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MALPERFUSION CÉRÉBRALE ET DISSECTION DE TYPE A : REPERFUSION PRÉVENTIVE AVANT CHIRURGIE CARDIAQUE

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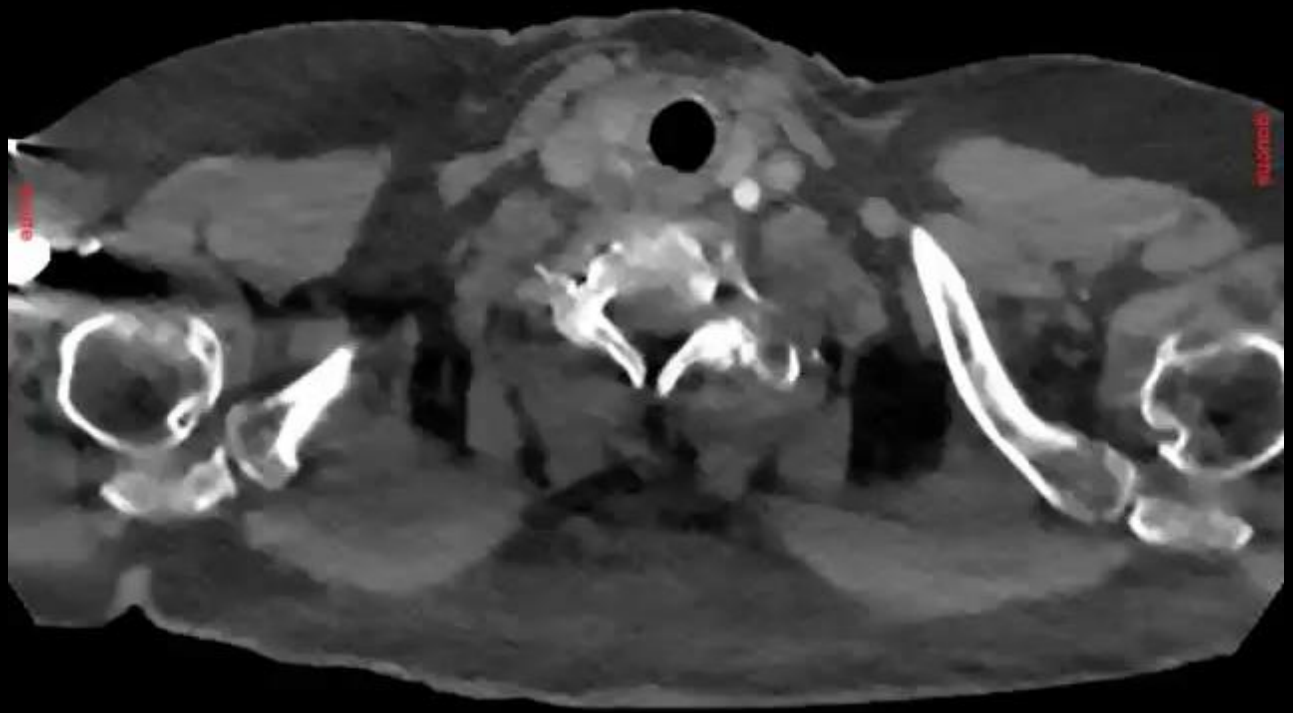
Disclosure Statement of Financial Interest

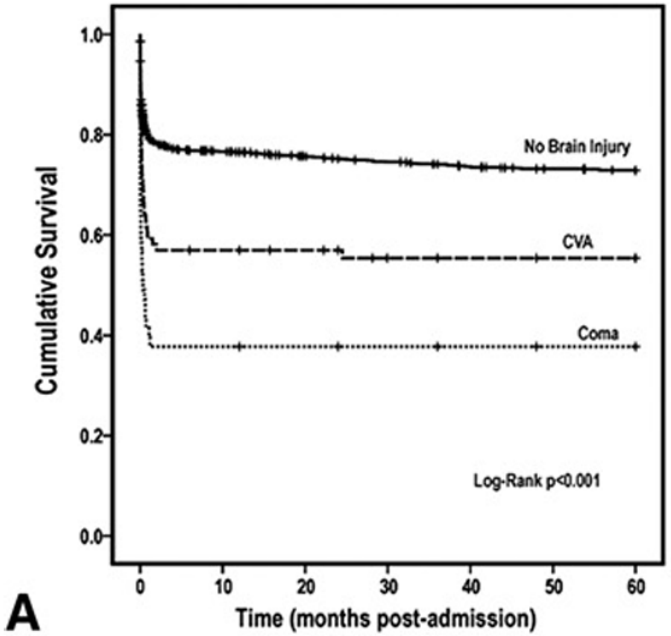
	Grant/Research Support	Consulting Fees/Honoraria	Shareholder/Royalty Income Intellectual Property Rights	Communication	Travel expenses/conference	Indirect link (family)
Artivion					**X**	
Abbott					X	
Edwards					X	



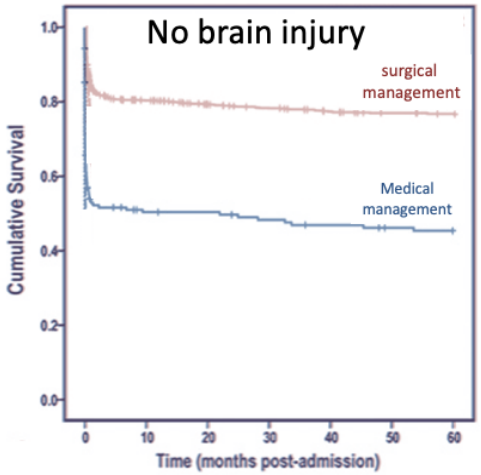

Prox

IRAD 2013

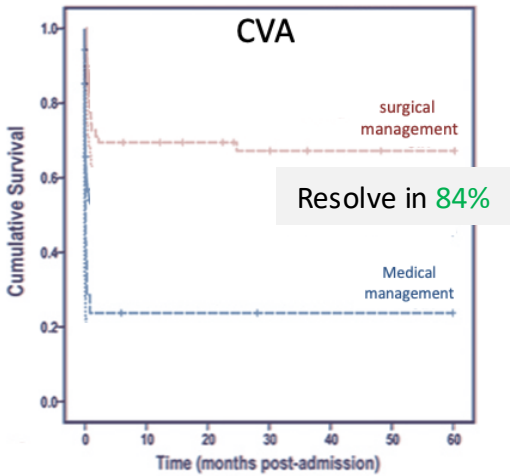
	incidence	mortality	
No cerebrovascular accident	92%	23%	
cerebrovascular accident (CVA)	5%	40%	more arch vessel involvement by the dissection
Coma	3%	60%	More hemodynamically compromise



IRAD 2013

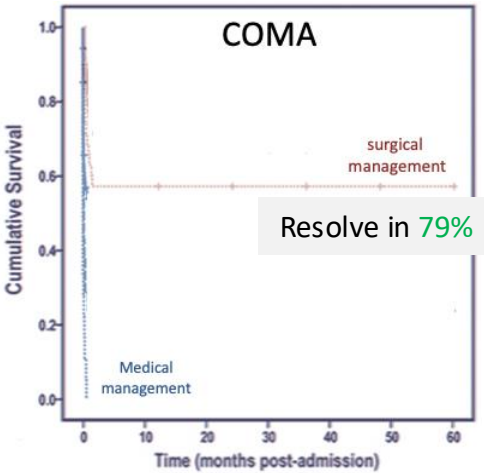


Surgery in ¾ patients



Resolve in 84%

Surgery in 2/3 patients



Resolve in 79%

Di Eusanio et al (Bologne) – JTCVS 2013 - 10.1016/j.jtcvs.2012.11.054

Patients with type A acute aortic dissection presenting with major brain injury: Should we operate on them?

