



Assistance Publique
Hôpitaux de Marseille

Nouveautés dans la prise en charge interventionnelle

Prof Michel Bartoli



ESC

European Society
of Cardiology

European Heart Journal (2024) **45**, 3538–3700

<https://doi.org/10.1093/eurheartj/ehae179>

ESC GUIDELINES

2024 ESC Guidelines for the management of peripheral arterial and aortic diseases



In patients with an isolated aortic arch aneurysm who are asymptomatic and have low operative risk, open surgical replacement should be considered at an arch diameter of ≥ 55 mm.^{70,172,899}

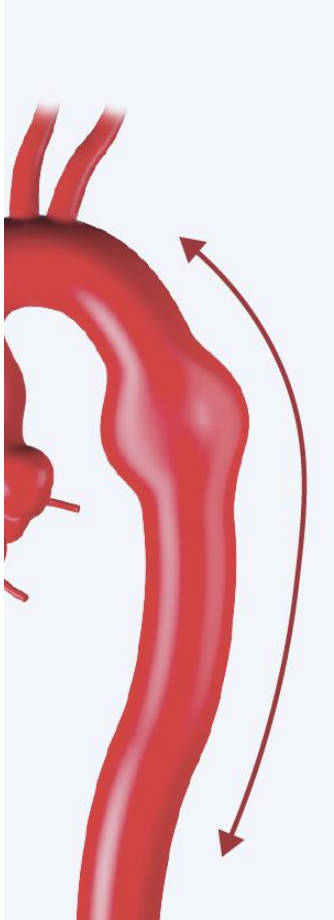
IIa

B

In patients with an aortic arch aneurysm who meet criteria for intervention but have high surgical risk, a hybrid or endovascular approach may be considered.^{70,172}

