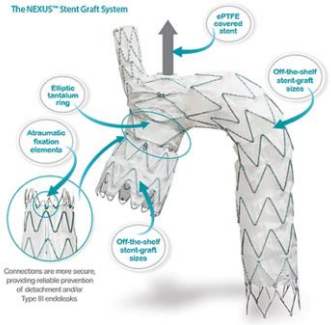


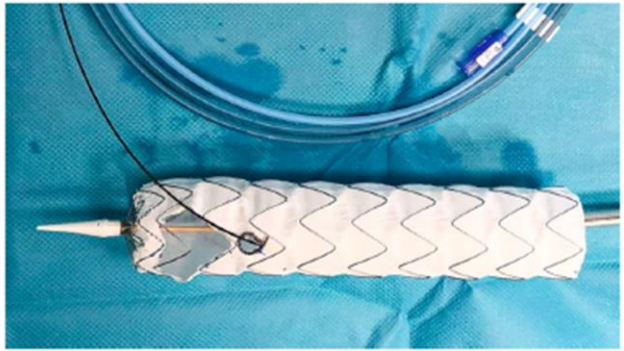




non A – non B Aortic Dissection

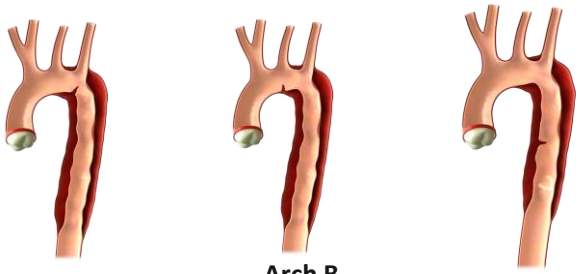




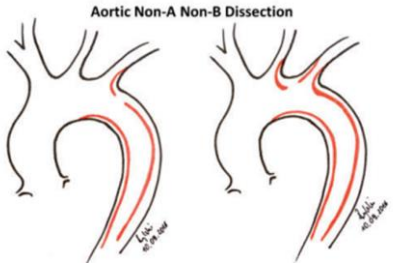


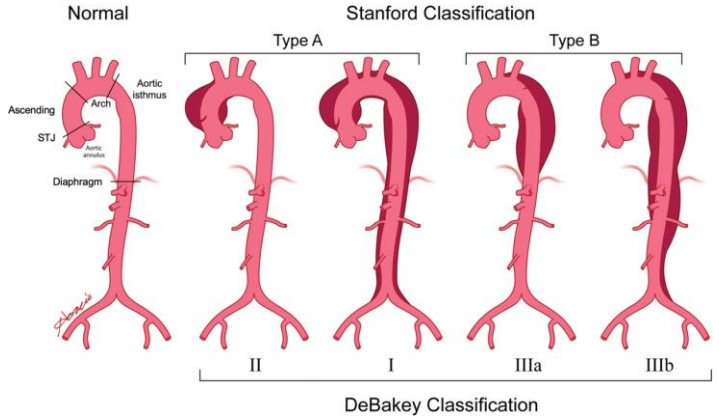
Conclusions

What is Non-A non-B dissection and how and when do we treat it best?



Arch B





Conclusions

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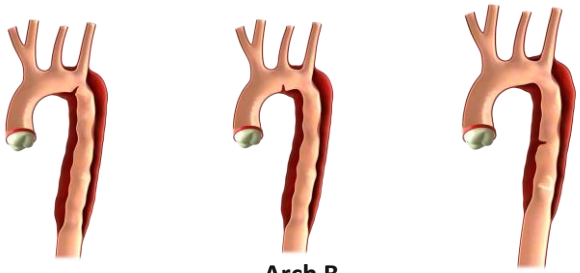
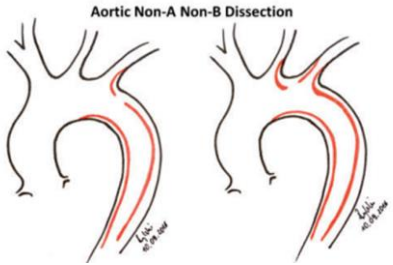


Arch B



nonA-nonB: uncomplicated / complicated → conservative or surgery case-specific approach

European Journal of Cardio-Thoracic Surgery 55 (2019) 133–162
doi:10.1093/ejcts/ezy313 Advance Access publication 12 October 2018

POSITION STATEMENT

Cite this article as: Czerny M, Schmidli J, Adler S, van den Berg JC, Bertoglio L, Carrel T et al. Current options and recommendations for the treatment of thoracic aortic pathologies involving the aortic arch: an expert consensus document of the European Association for Cardio-Thoracic surgery (EACTS) and the European Society for Vascular Surgery (ESVS). Eur J Cardiothorac Surg 2019;55:133–62.