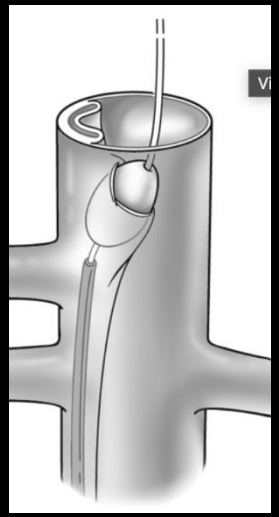
Conclusions: Brain injury at presentation adversely affects hospital survival of patients with type A acute aortic dissection. In the present observational study, the patients selected to undergo surgery demonstrated improved late survival and frequent reversal of neurologic deficits. (J Thorac Cardiovasc Surg 2013;145:S213-21)

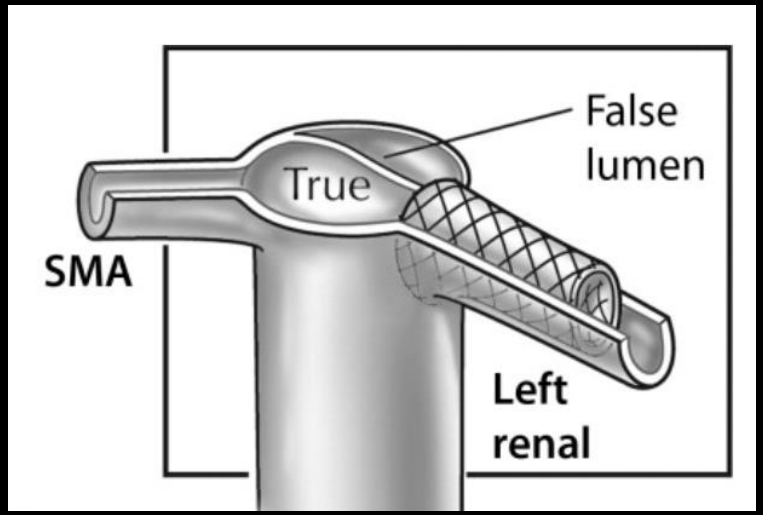
Di Eusanio et al (Bologne) – JTCVS 2013 - 10.1016/j.jtcvs.2012.11.054

Therefore, the observations coming from IRAD, indicate that TAAD patients with neurologic injury should always be considered for intervention, especially if early surgery is feasible and there are no signs of neurologic devastation.

Berretta et al (Ancona, Italy) - Journal of Visualized Surgery - 10.21037/jovs.2018.03.13

REPERFUSION VISCERALE





Patel (Ann Arbor), Operative 2009

Revascularization-first strategy versus central repair-first strategy for acute type A aortic dissection complicated with mesenteric malperfusion syndrome: A meta-analysis

Study or Subgroup	Revascularization-first Events	Total	Central repair-first Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
Deeb, G. M et al. 1997	3	10	2	3	26.7%	0.45 [0.13, 1.55]
Leshnower, B. G et al. 2019	6	13	13	18	60.5%	0.64 [0.33, 1.23]
Sugiyama, K et al. 2020	0	4	0	2		Not estimable
Uchida, K et al. 2018	0	7	2	5	6.2%	0.15 [0.01, 2.58]
Yamashiro,S et al. 2015	0	8	2	2	6.6%	0.07 [0.00, 1.03]
Total (95% CI)		**42**		**30**	**100.0%**	**0.46 [0.22, 0.95]**
Total events	9		19			

Heterogeneity: Tau² = 0.12; Chi² = 3.64, df = 3 (P = 0.30); I² = 18%

Test for overall effect: Z = 2.10 (P = 0.04)

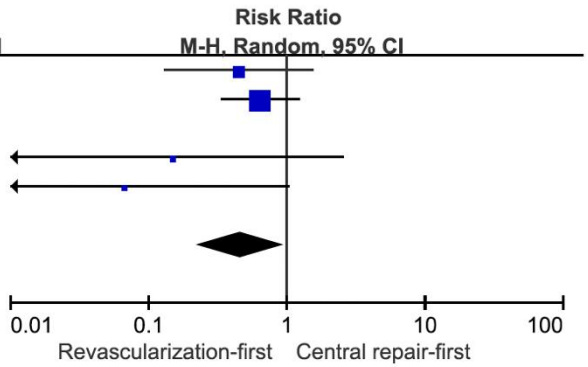
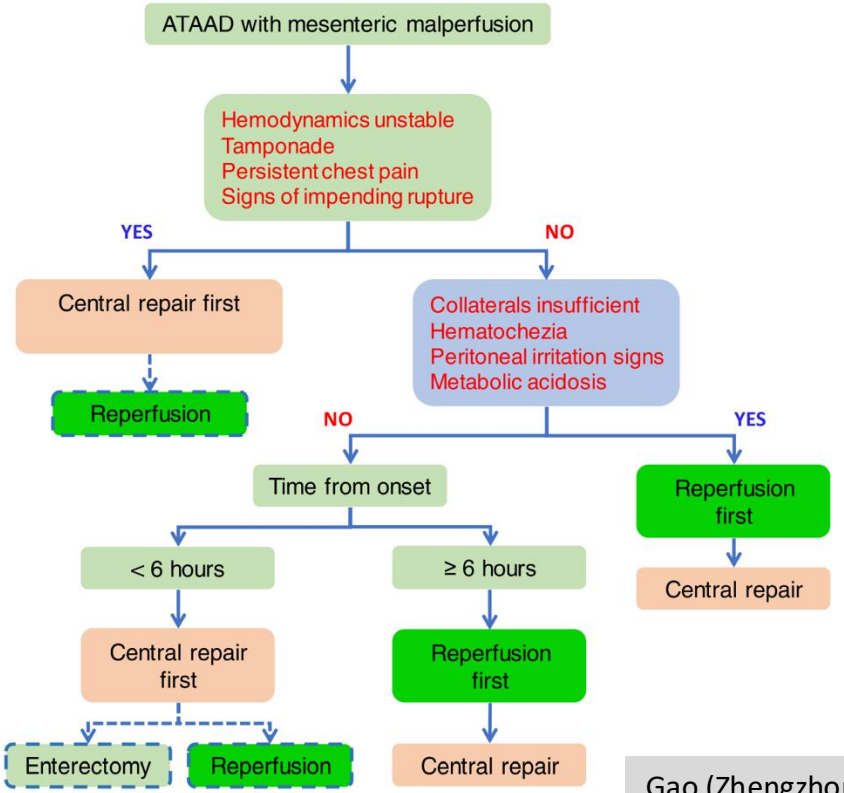


FIGURE 2 Forest plot of the comparison between revascularization-first and central repair-first for ATAAD complicated with mMPS regarding in-hospital/30-day mortality. ATAAD, acute type A aortic dissection; mMPS, mesenteric malperfusion syndrome.