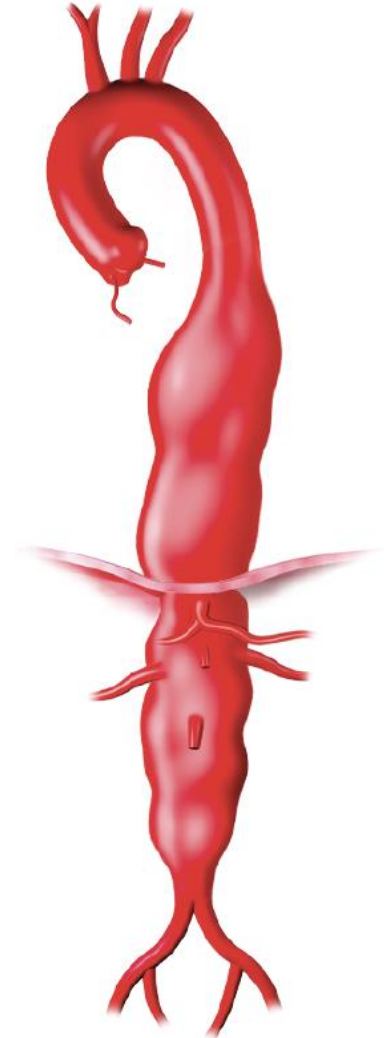
IIb

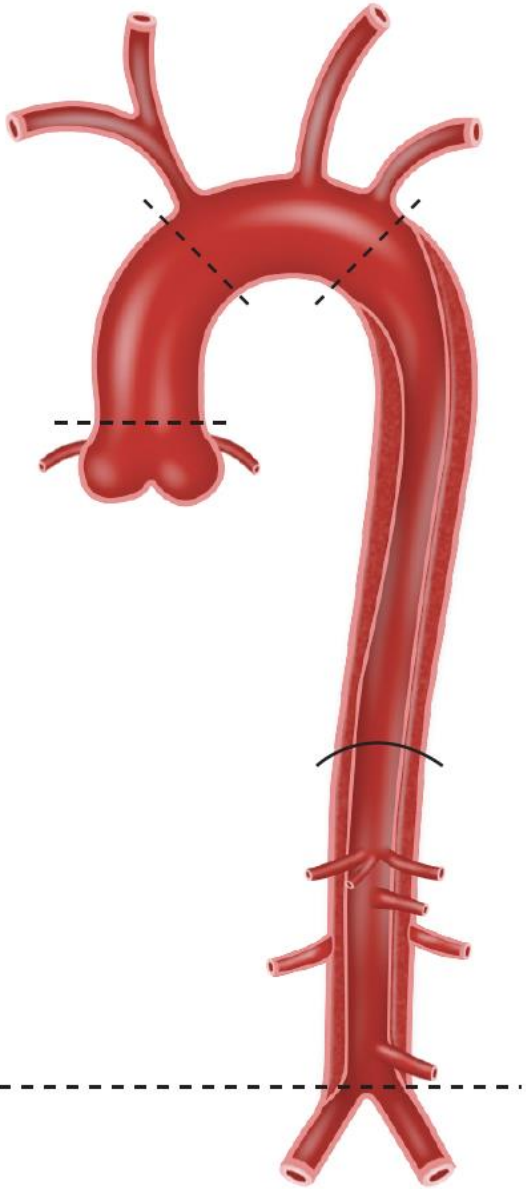
C



Recommendations	Class ^a	Level ^b
In patients with unruptured DTA aneurysm (without HTAD), elective repair is recommended if diameter ≥ 55 mm. ^{902,1002}	I	B

In patients with unruptured degenerative TAAA, elective repair is recommended when the diameter is ≥ 60 mm. ^{902,1002,1033}	I	
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Aigue

In patients with uncomplicated acute TBAD, TEVAR in the subacute phase (between 14 and 90 days) should be considered in selected patients with high-risk features^d to prevent aortic complications. [1219,1226,1295,1297,1298,1308,1309](#)

IIa

B

Chronique

In patients with chronic TBAD and a descending thoracic aortic diameter ≥ 60 mm, treatment is recommended in patients at reasonable surgical risk. [1302,1315,1334](#)

I

B

In patients with chronic TBAD and a descending thoracic aortic diameter ≥ 55 mm, an indication for intervention should be considered in patients with low procedural risk. [1302,1316](#)

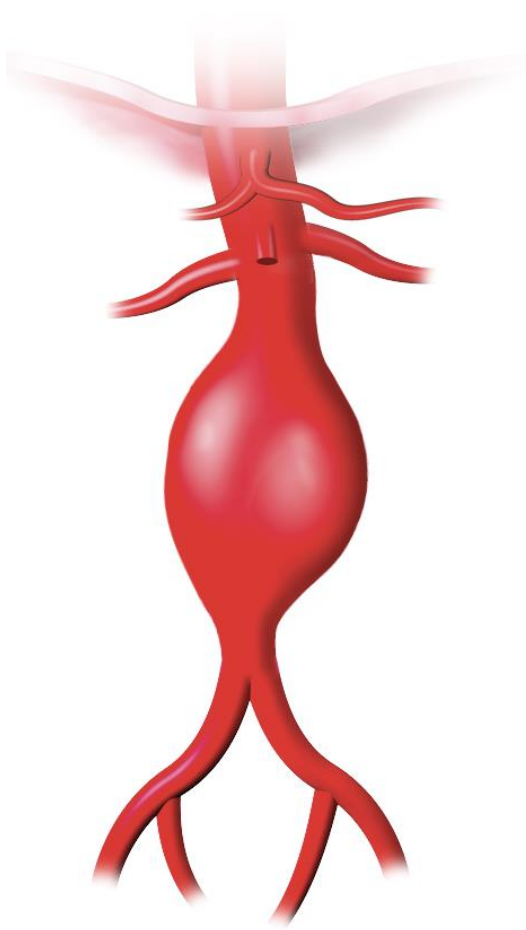
IIa

C

Elective repair is recommended if AAA diameter is ≥ 55 mm in men or ≥ 50 mm in women. ^{1064–1067}