Current options and recommendations for the treatment of thoracic aortic pathologies involving the aortic arch: an expert consensus document of the European Association for Cardio-Thoracic surgery (EACTS) and the European Society for Vascular Surgery (ESVS)

Key finding(s)

The great majority of non-A–non-B aortic dissections require treatment tailored to the morphology of the dissected aorta.

European Journal of Cardio-Thoracic Surgery 55 (2019) 653–659
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ORIGINAL ARTICLE

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Non-A non-B aortic dissection: a systematic review and meta-analysis

Arch B: case-specific approach

AATS AORTIC SYMPOSIUM: AORTIC ARCH

Acute aortic dissections with entry tear in the arch: A report from the International Registry of Acute Aortic Dissection

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Management of TBAD With Arch Involvement

- **Optimal medical therapy is reasonable in patients with uncomplicated TBAD and retrograde extension of dissection from a tear at or distal to the LSA, as long as retrograde extension is limited to the arch (zones 1 and 2). (COR IIA, LOE C-LD)**

ADULT: STS/AATS CLINICAL PRACTICE GUIDELINES ON THE MANAGEMENT OF TYPE B AORTIC DISSECTION

The Society of Thoracic Surgeons/American Association for Thoracic Surgery clinical practice guidelines on the management of type B aortic dissection

Thomas E. MacGillivray, MD,[a] Thomas G. Gleason, MD,[b] Himanshu J. Patel, MD,[c] Gabriel S. Aldea, MD,[d] Joseph E. Bavaria, MD,[c] Thomas M. Beaver, MD,[e] Edward P. Chen, MD,[f] Martin Czerny, MD,[g] Anthony L. Estrera, MD,[c] Scott Firestone, MS,[c] Michael P. Fischbein, MD,[h] G. Chad Hughes, MD,[i] Dawn S. Hui, MD,[j] Kalie Kissoon,[c] Jennifer S. Lawton, MD,[k] Davide Pacini, MD,[l] T. Brett Reece, MD,[c] Eric E. Roselli, MD,[d] and John Stulak, MD[c]

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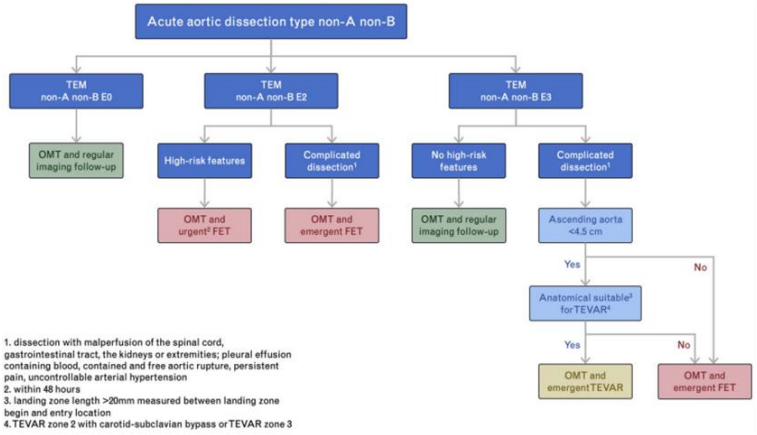
Conclusions

What is Non-A non-B dissection and <u>how and when do we treat it best?</u>



1. dissection with malperfusion of the spinal cord, gastrointestinal tract, the kidneys or extremities; pleural effusion containing blood, contained and free aortic rupture, persistent pain, uncontrollable arterial hypertension
2. within 48 hours
3. landing zone length >20mm measured between landing zone begin and entry location
4. TEVAR zone 2 with carotid-subclavian bypass or TEVAR zone 3

Recommendations	Class[a]	Level[b]	Ref[c]
In patients with complicated non-A non-B aortic dissection with arch entry tear, repair via the FET technique should be considered.	IIa	C	-
In patients with anatomical feasibility to cover the primary entry tear, a stent graft implantation may be considered.	IIb	C	-