Xu (Chengdu – china), Journal of cardiac surgery 2022, DOI 10.1111/jocs.17006

Comparison of reperfusion- and central repair-first strategies for acute type A dissection with mesenteric malperfusion: a single-center retrospective cohort study

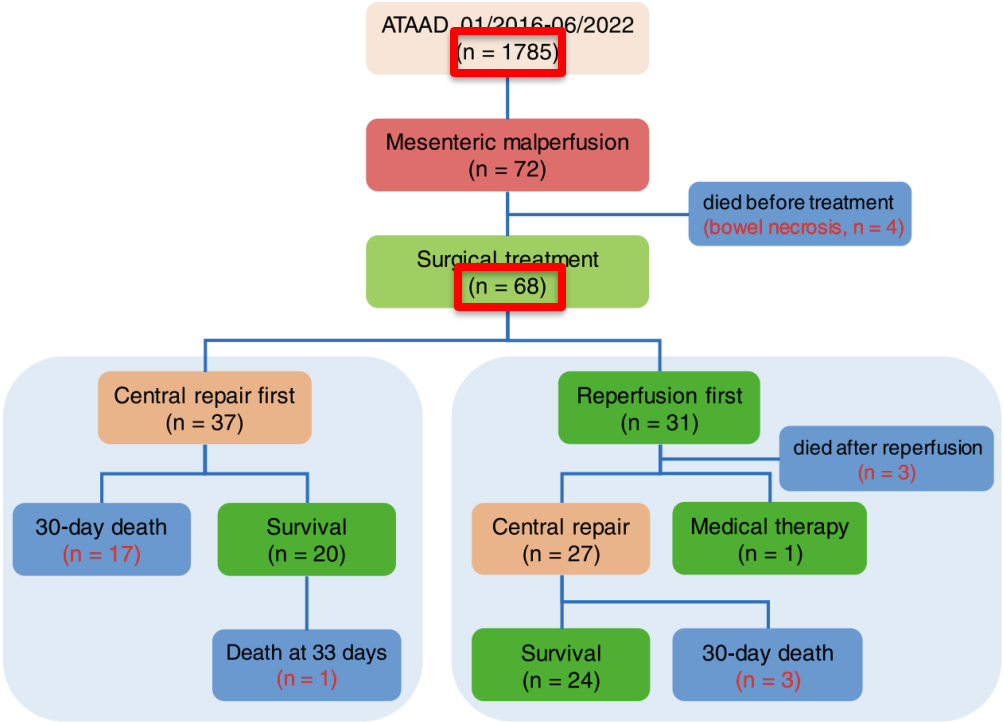


Early mortality was

- 48.6% (18/37) with central repair-first strategy vs.
- 19.4% (6/31) in reperfusion-first group (P =0.012)

Gao (Zhengzhou, China), International Journal of Surgery (2024) 110:6667–6675

Comparison of reperfusion- and central repair-first strategies for acute type A dissection with mesenteric malperfusion: a single-center retrospective cohort study



Gao (Zhengzhou, China), International Journal of Surgery (2024) 110:6667–6675

FAUT IL FAIRE A MEME CHOSE A L’ETAGE CEREBRAL?

INTRODUCTION

REPERFUSION VISCERALE

REPERFUSION CEREBRALE PERCUTANEE

Rapid Reperfusion: Management Strategy of ATAAD with Cerebral Malperfusion

A sixty-four-year-old man presented to the emergency department with a history of syncope followed by tonic-clonic seizures and dense left hemiplegia, without chest or back pain. Because of low GCS, urgent intubation was required. Five years earlier, the patient had

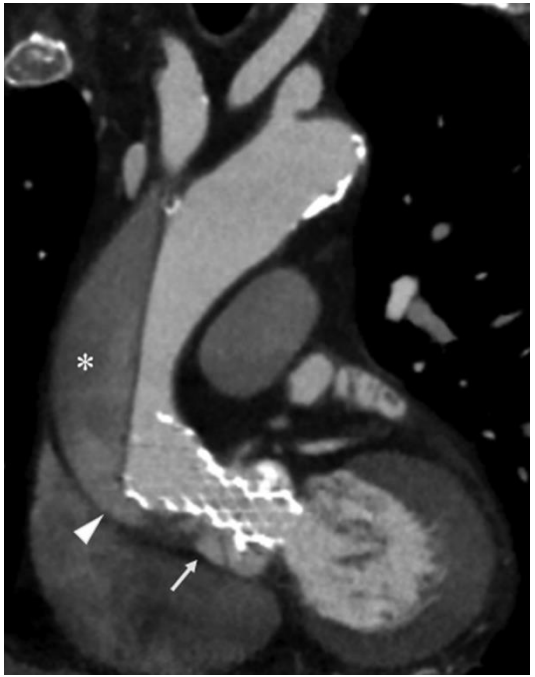
The Procedure

The multidisciplinary team's immediate suggestions included percutaneous fenestration and transluminal angioplasty of the right common carotid artery, followed by an MR perfusion scan to reassess cerebral circulation. Through the right common femoral artery, a successful percutaneous fenestration procedure into the right common carotid artery was carried out, and a stent was successfully deployed (Figure 3).

The patient experienced hemodynamic instability during MR imaging, necessitating an urgent pericardiocentesis, followed by prompt ATAAD central aortic repair with right femoro-femoral cardiopulmonary bypass. An antegrade cerebral perfusion via the brachiocephalic artery and hypothermic circulatory arrest at 24°C were used during the surgical procedure. By using the open distal approach, a supracoronary ascending aorta replacement and aortic valve resuspension procedure were performed. Recovery after surgery was difficult because of the patient's prolonged ventilation and acute kidney injury, which resolved within seven days. The patient was discharged home from stroke rehabilitation on postoperative day eighteen after full recovery from left hemiplegia.