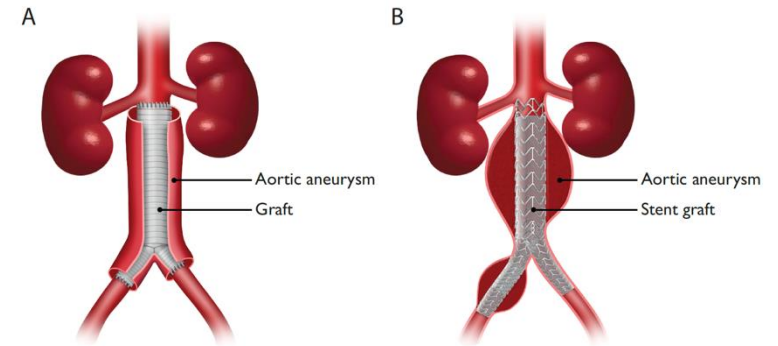
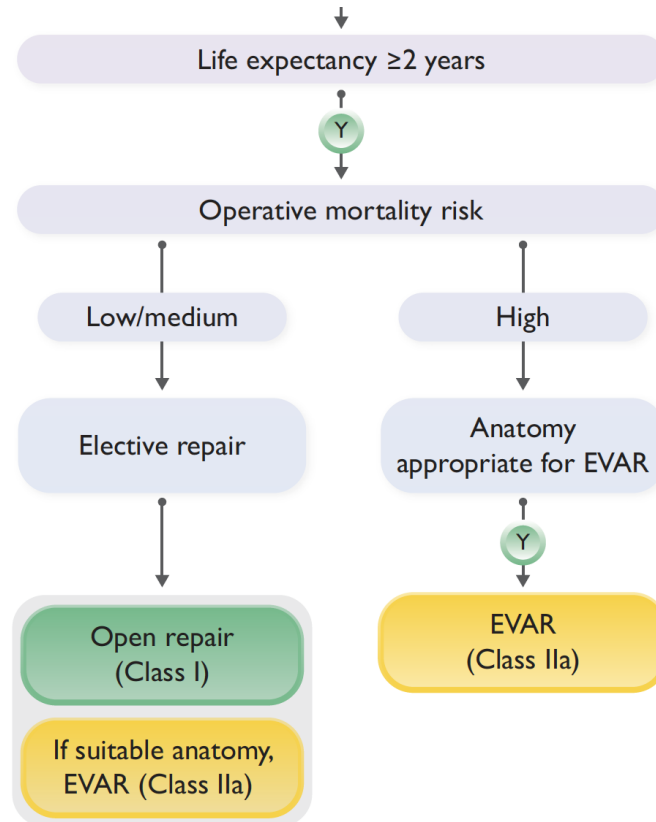
I

A

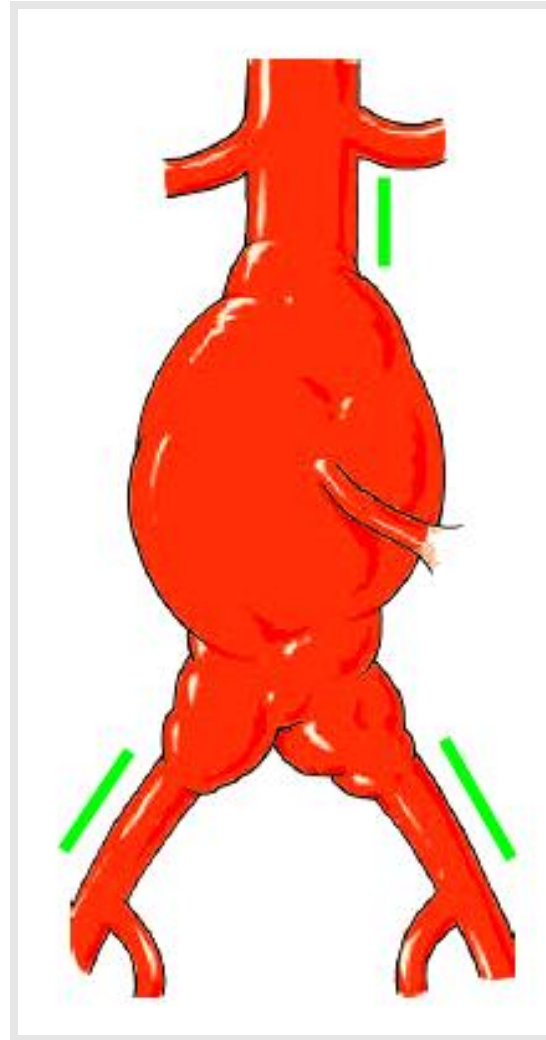


Infrarenal AAA

Méthode de Traitement



AAA



Endoprothèses aortiques abdominales utilisées pour le traitement des anévrismes de l'aorte abdominale sous-rénale non rompus

5. Propositions de recommandations actualisées

L'évaluation du résultat des endoprothèses aortiques abdominales en 2009 avait conduit la HAS à **supprimer la restriction de traitement aux patients à haut risque chirurgical posée en 2001**. « *Le traitement par voie endovasculaire peut être proposé aux patients à risque chirurgical standard avec des critères anatomiques favorables au même titre que le traitement chirurgical et après l'information des bénéfiques et des risques inhérents aux deux méthodes.* »

