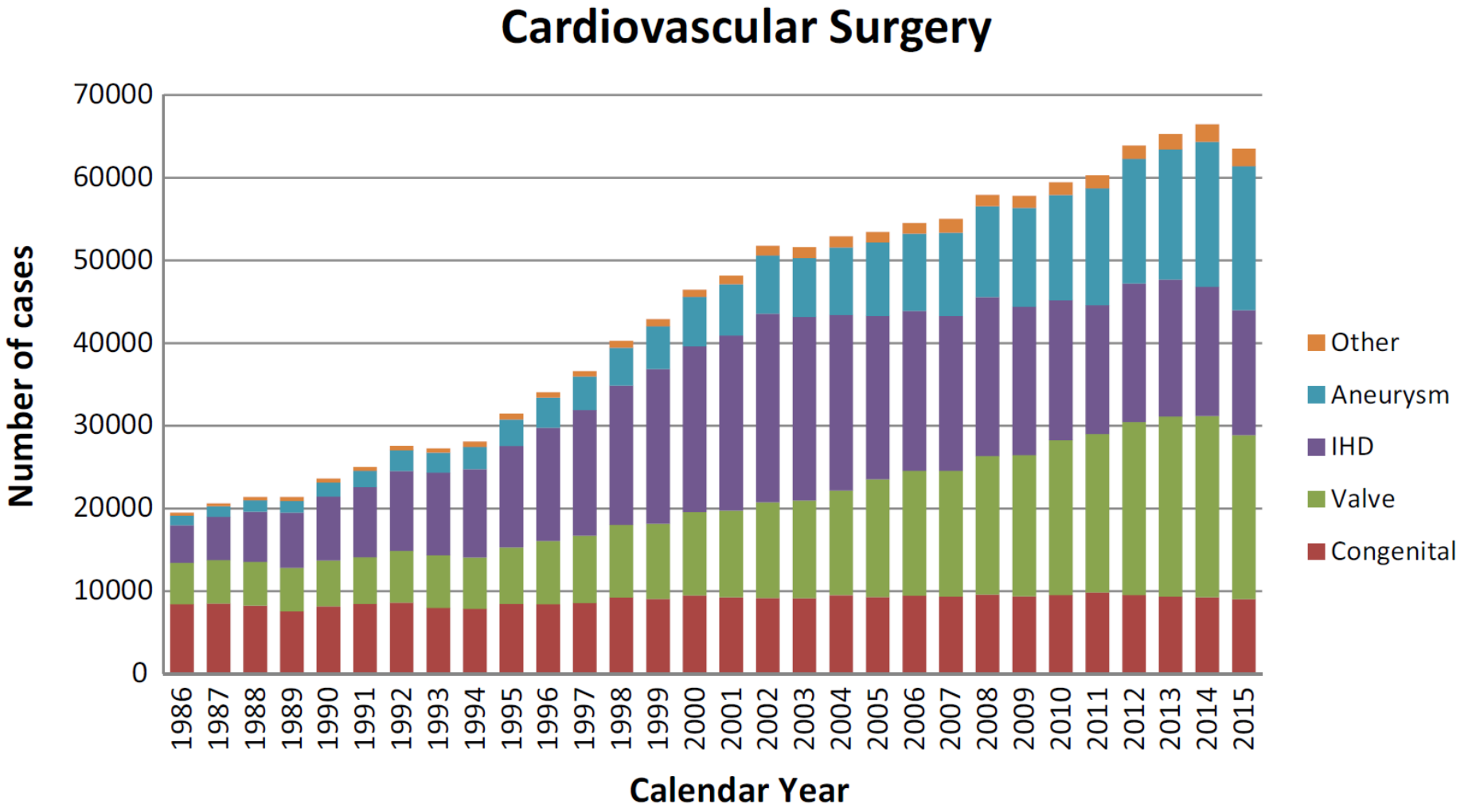
慢性B型解離症例に対する人工血管置換術

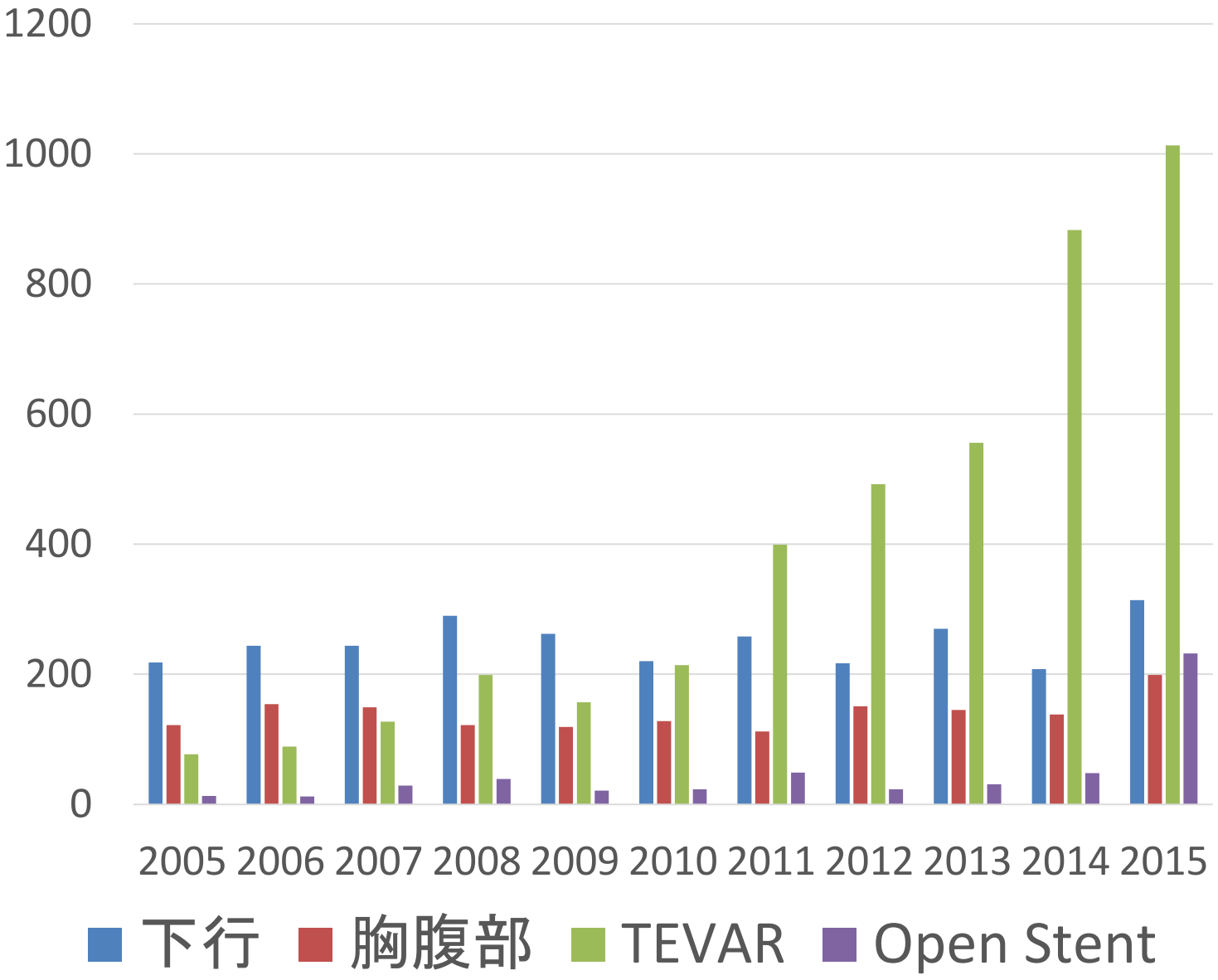
京都大学医学部心臓血管外科
湊谷謙司

Thoracic and cardiovascular surgery in Japan during 2015