SANJAY et al (Australia, Royal Adelaide Hospital Adelaide SA), CTNet 2023

Rescue Percutaneous Stenting for Cerebral Malperfusion With Acute Aortic Dissection Following TAVR



Finally, the clinical symptoms, including hemiparesis, caused by cerebral malperfusion were completely alleviated. Follow-up CT revealed complete thrombosis of the FL 7 days after TAVR (**Figure 5A**) and disappearance of the FL 2 months

Ryo Yamaguchi et al (Toyohashi, Japan), JACC: CASE REPORTS 2021

INTRODUCTION

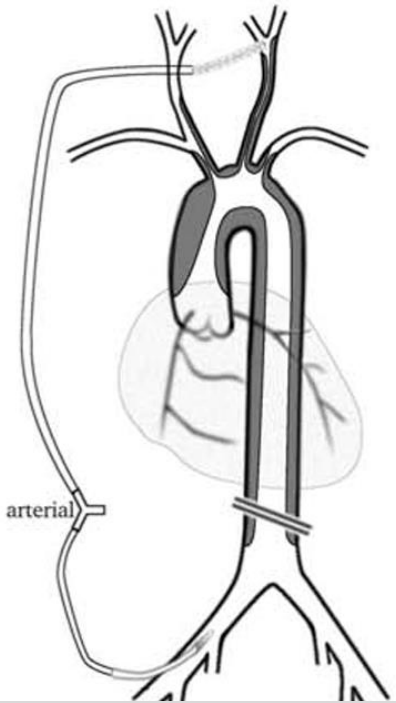
REPERFUSION VISCERALE

REPERFUSION CEREBRALE PERCUTANEE

REPERFUSION CEREBRALE OUVERTE

Carotid artery cannulation in acute aortic dissection with malperfusion

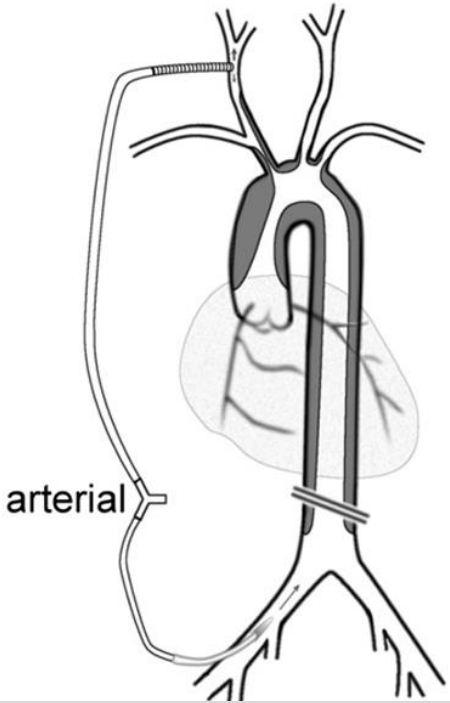
Paul P. Urbanski, MD, PhD, Bad Neustadt, Germany



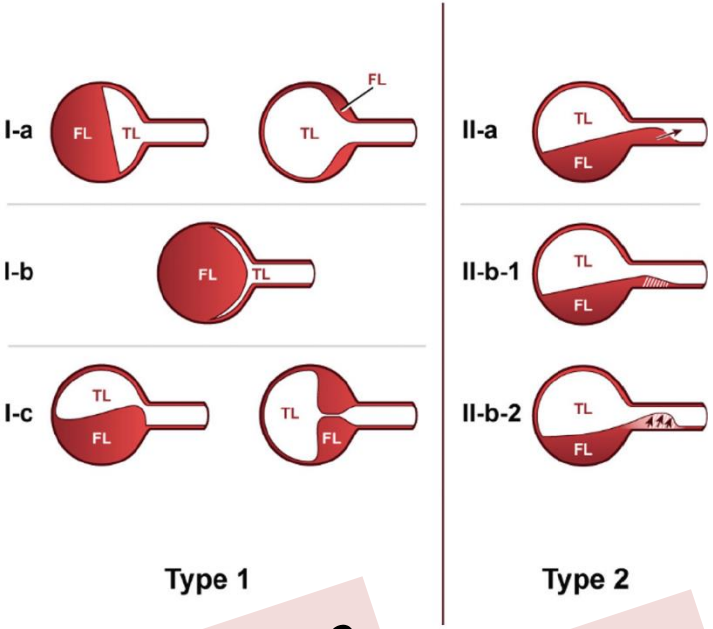
Urbanski (Bad Neustadt, Germany)-, JCTVS 2006

Perfusion and repair technique in acute aortic dissection with cerebral malperfusion and damage of the innominate artery

Paul P. Urbanski, MD, PhD,[a] and Matthias Wagner, MD,[b] Bad Neustadt, Germany



Urbanski (Bad Neustadt, Germany)-, JCTVS 2012

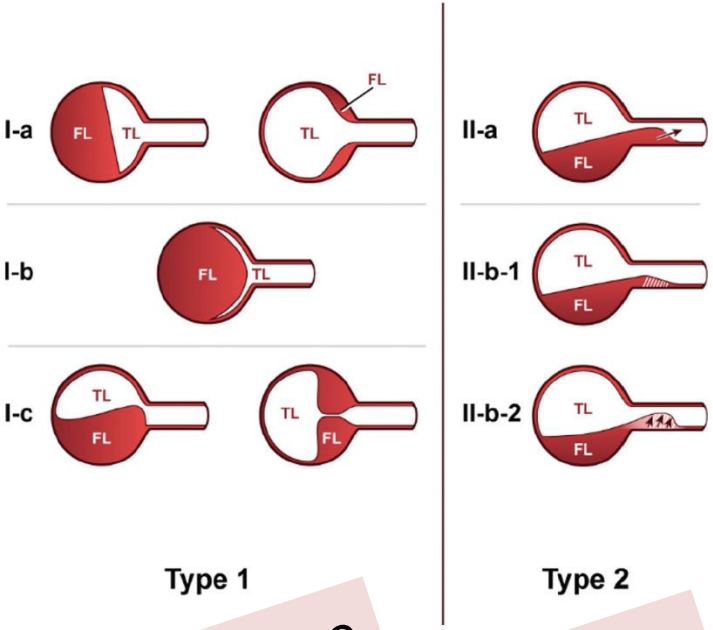


dynamique

statique

Nagamine's classification

Habash et al (Philadelphia), Advances in Vascular Surgery, 10.5772/intechopen.1007663



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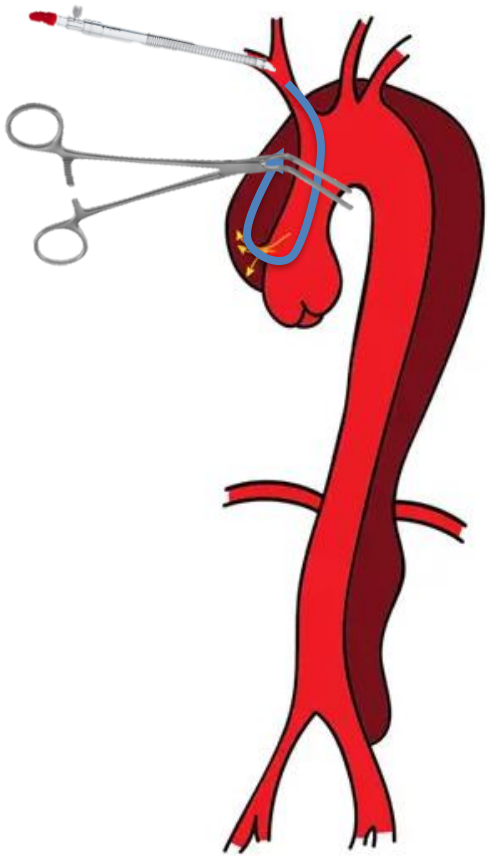