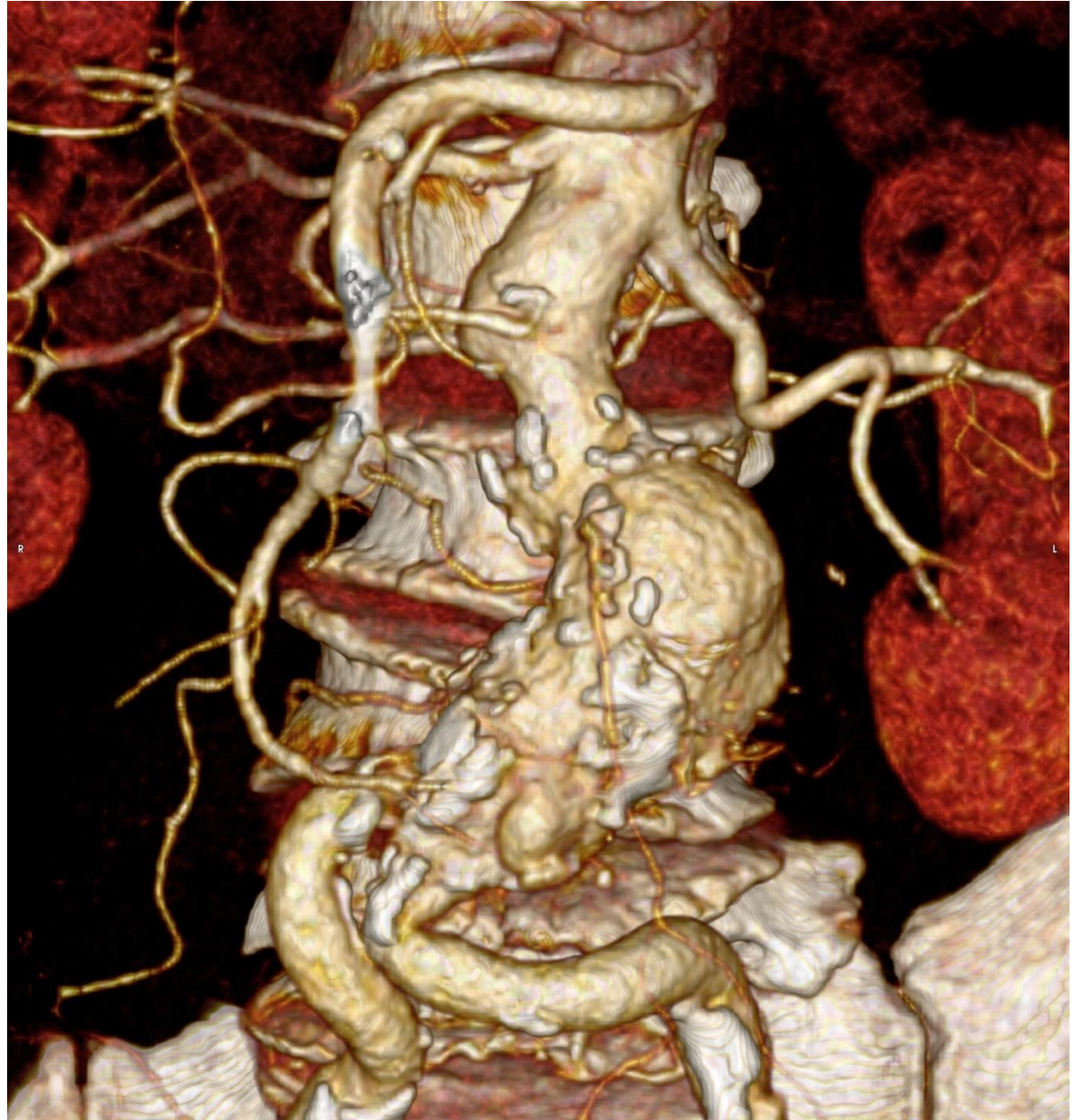
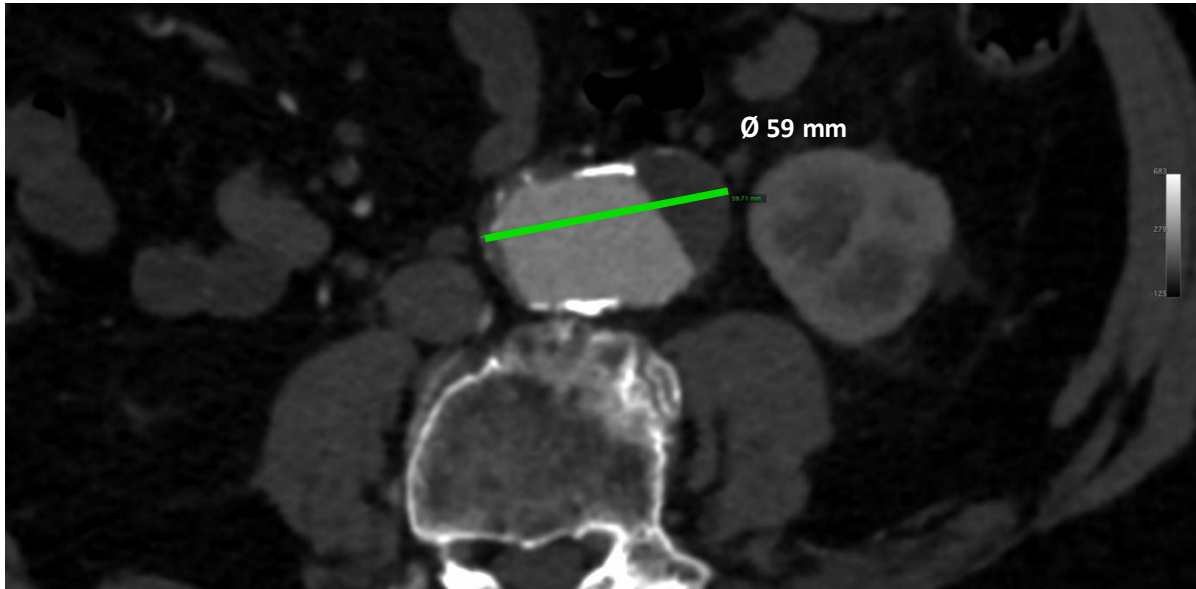
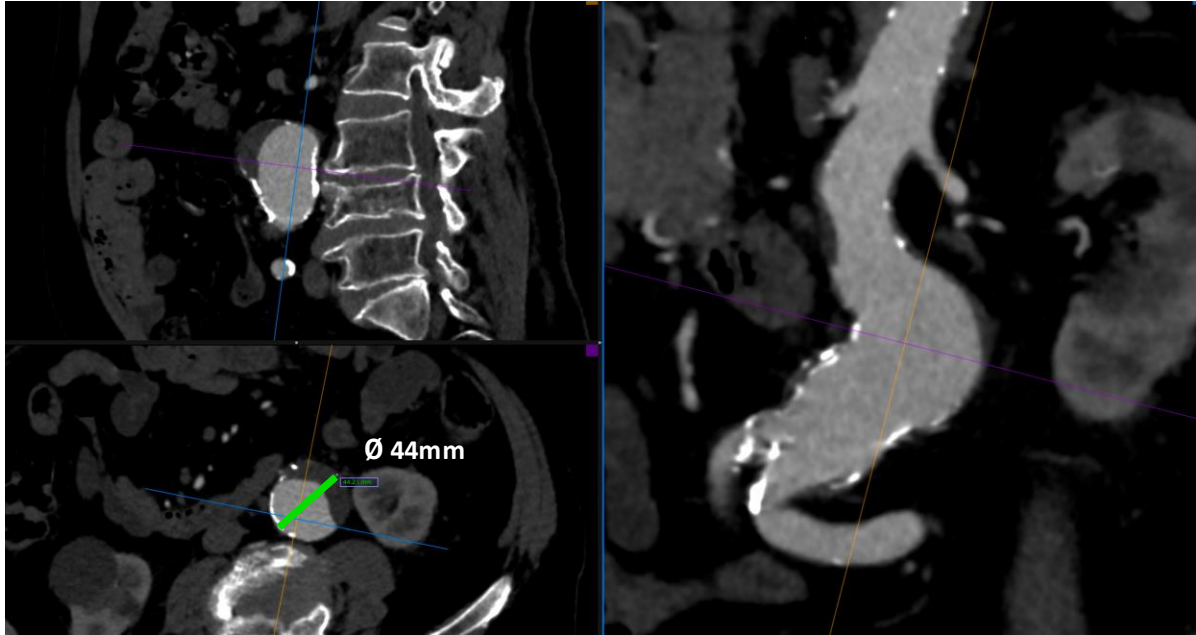
La suppression de cette restriction s'accompagnait d'une mesure obligatoire de surveillance du patient à long terme, de la définition de l'environnement préopératoire et de la nécessité de la mise en place d'un suivi post-inscription.