EACTS/STS Guidelines for diagnosing and treating acute and chronic syndromes of the aortic organ

Authors/Task Force Members: Martin Czerny [a,b,*,†] (Co-Chairperson) (Germany), Martin Grabenwöger [c,d,*,†] (Co-Chairperson) (Austria), Tim Berger [A,b] (Task Force Coordinator), Victor Aboyans [e,f] (France), Alessandro Della Corte [g,h] (Italy), Edward P. Chen [i] (USA), Nimesh D. Desai [j] (USA), Julia Dumfarth [k] (Austria), John A. Elefteriades [l] (USA), Christian D. Etz [m] (Germany), Karen M. Kim [n] (USA), Maximilian Kreibich [a,b] (Germany), Mario Lescan [o] (Germany), Luca Di Marco [p] (Italy), Andreas Martens [q,r] (Germany), Carlos A. Mestres [s] (South Africa), Milan Milojevic [t] (Serbia), Christoph A. Nienaber [u,v] (UK), Gabriele Piffaretti [w] (Italy), Ourania Preventza [x] (USA), Eduard Quintana [y] (Spain), Bartosz Rylski [a,b] (Germany), Christopher L. Schlett [b,z] (Germany), Florian Schoenhoff [aa] (Switzerland), Santi Trimarchi [ab] (Italy) and Konstantinos Tsagakis [ac] (Germany), EACTS/STS Scientific Document Group

EJCTS 2024

Thank you

Fondazione IRCCS Ca' Granda
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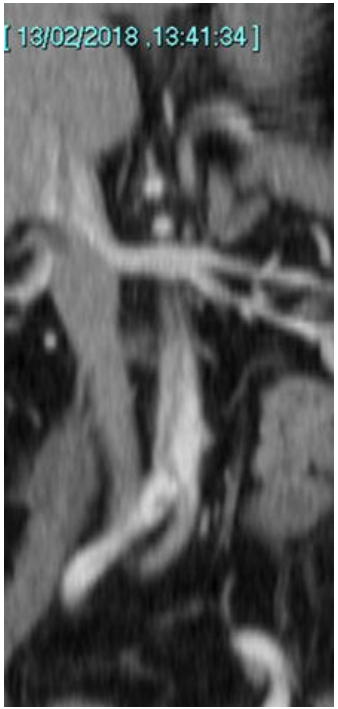
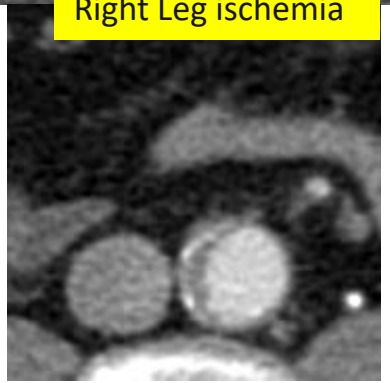
non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