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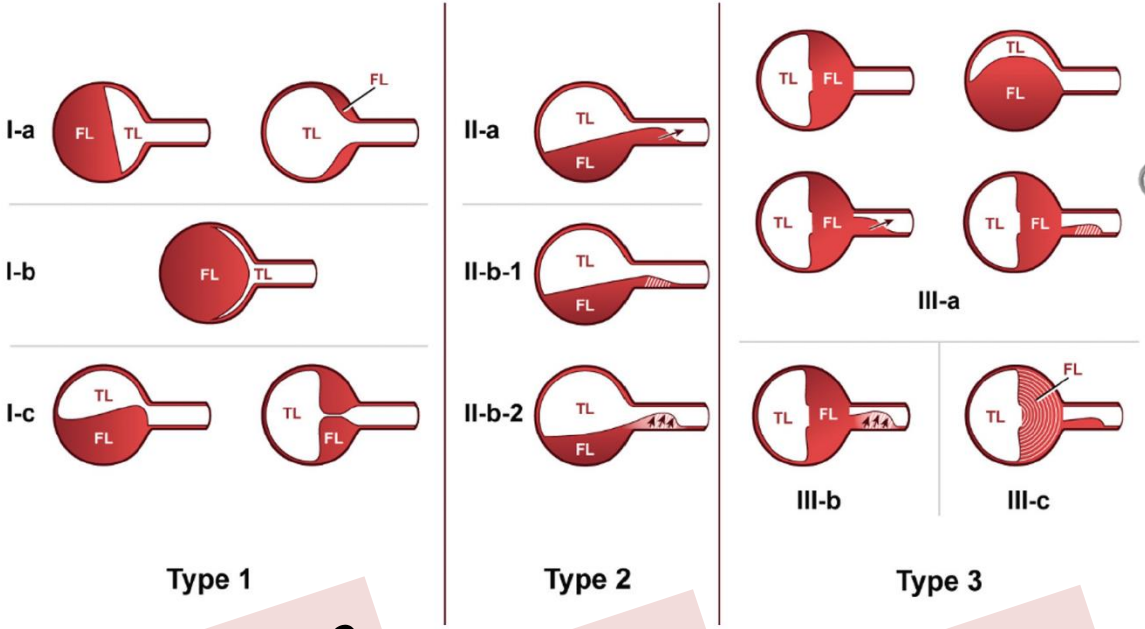
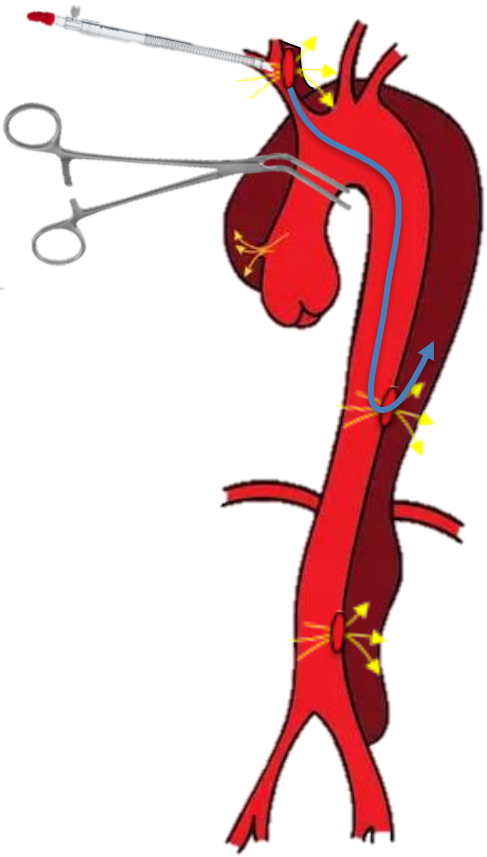
Habash et al (Philadelphia), Advances in Vascular Surgery, 10.5772/intechopen.1007663



dynamique

statique

avulsions



Nagamine's classification

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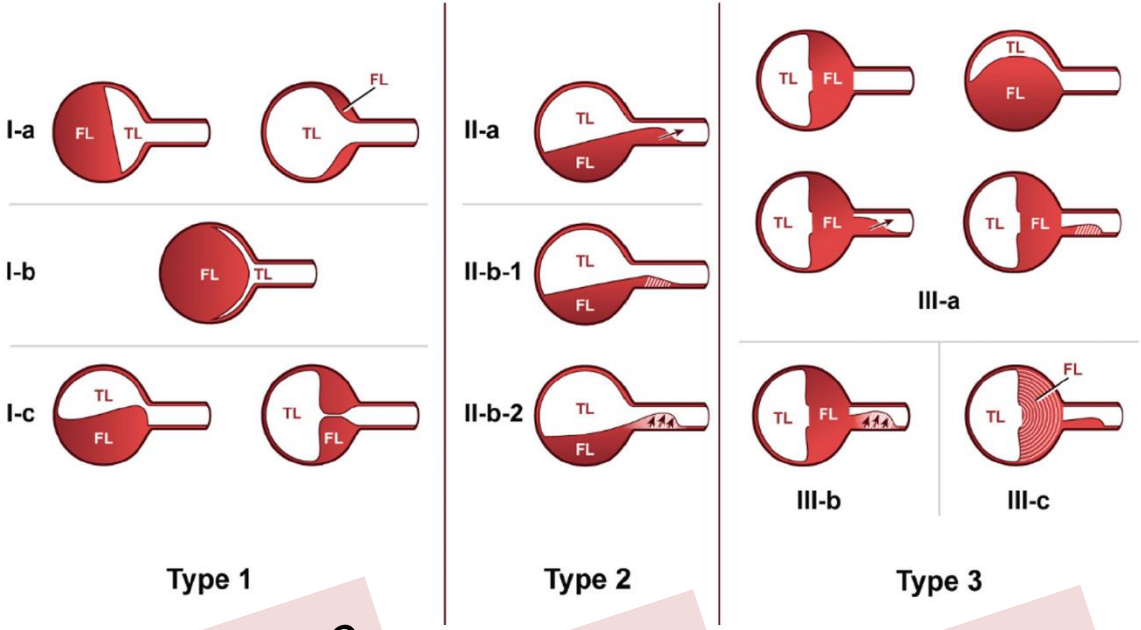