Annual report by The Japanese Association for Thoracic Surgery

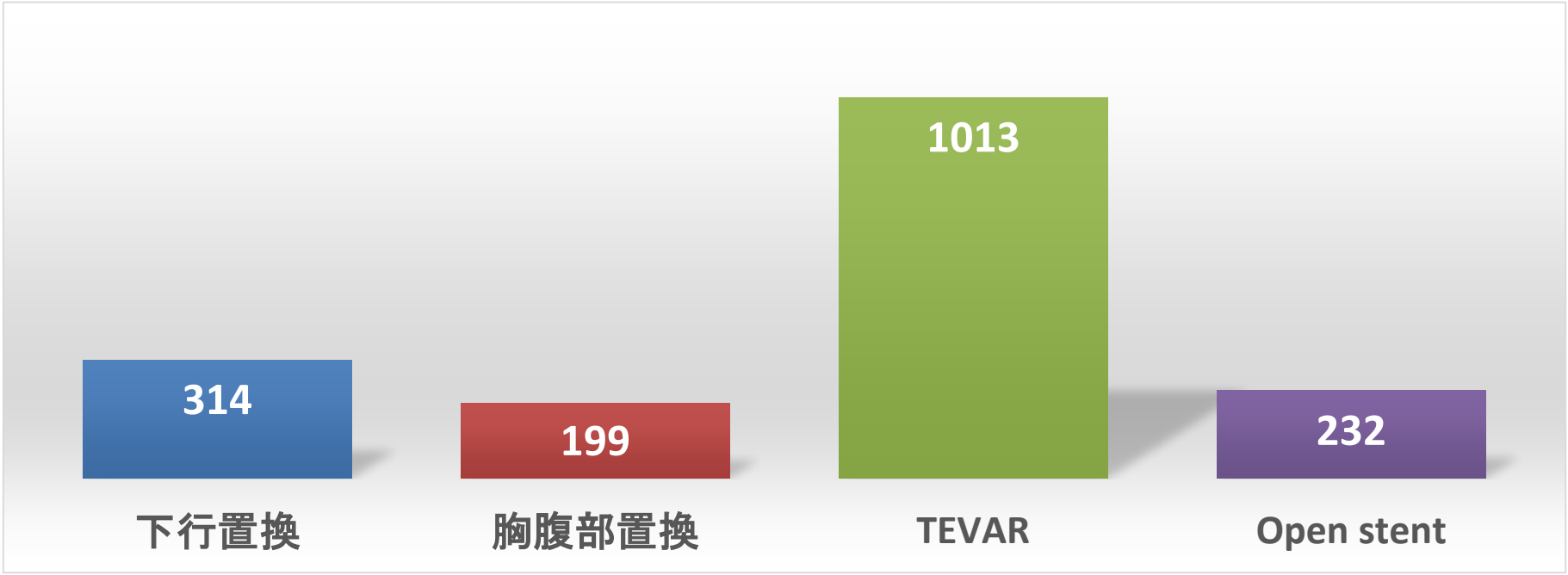


慢性B型大動脈解離に対する手術



解離

	症例数	30日死亡率	退院後死亡	病院死
下行置換	314	18(5.7)	0	24(7.6)
胸腹部置換	199	11(5.5)	0	14(7.0)
TEVAR	1013	20(2.0)	1	28(2.8)