Compte tenu des données disponibles et notamment des résultats à long terme des études EVAR 1, DREAM, ACE, OVER et EVAR2 ainsi que des recommandations, les évolutions suivantes des recommandations publiées en 2009 sont proposées.

5.1. Indications du traitement des AAA

Le traitement d'un anévrisme de l'aorte abdominale (AAA) sous-rénale asymptomatique doit être envisagé **lorsque le plus grand diamètre est supérieur à 5,5 cm chez l'homme et 5 cm chez la femme** ou si le diamètre augmente de 1 cm en 1 an (pour un anévrisme dont le diamètre est supérieur à 4 cm.)

Un AAA symptomatique est traité quelle que soit sa taille.



∅ AAA indications actuelles le diamètre

EUROPEAN

≤ 55 mm surveillance

> 55 mm traitement chirurgical/endo

SVS

≤ 50 mm surveillance

> 50 mm traitement chirurgical/endo

Recommendation 22 Changed			
Men with an abdominal aortic aneurysm ≥ 55 mm should be considered for elective repair.			
Class	Level	References	ToE
IIa	C	Oliver-Williams <i>et al.</i> (2019), ¹¹⁷ Filardo <i>et al.</i> (2015) ²⁶⁵	

Recommendation 23 Changed			
Women with an abdominal aortic aneurysm ≥ 50 mm may be considered for elective repair.			
Class	Level	References	ToE
IIb	C	Bown <i>et al.</i> (2013), ¹⁰⁶	

Alternatively, young, healthy patients, particularly women, with an AAA between 5.0 and 5.4 cm or those with rapid expansion of small fusiform AAAs may benefit from early repair.^{9,273,281,282}

ORIGINAL ARTICLE

Thresholds for Abdominal Aortic Aneurysm Repair in England and the United States

Alan Karthikesalingam, Ph.D., M.R.C.S., Alberto Vidal-Diez, Ph.D., Peter J. Holt, Ph.D., F.R.C.S., Ian M. Loftus, M.D.(Res.), F.R.C.S., Marc L. Schermerhorn, M.D., Peter A. Soden, M.D., Bruce E. Landon, M.D., and Matthew M. Thompson, M.D.(Res.), F.R.C.S.

ABSTRACT

BACKGROUND

Thresholds for repair of abdominal aortic aneurysms vary considerably among countries.

METHODS

We examined differences between England and the United States in the frequency of aneurysm repair, the mean aneurysm diameter at the time of the procedure, and rates of aneurysm rupture and aneurysm-related death. Data on the frequency of repair of intact (nonruptured) abdominal aortic aneurysms, in-hospital mortality among patients who had undergone aneurysm repair, and rates of aneurysm rupture during the period from 2005 through 2012 were extracted from the Hospital Episode Statistics database in England and the U.S. Nationwide Inpatient Sample. Data on the aneurysm diameter at the time of repair were extracted from the U.K. National Vascular Registry (2014 data) and from the U.S. National Surgical Quality Improvement Program (2013 data). Aneurysm-related mortality during the period from 2005 through 2012 was determined from data obtained from the Centers for Disease Control and Prevention and the U.K. Office of National Statistics. Data were adjusted with the use of direct standardization or conditional logistic regression for differences between England and the United States with respect to population age and sex.

RESULTS

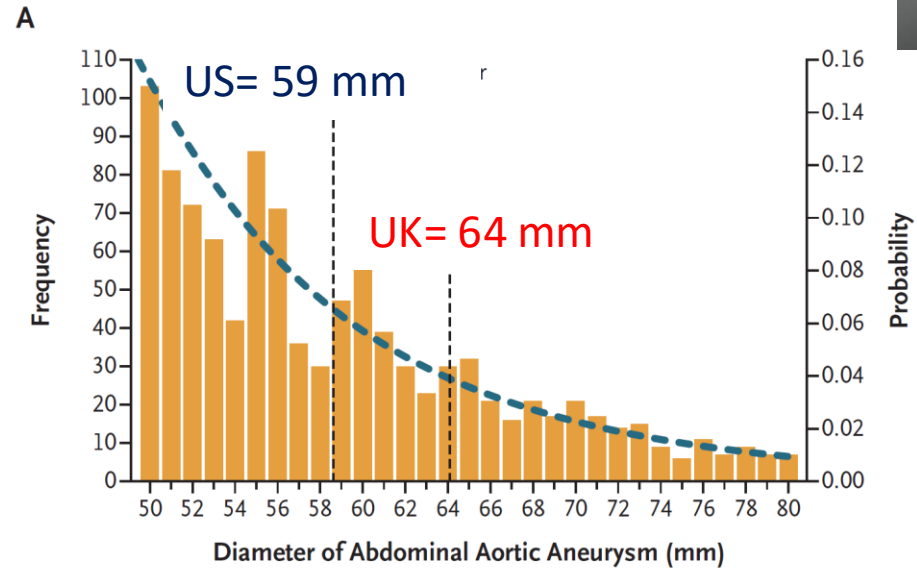
During the period from 2005 through 2012, a total of 29,300 patients in England and 278,921 patients in the United States underwent repair of intact abdominal aortic aneurysms. Aneurysm repair was less common in England than in the United States (odds ratio, 0.49; 95% confidence interval [CI], 0.48 to 0.49; $P < 0.001$), and aneurysm-related death was more common in England than in the United States (odds ratio, 3.60; 95% CI, 3.55 to 3.64; $P < 0.001$). Hospitalization due to an aneurysm rupture occurred more frequently in England than in the United States (odds ratio, 2.23; 95% CI, 2.19 to 2.27; $P < 0.001$), and the mean aneurysm diameter at the time of repair was larger in England (63.7 mm vs. 58.3 mm, $P < 0.001$).