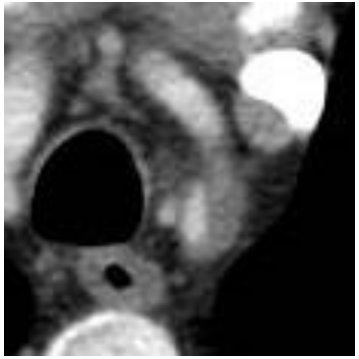


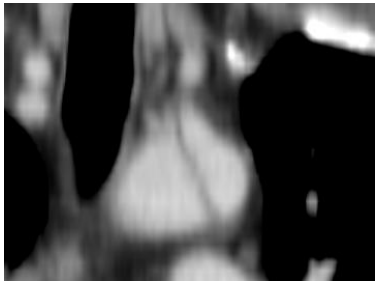
Right Leg ischemia



non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

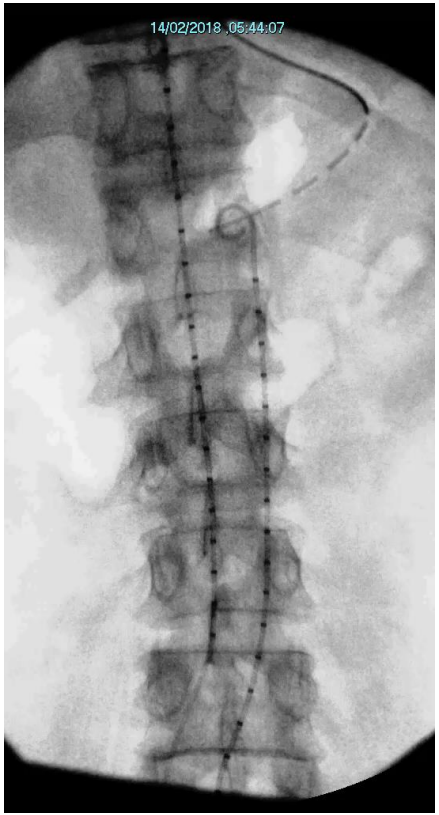
- **Aortic Stent**

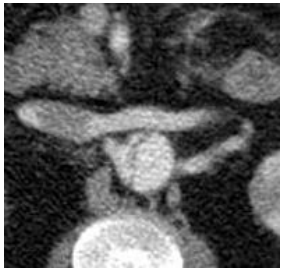




non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

- **Aortic Stent**

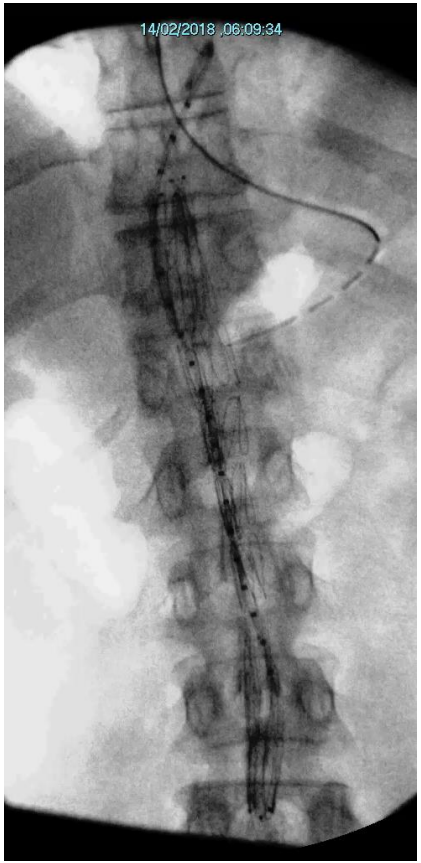


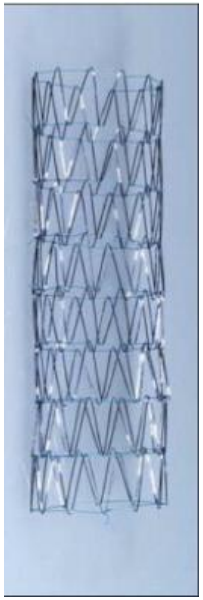


non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

- **Aortic Stent**

Malperfusion solved



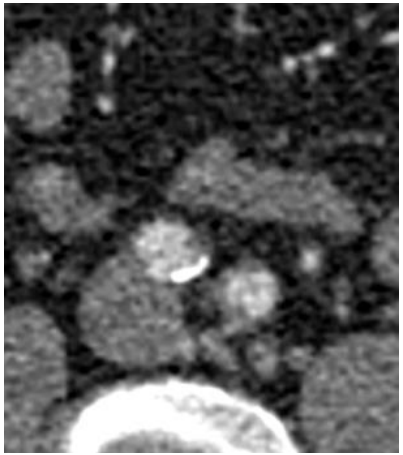


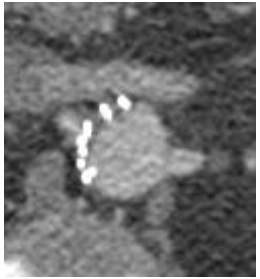
non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