Open stent	232	3(1.3)	1	8(3.4)



Kyoto Series (2016.7~2019.3)

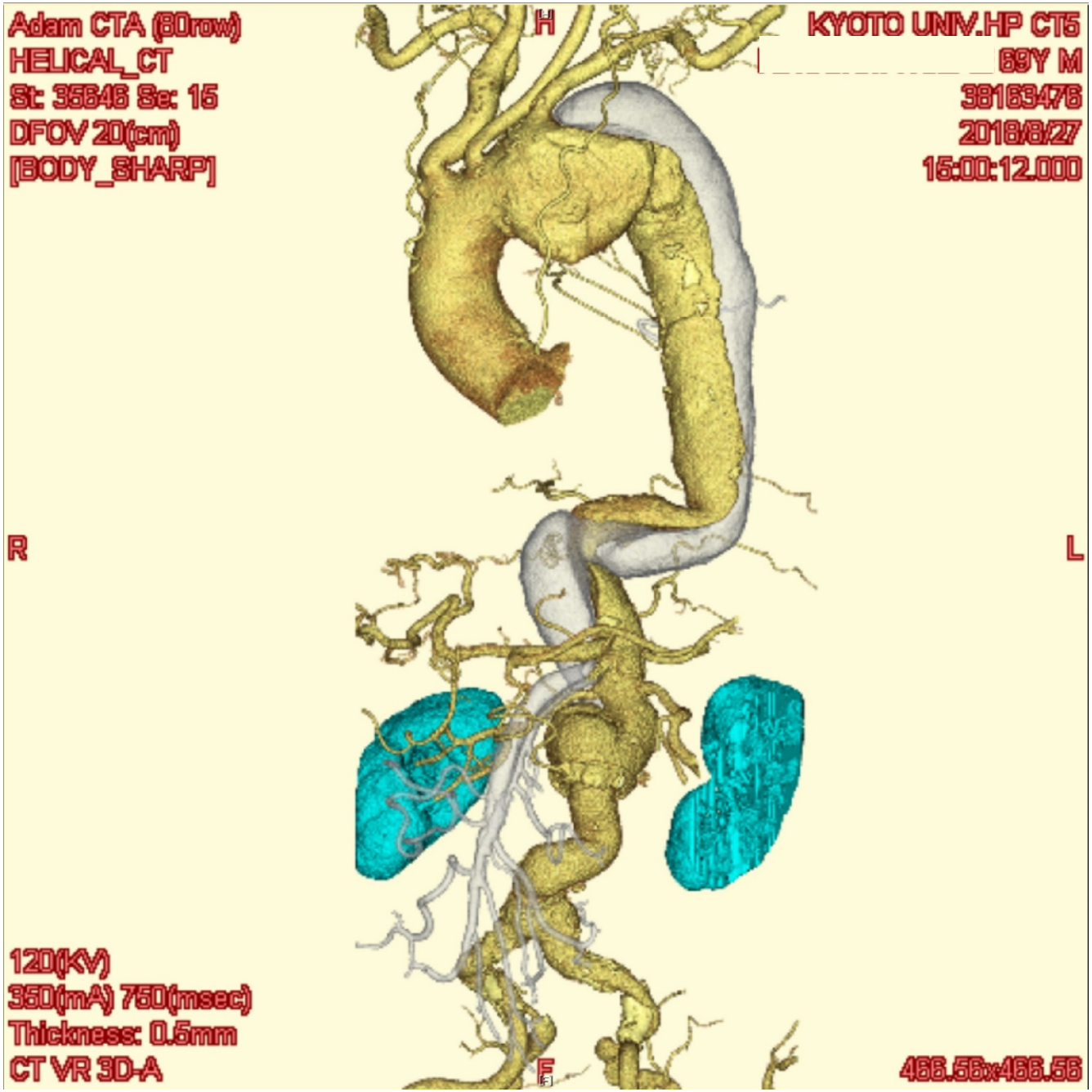
- 27 cases (58±18 y.o. (13-78))
  - s/p hemiarch 14 (51.9%)
  - s/p TEVAR 4 (14.8%)