CONCLUSIONS

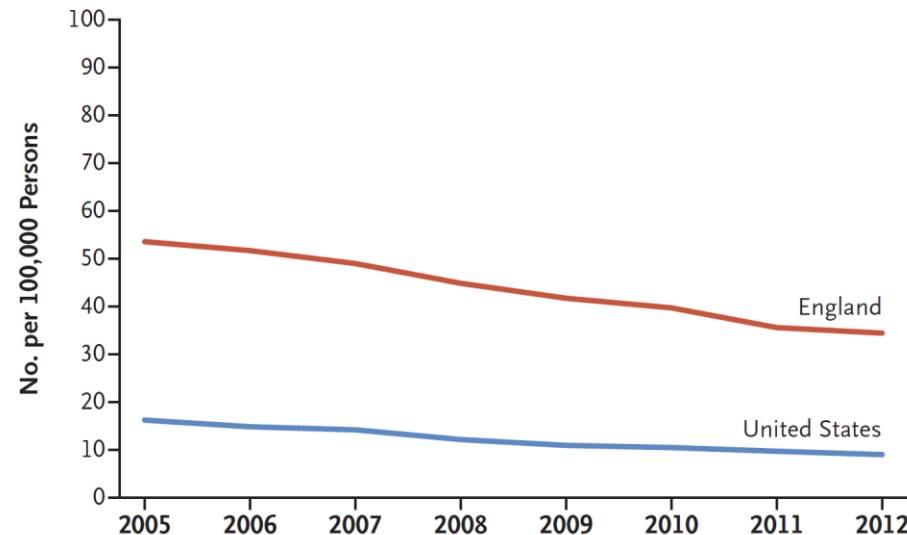
We found a lower rate of repair of abdominal aortic aneurysms and a larger mean aneurysm diameter at the time of repair in England than in the United States and lower rates of aneurysm rupture and aneurysm-related death in the United States than in England. (Funded by the Circulation Foundation and others.)

From St. George's Vascular Institute, St. George's University of London, London (A.K., A.V.-D., P.J.H., I.M.L., M.M.T.); and the Division of Vascular and Endovascular Surgery, Beth Israel Deaconess Medical Center and Harvard Medical School (M.L.S., P.A.S.), and the Department of Health Care Policy, Harvard Medical School (B.E.L.) — both in Boston. Address reprint requests to Dr. Karthikesalingam at St. George's Vascular Institute, Rm. 0.231, St. George's University of London, Cranmer Ter., London SW17 0RE, United Kingdom, or at alankarthi@gmail.com.

N Engl J Med 2016;375:2051-9.
DOI: 10.1056/NEJMoa1600931
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B Deaths from Abdominal Aortic Aneurysms