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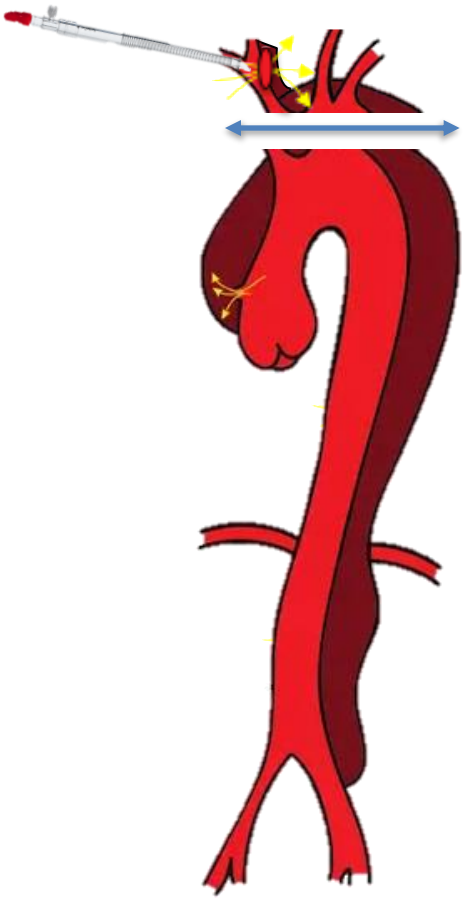
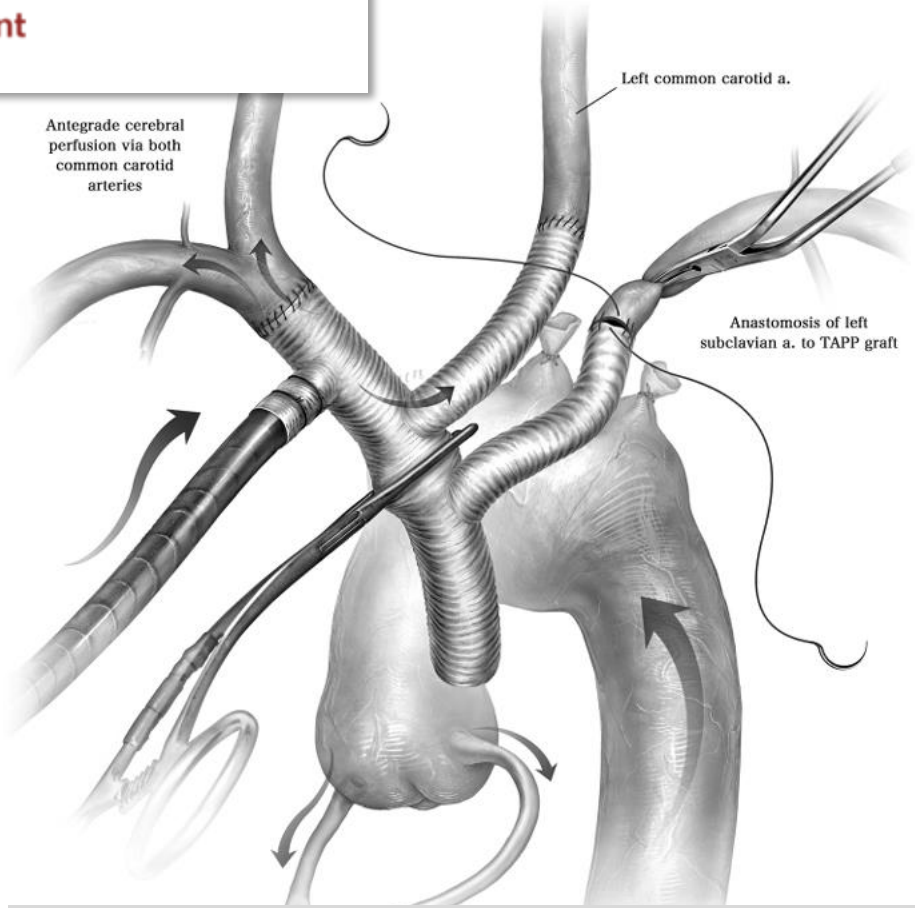


Nagamine's classification

Habash et al (Philadelphia), Advances in Vascular Surgery, 10.5772/intechopen.1007663

Illustrated Technique of "Branch-First" Total Aortic Arch Replacement

Michelle Kim and George Matalanis



Kim et al (Melbourne VC Australia.), Operative 10.1053/j.optechstcvs.2021.12.002

BMC Cardiovascular Disorders

SYSTEMATIC REVIEW Open Access

Two surgical strategies (early carotid reperfusion vs. Central aortic repair-first) of acute type a aortic dissection complicated with cerebral malperfusion syndrome: a meta-analysis and systematic review

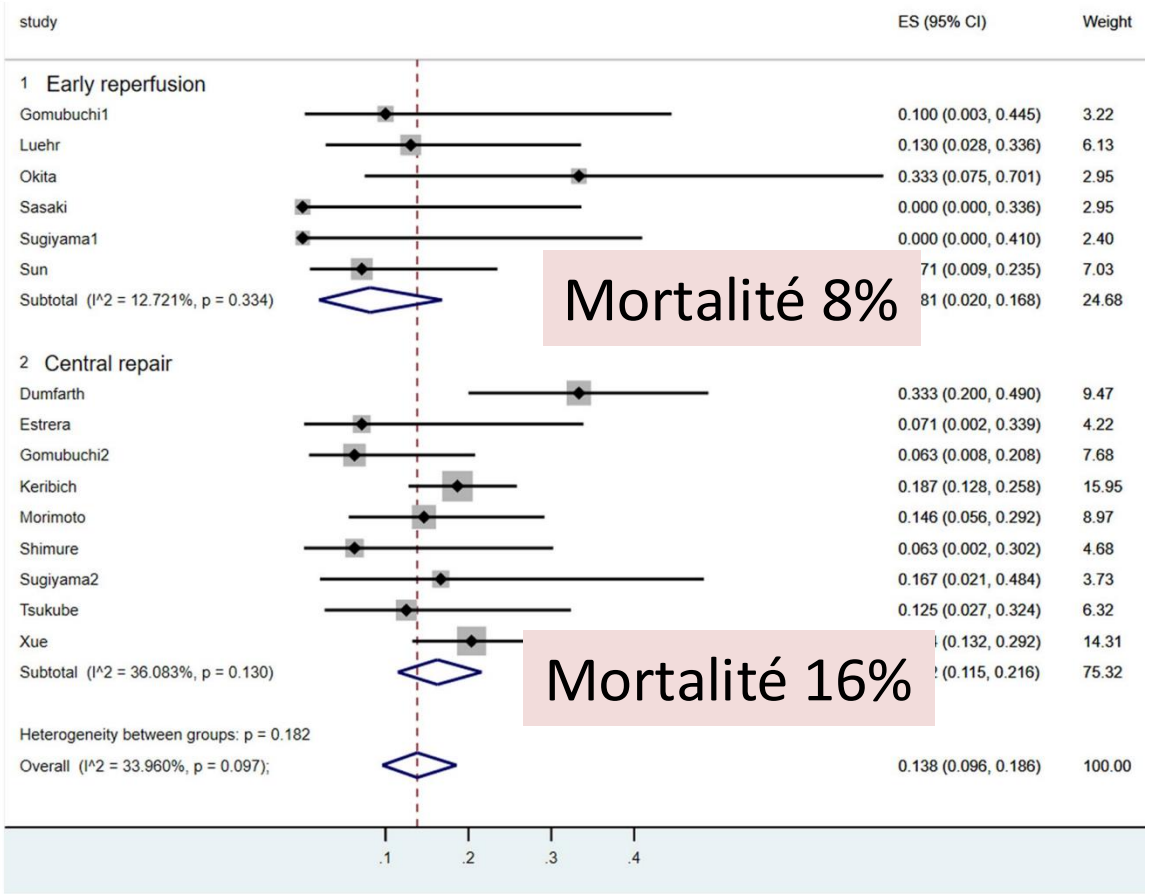


Fig. 2 Forest plots of the meta-analysis depicting early mortality of patients in central repair group and early reperfusion group, respectively