- TAAA 18
- Descending 9

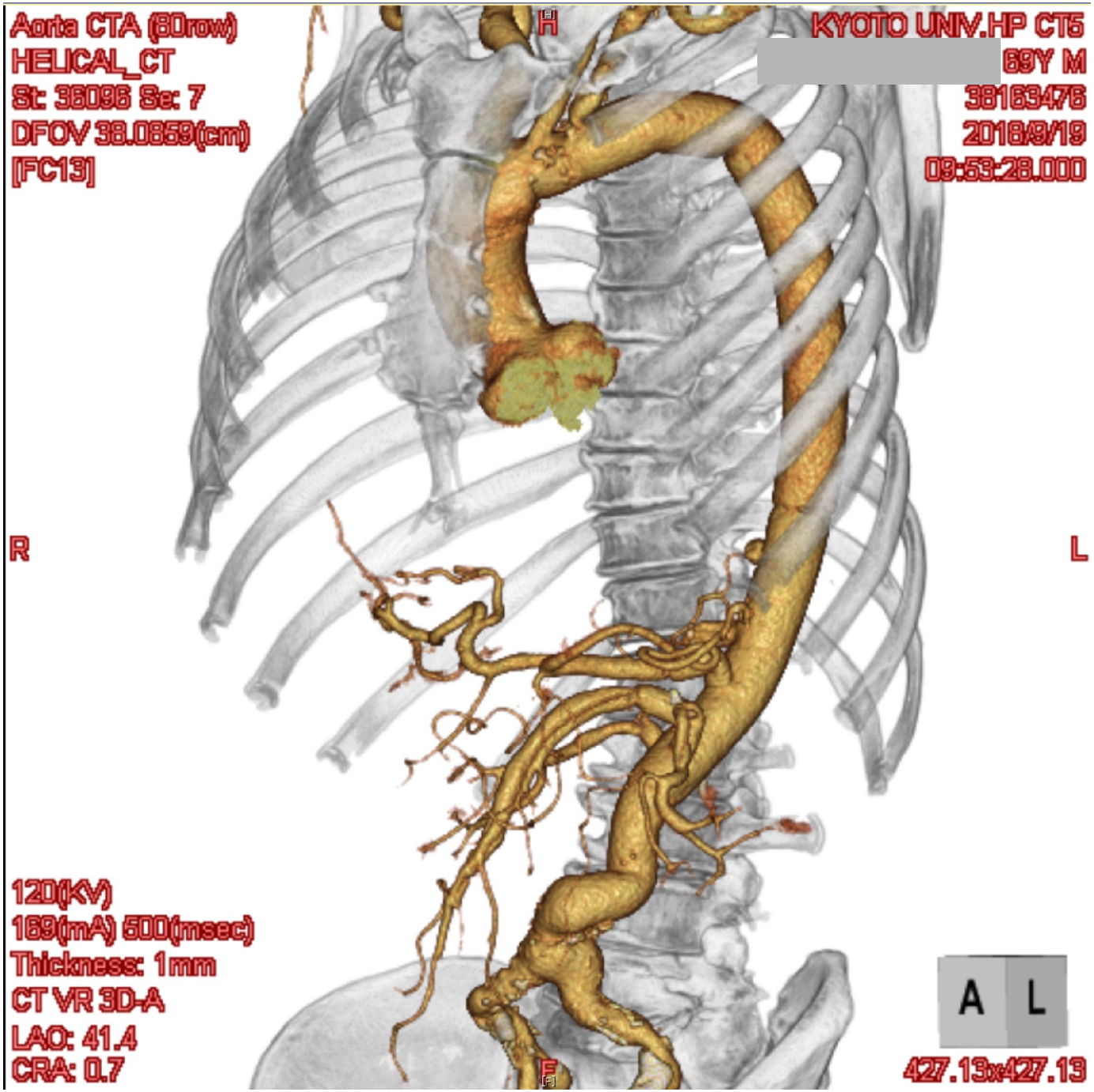
- Mortality 1 (3.7%)
- Stroke 2 (7.4%)
- SCI 1 (3.7%)