- **Aortic Stent**

Malperfusion solved

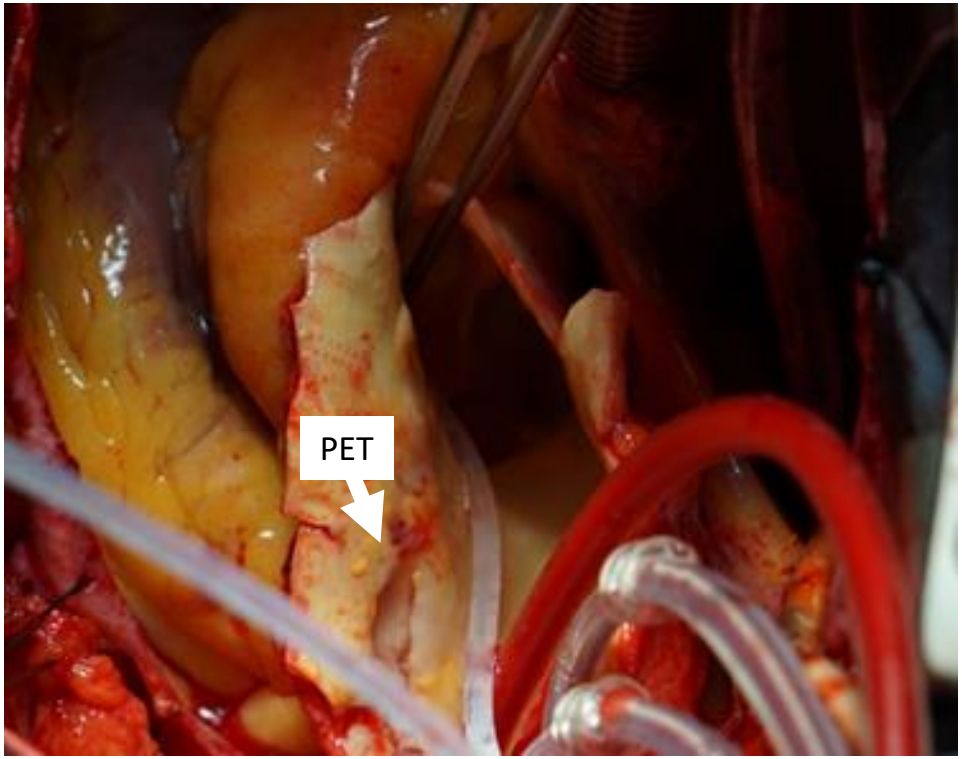
Refractory Hypertension (mean 170/95 with 6 drugs)





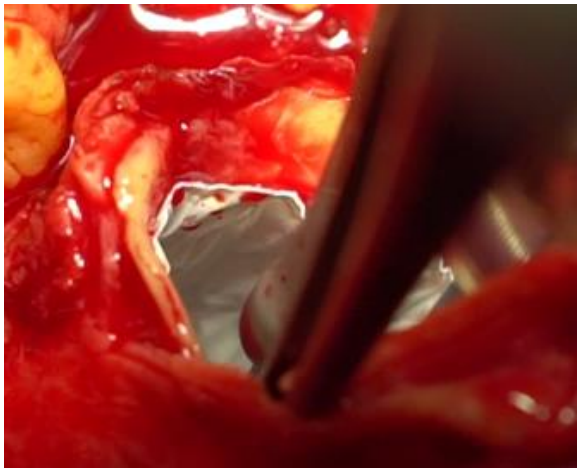
non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