He et al. (Sichuan), BMC Cardiovascular Disorders (2024) 24:239


BMC Cardiovascular Disorders

SYSTEMATIC REVIEW Open Access

Two surgical strategies (early carotid reperfusion vs. Central aortic repair-first) of acute type a aortic dissection complicated with cerebral malperfusion syndrome: a meta-analysis and systematic review

Inclusion criteria

Studies were considered eligible when meet following criteria (1) patients were diagnosed of ATAAD complicated with CM by preoperative vascular contrast-enhanced CT (2), the baseline, perioperative period data were reported

Variable	Central repair, *n* (%)	Early reperfusion, *n* (%)	RR, MD	*P*
Preoperative presentation				
Coma	79/436	13/60	0.84(0.50, 1.41)	0.50
Hemiplegia	120/257 47%	14/69 20%	2.30(1.42, 3.74)	< 0.001
Neurologic deficit	15/44	14/45	1.10(0.60, 1.99)	0.76
Syncope	15/150	7/23	0.33(0.15, 0.72)	0.005
Hemianopsia	30/207	1/23	3.33(0.48, 23.32)	0.23
Shock	5/44	9/68	0.86(0.31, 2.39)	0.77
Time to surgery, h	8.2 ± 15.3	7.8 ± 5.4	0.4(-1.6, 2.40)	0.7
Surgery procedure				
Hemiarch	87/396	18/67	0.82(0.53, 1.27)	0.37
Partial arch	2/53	3/35	0.44(0.08, 2.50)	0.35
Total arch	128/396 32%	46/67 70%	0.47(0.38, 0.58)	<0.01
Ascending replacement	43/61	8/51	4.49(2.33, 8.67)	<0.01
Bentall	55/303	26/51	0.36(0.25, 0.51)	<0.01
Valve sparing	1/153	24/51	0.01(0, 0.1)	<0.01
AVR	1/12	11/23	0.17(0.03, 1.19)	0.08
CABG	3/12	10/51	1.27(0.41, 3.93)	0.67
Elephant trunk	39/108	32/51	0.58(0.41, 0.80)	0.001

He et al. (Sichuan), BMC Cardiovascular Disorders (2024) 24:239

INTRODUCTION

REPERFUSION VISCERALE

REPERFUSION CEREBRALE

STRATEGIE LYONNAISE

TRAITEMENT DE LA DISSECTION AORTIQUE AIGUË AUX HCL

PRISE EN CHARGE INITIALE À L'HÔPITAL LOUIS PRADEL

Diffusion : SAU, SAMU
Version : Juillet 2025

DISSECTION DE TYPE A AVEC MALPERFUSION À LA PRISE EN CHARGE : le remplacement de l'aorte ascendante permet de traiter certaines malperfusions. En cas de troubles neurologique sévère, une TDM de perfusion cérébrale évalue le pronostic cérébral avant la chirurgie.

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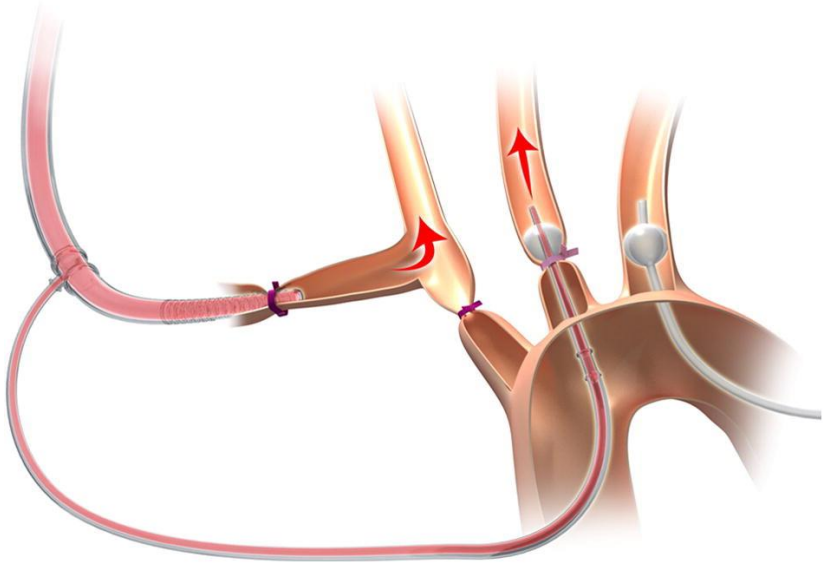
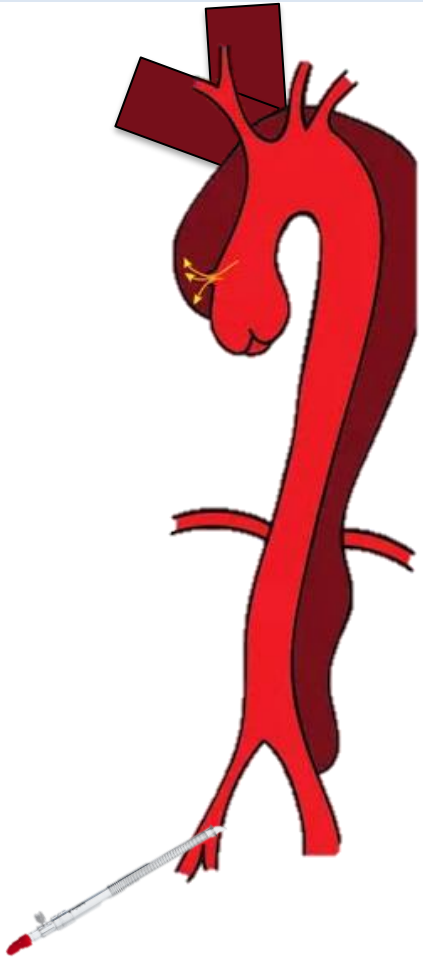


Zierer et al. (Frankfurt), Acquired Cardiovascular Disease 2012

Stratégie Lyonnaise



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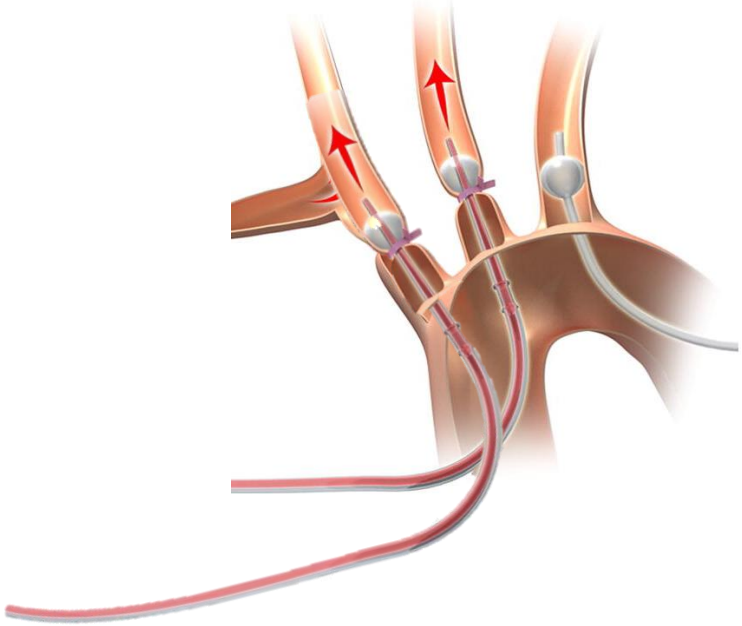