Open repair for CTBD

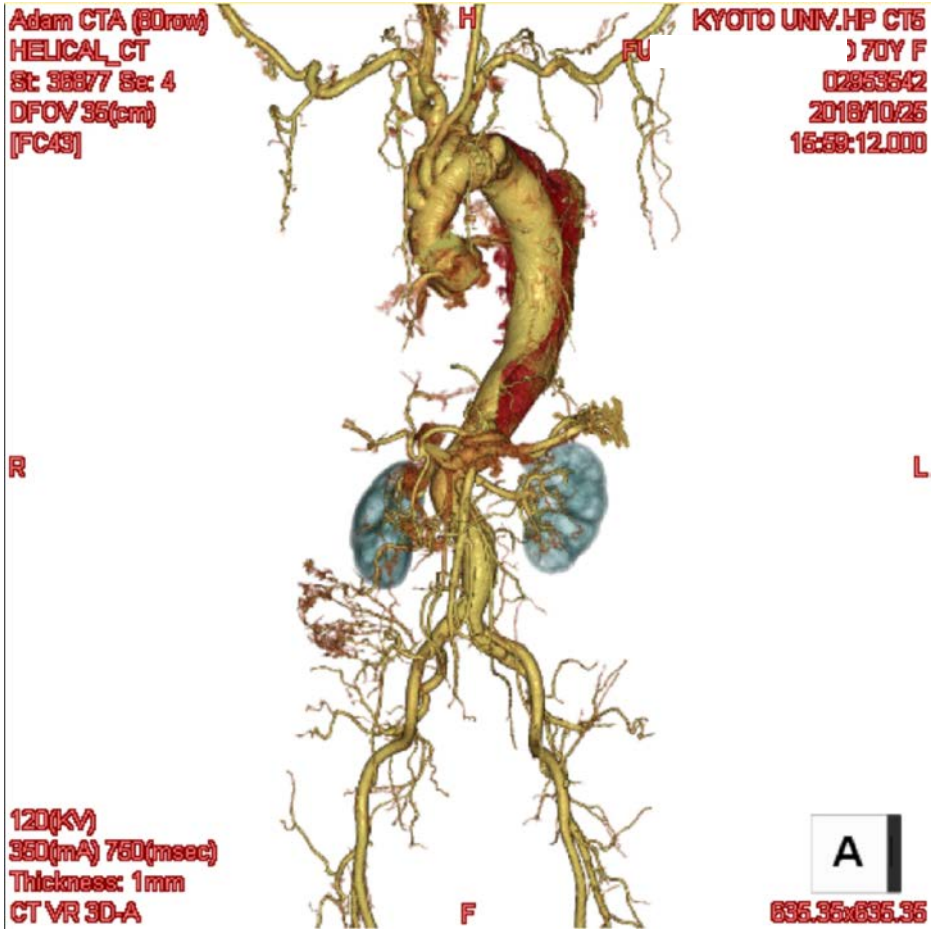
	Year	#	Age	Stroke	SCI	ARF	Mortality
Andersen	2014	32		15.6	9.4	9.4	6.3
Bashir	2014	62	52	11.3	3.2	26	21
Conway	2014	86	57	2.3	2.3	2.3	5.8
van Boverijen	2015	90	60	1.1	4.4	7.8	5.6
Estrera	2015	209	59	2.4		10	18.6
Fujikawa	2015	234	60	3	6	10.2	8.5
Kouchoukos	2015	69	54	2.9	5.8	4.3	5.8
Uchino	2017	39	61	10.3	8.4		5.1
Corvera	2017	196	58	3	2.6	5.1	3.6
Omura	2017	223	55	4.5	3.1		3.6
Minatoya	2019	100	38	1	1		3
Kyoto		27	58	7.4	3.7		3.7