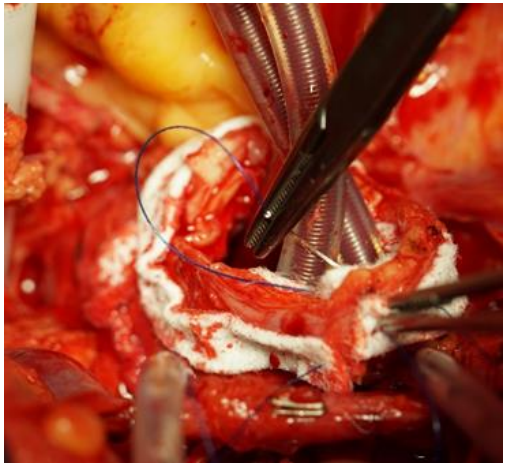
- **Ascending/arch repair + FET**

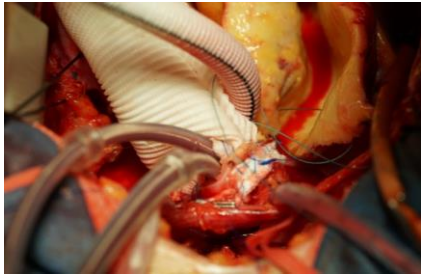


non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

- **Ascending/arch repair + FET**







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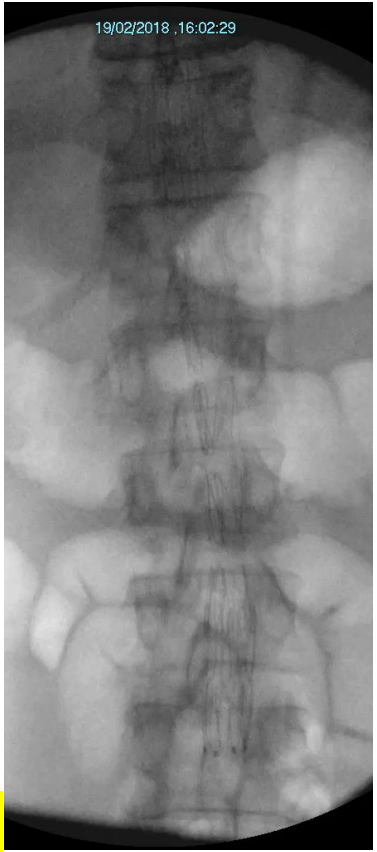
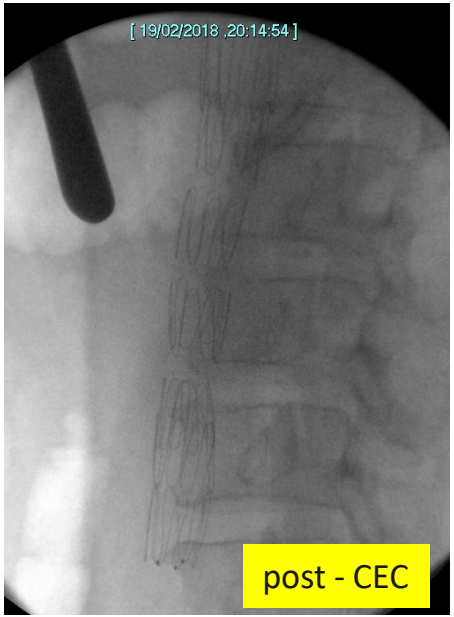
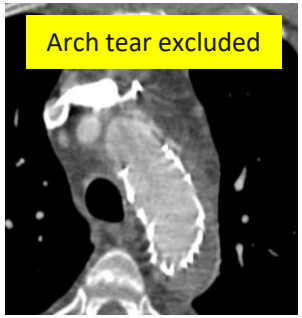