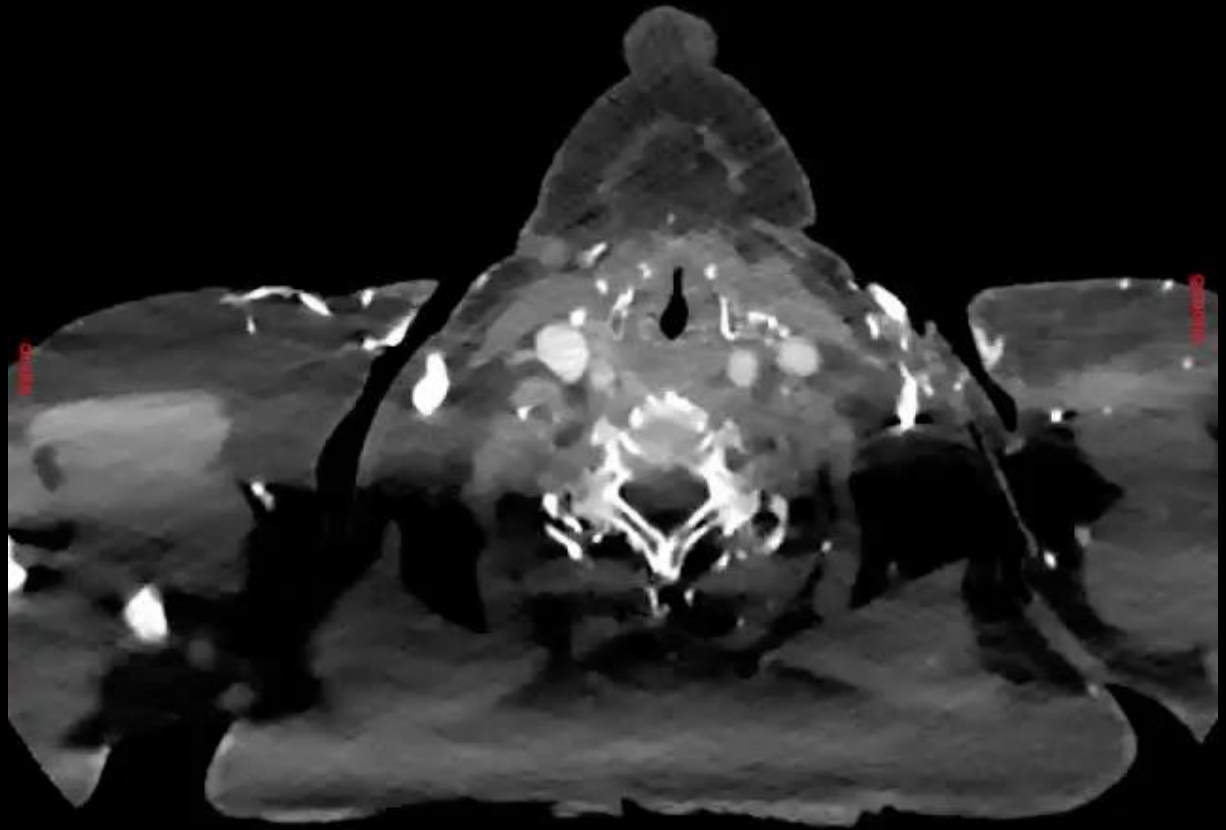


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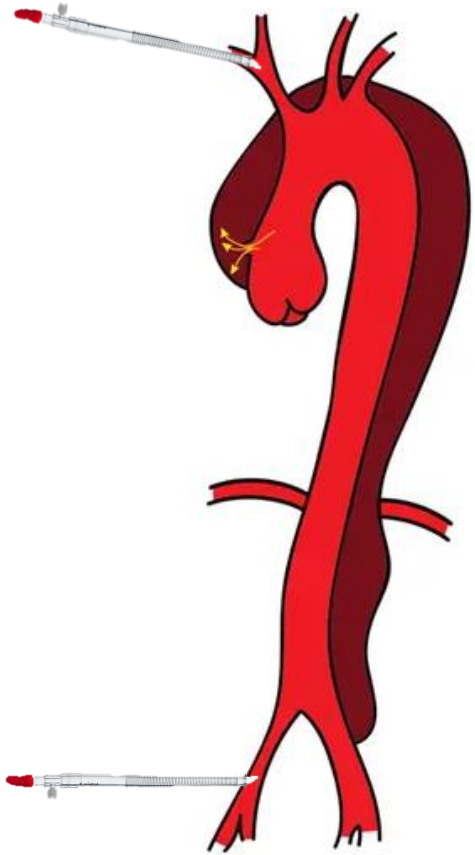

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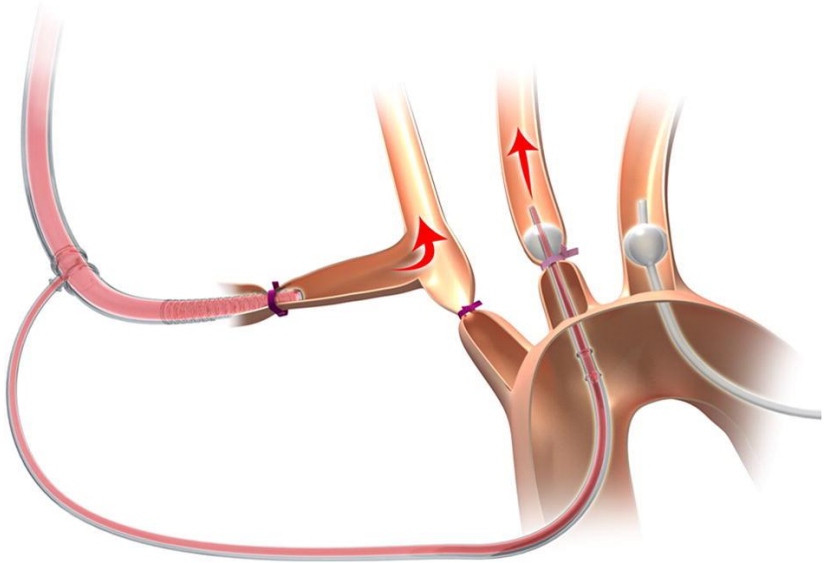

Zierer et al. (Frankfurt), Acquired Cardiovascular Disease 2012

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