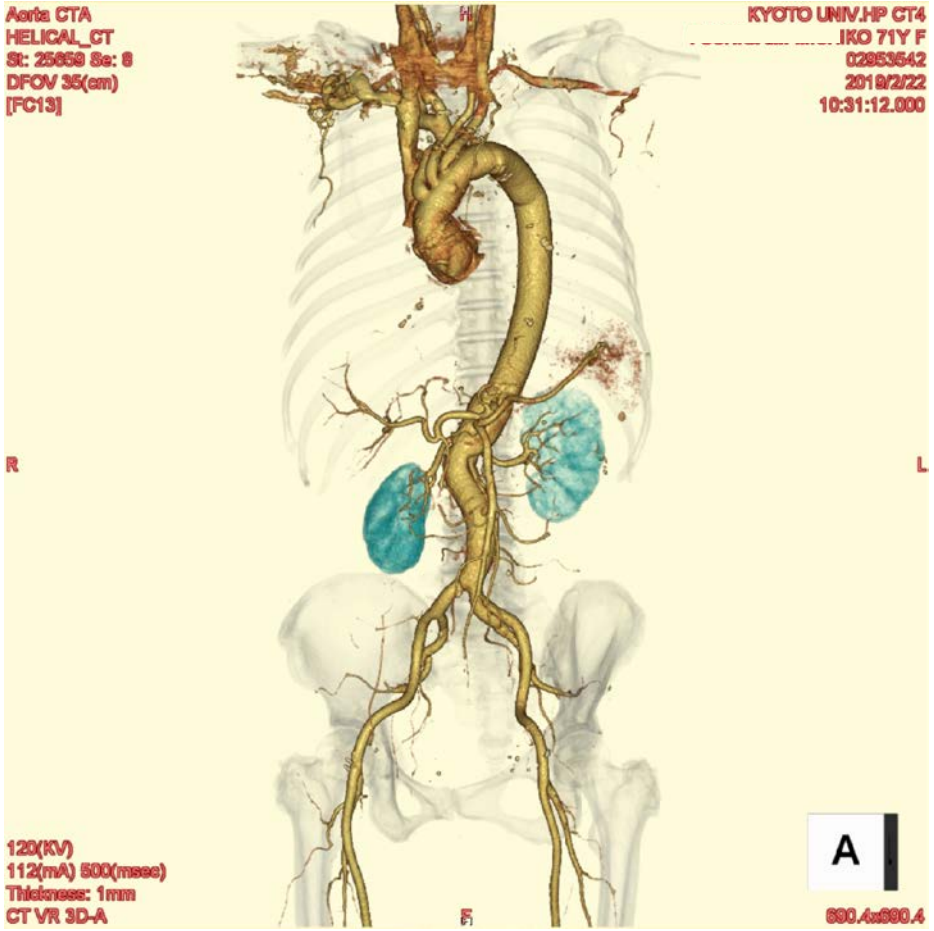

Adam CTA (80row)
HELICAL_CT
St: 35646 Se: 15
DFOV 20(cm)
[BODY_SHARP]
H
KYOTO UNIV.HP CT5
69Y M
38163476
2016/8/27
15:00:12.000
R
L
120(KV)
350(mA) 750(msec)
Thickness: 0.5mm
CT VR 3D-A
F
466.56x466.56

69 Female


Aorta CTA (80row)
HELICAL_CT
St: 36096 Se: 7
DFOV 38.0859(cm)
[FC13]
H
KYOTO UNIV.HP CT5
69Y M
38163476
2018/8/19
09:53:28.000
R
L
120(KV)
169(mA) 500(msec)
Thickness: 1mm
CT VR 3D-A
LAO: 41.4
CRA: 0.7
F
A L
427.13x427.13

71 female


Adam CTA (80row)
HELICAL_CT
St: 36877 Se: 4
DFOV 35(cm)
[FC49]
H
FU
KYOTO UNIV.HP CT5
) 70Y F
02953542
2018/10/25
15:59:12.000
R
L
120(KV)
350(mA) 750(msec)
Thickness: 1mm
CT VR 3D-A
F
A
696.35x696.35


Aorta CTA
HELICAL_CT
St: 25659 Se: 6
DFOV 35(cm)
[FC13]
H
KYOTO UNIV.HP CT4
02953642
2019/2/22
10:31:12.000
R
L
120(KV)
112(mA) 500(msec)
Thickness: 1mm
CT VR 3D-A
A

Aneurysmal degeneration of type B aortic dissections after thoracic endovascular aortic repair: A systematic review

Marissa Famularo, DO, Karol Meyermann, MD, *and* Joseph V. Lombardi, MD, *Camden, NJ*

J Vasc Surg 2017;66:924-30.

Table III. A summary of included studies reporting patients with chronic dissection

Reference	No.	Follow-up, months[a]	Thoracic growth, %	Abdominal growth, %
Sayer, 2008[4]	40	14 (n = 25)	24	11
Rodriguez, 2008[5]	47	15 (1-46)	19	NR
Kang, 2011[6]	76	34 (6-52)	15	NR
Qing, 2012[7]	32	36 (10-63)	25	NR
Mani, 2012[8]	58	38 (n = 47)	17	NR
Nathan, 2012[9]	27	18 (SD, 20)	15	NR
Andacheh, 2012[10]	72	18 (n = 60)	NR	45
Lombardi, 2014[14]	31	24 (n = 15)	7	7

NR, Not reported; *SD*, standard deviation.
[a]Follow-up is listed as mean (range) or mean (standard deviation), depending on what was reported in each paper. If specific points in time were chosen to report data, the number of patients included at that time point is reported.