pre - CEC

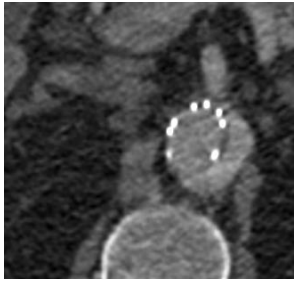


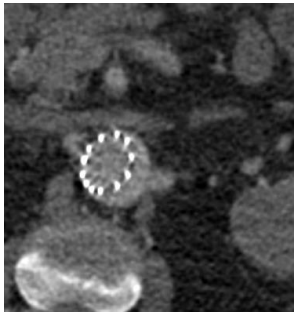
post - CEC

non A – non B Aortic Dissection with Entry Tear in the Aortic Arch -- Arch B

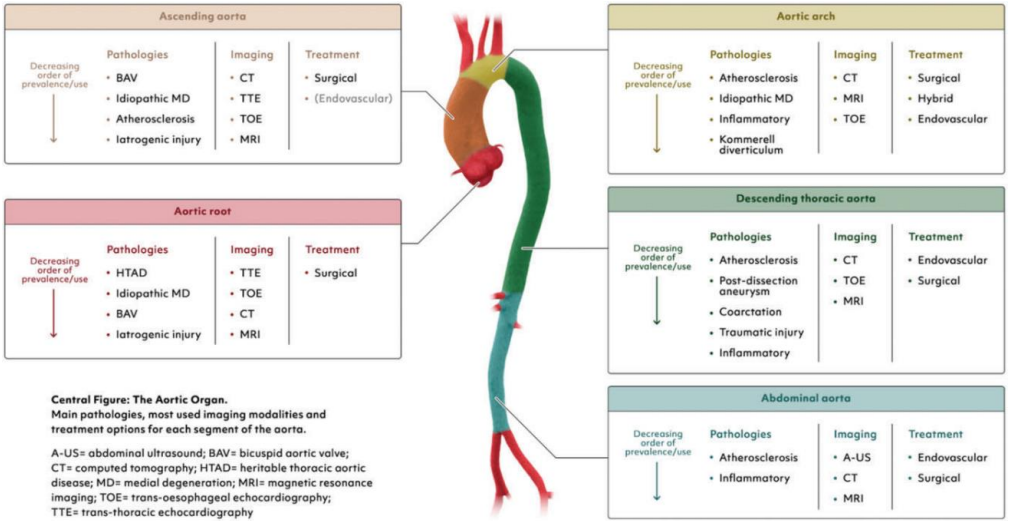


TL expansion; resolution of refractory hypertension



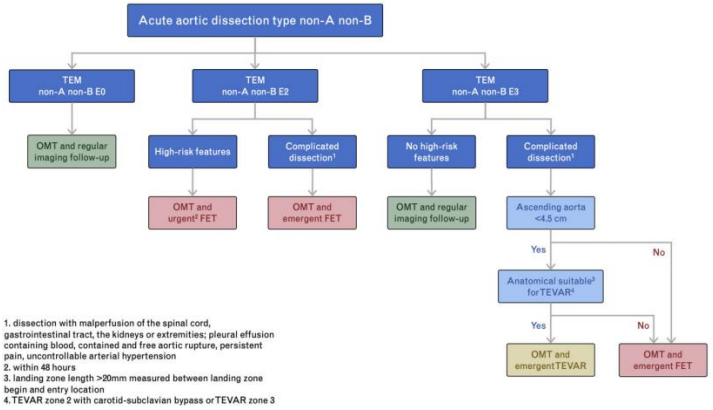


Non-A non-B Dissection: Consensus & Guidelines



Central Figure: The Aortic Organ.
Main pathologies, most used imaging modalities and treatment options for each segment of the aorta.

A-US= abdominal ultrasound; BAV= bicuspid aortic valve; CT= computed tomography; HTAD= heritable thoracic aortic disease; MD= medial degeneration; MRI= magnetic resonance imaging; TOE= trans-oesophageal echocardiography; TTE= trans-thoracic echocardiography



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2. within 48 hours
3. landing zone length >20mm measured between landing zone begin and entry location
4. TEVAR zone 2 with carotid-subclavian bypass or TEVAR zone 3

Currently available outcomes data on the subset of non-A non-B dissection are scarce. Early reports seem to favour open surgical resection of the entry tear in the arch analogous to the management of type A dissection with the idea to depressurize and exclude the false lumen from proximal inflow and subsequent expansion under the systolic pressure head. Conversely, medically managed patients tend to reveal progressive enlargement, rupture or the need for late extensive replacement surgery [48, 242].

Recommendations	Class[a]	Level[b]	Ref[c]
In patients with complicated non-A non-B aortic dissection with arch entry tear, repair via the FET technique should be considered.	IIa	C	-
In patients with anatomical feasibility to cover the primary entry tear, a stent graft implantation may be considered.	IIb	C	-

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https://doi.org/10.1093/ejcts/ezad426

GUIDELINES

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EACTS/STS Guidelines for diagnosing and treating acute and chronic syndromes of the aortic organ

Authors/Task Force Members: Martin Czerny [a,b,*,†] (Co-Chairperson) (Germany), Martin Grabenwöger [c,d,*,†] (Co-Chairperson) (Austria), Tim Berger [a,b] (Task Force Coordinator), Victor Aboyans [e,f] (France), Alessandro Della Corte [g,h] (Italy), Edward P. Chen [i] (USA), Nimesh D. Desai [j] (USA) , Julia Dumfarth [k] (Austria), John A. Elefteriades [l] (USA), Christian D. Etz [m] (Germany), Karen M. Kim [n] (USA), Maximilian Kreibich [a,b] (Germany), Mario Lescan [o] (Germany), Luca Di Marco [p] (Italy), Andreas Martens [q,r] (Germany), Carlos A. Mestres [s] (South Africa), Milan Milojevic [t] (Serbia), Christoph A. Nienaber [u,v] (UK), Gabriele Piffaretti [w] (Italy), Ourania Preventza [x] (USA), Eduard Quintana [y] (Spain), Bartosz Rylski [a,b] (Germany), Christopher L. Schlett [b,z] (Germany), Florian Schoenhoff [aa] (Switzerland), Santi Trimarchi [ab] (Italy) and Konstantinos Tsagakis [ac] (Germany), EACTS/STS Scientific Document Group