TEVAR for TBAD does not prevent aneurysmal degeneration of the thoracic or abdominal aorta

Delayed Retrograde Ascending Aortic Dissection After Endovascular Repair of Descending Dissection

Nikola Dobrilovic, MD, Bulent Arslan, MD, Walter J. McCarthy, MD, Robert J. March, MD, Ulku C. Turba, MD, Lauren Michalak, MS, Maja Delibasic, MD, and Jaishankar Raman, MD, PhD

Departments of Cardiovascular and Thoracic Surgery, and Radiology, Rush University Medical Center, Chicago, Illinois

Ann Thorac Surg 2016;101:2357–8)

Retrograde type A dissection after TEVAR

	Institute	year	#	Age	Rate(%)	Mortality(%)
Idrees	Cleveland	2014	766	65	1.8	6.7
Higashigawa	Mie	2016	546	70	2.2	17
Eggebrecht	European registry	2009	3714	48	1.3	42
Neuhauser	Innsbruck	2005	73	64	6.8	40
Kpodonu	Phoenix	2008	287	74	2.4	57
dong	Shanghai	2009	443	43	2.5	27.3

SYSTEMATIC REVIEW AND META-ANALYSIS

American Heart Association | American Stroke Association

Secondary Open Aortic Procedure Following Thoracic Endovascular Aortic Repair: Meta-Analytic State of the Art

Ivancarmine Gambardella, MD, FRCS; George A. Antoniou, MD, FEBVS; Francesco Torella, MD, FRCS; Cristiano Spadaccio, MD, PhD; Aung Y. Oo, MD, FRCS; Mario Gaudino, MD; Francesco Nappi, MD; Matthew A. Shaw, MA; Leonard N. Girardi, MD

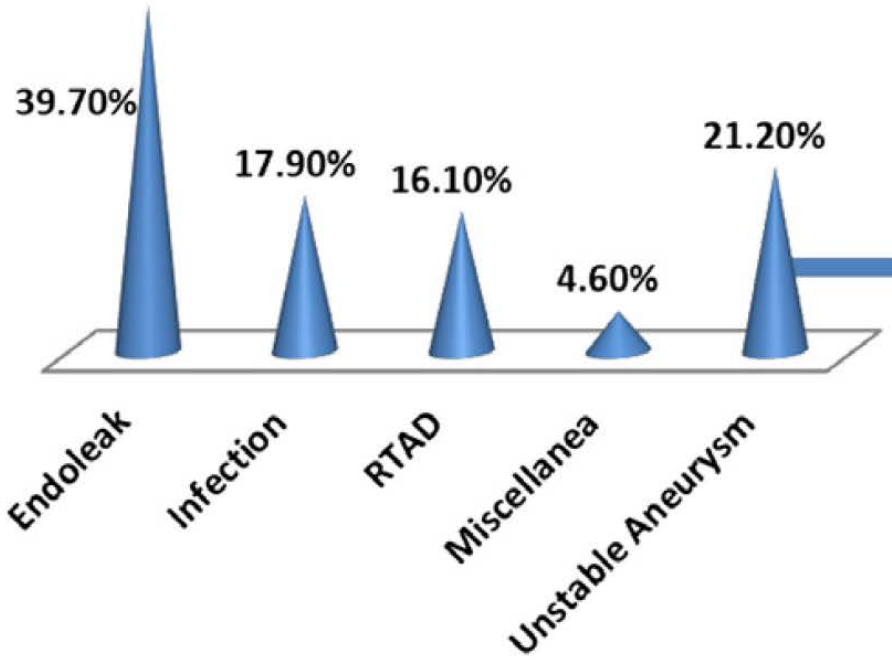
J Am Heart Assoc. 2017 Sep; 6(9)

- 330 pts. (62 y.o)
- Hospital mortality 10.6%
- 2 year mortality 20.4%

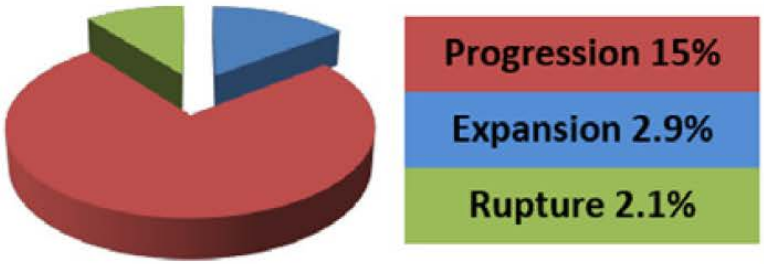
- Aortic infection and extra-anatomical bypass were associated with the most ominous prognosis.

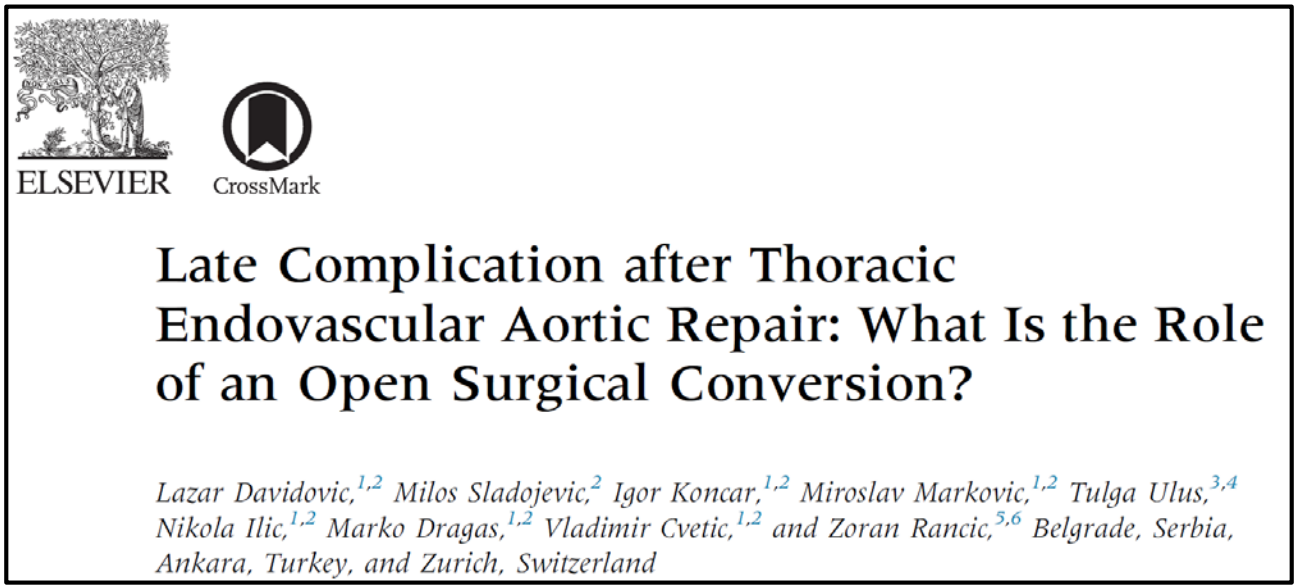
Indications for SOAP

Graphic Overview



In Depth Graphic: Unstable Aneurysm





ELSEVIER CrossMark

Late Complication after Thoracic Endovascular Aortic Repair: What Is the Role of an Open Surgical Conversion?

Lazar Davidovic,[1,2] Milos Sladojevic,[2] Igor Koncar,[1,2] Miroslav Markovic,[1,2] Tulga Ulus,[3,4] Nikola Ilic,[1,2] Marko Dragas,[1,2] Vladimir Cvetic,[1,2] and Zoran Rancic,[5,6] Belgrade, Serbia, Ankara, Turkey, and Zurich, Switzerland

Ann Vasc Surg (2018)47, 238-246

- 8 pts. (Mean 55 y.o.)
- Mortality 50%

- Conversion to open surgery should be performed by experienced surgeons.

Editor's Choice — Open Thoracic and Thoraco-abdominal Aortic Repair After Prior Endovascular Therapy

Paula R. Keschenau [a], Shirley Ketting [b], Barend Mees [b], Mohammad E. Barbati [a], Jochen Grommes [a], Alexander Gombert [a], Geert Willem H. Schurink [b], Drosos Kotelis [a,†], Michael J. Jacobs [a,b,*,†]

[a] European Vascular Centre Aachen-Maastricht, Department of Vascular Surgery, RWTH University Hospital Aachen, Germany
[b] European Vascular Centre Aachen-Maastricht, Department of Vascular Surgery, AZM University Hospital Maastricht, The Netherlands

Eur J Vasc Endovasc Surg (2018)56, 57-67

- 44 pts. (age≥50: 29pts, age<50: 15 pts)
- Hospital mortality 20%
- 1 year mortality 27%

- The mortality and morbidity are relevant and a specialized team and infrastructure are mandatory.

Late open conversion after thoracic endovascular aortic repair

Hyun-Chel Joo, MD, PhD,[a] Joon Ho Kwon, MD,[b] Jung-Hwan Kim, MD,[a] Seung Hyun Lee, MD, PhD,[a] Sak Lee, MD, PhD,[a] Young-Nam Youn, MD, PhD,[a] *and* Kyung-Jong Yoo, MD, PhD,[a] *Seoul, Republic of Korea*

J Vasc Surg (2019)◆, 1-10

- 33 pts. (58.+-16 y.o.)
- Mortality 9.1%

- The arch involvement group (48+-15%) had significantly worse 10-year survival than no arch involvement group (86+-9.4%)

Open conversion after TEVAR

	year	#	Mortality
LeMaire	2011	35	6
Miyahara	2013	26	11.5
Roselli	2014	50	6
Melissano	2016	65	16.6
Davidovic	2017	8	50
Keschenau	2018	45	20
Joo	2019	33	9.1
Gambardella	2017	330	10.6

まとめ

- 慢性大動脈解離に対する人工血管置換術の成績は徐々に向上している。
- 特に若年者に対しては第1選択である。
- 脊髄保護のみならず、脳保護に留意すべきである。
- TEVARによる合併症は重大で有り、Open conversionは容易ではない。