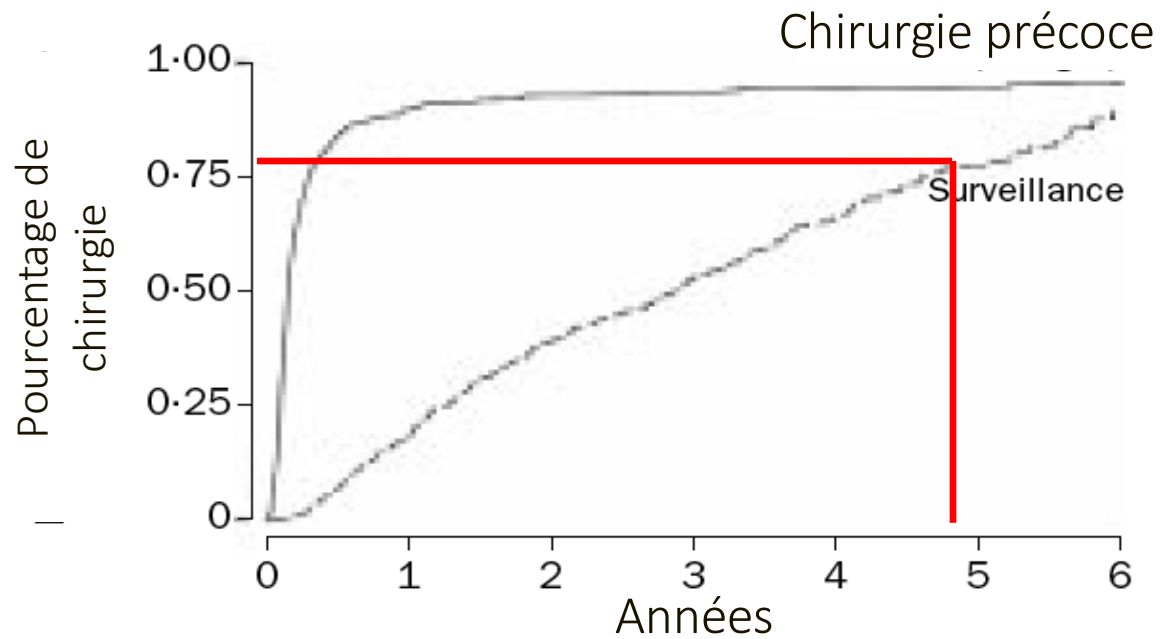
34 dc lié à un AAA
Pour 100'000 pers

9 dc lié à un AAA
Pour 100'000 pers

LONG-TERM OUTCOMES OF SMALL ABDOMINAL AORTIC ANEURYSMS

LONG-TERM OUTCOMES OF IMMEDIATE REPAIR COMPARED WITH SURVEILLANCE OF SMALL ABDOMINAL AORTIC ANEURYSMS

THE UNITED KINGDOM SMALL ANEURYSM TRIAL PARTICIPANTS*



Risque
d'intervention:

75 %

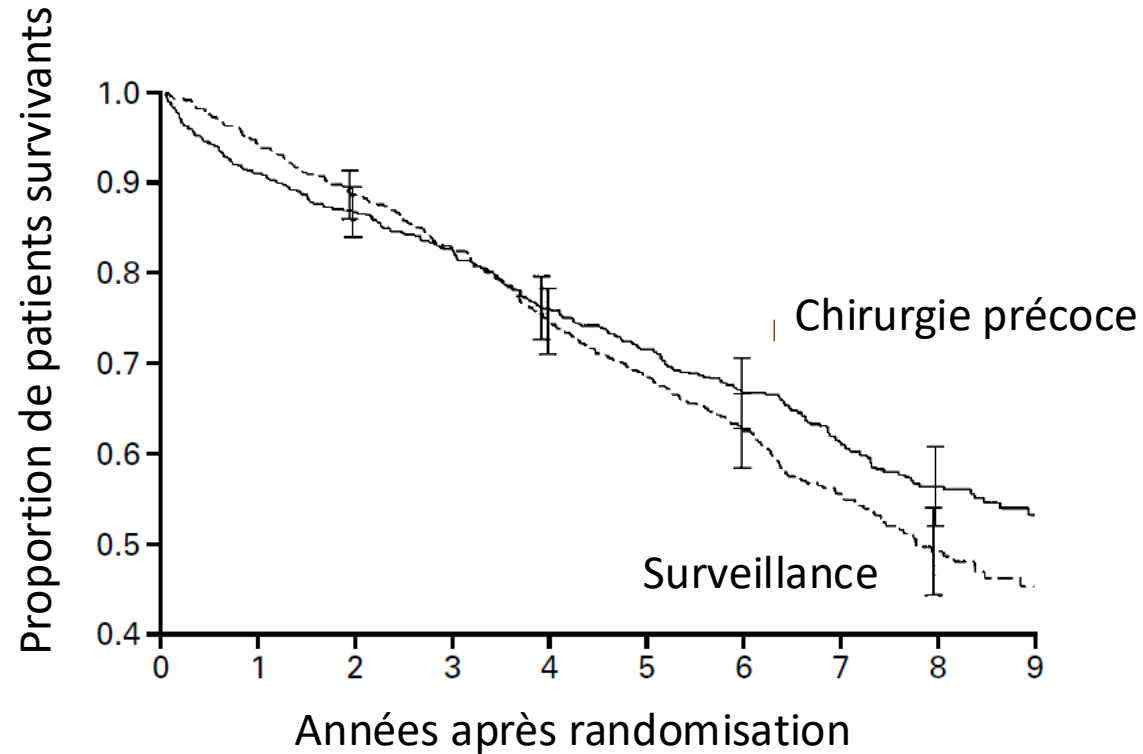
à 4 ans 1/2

Number at risk

Early surgery	563	54	38	32	14	9	1
Surveillance	527	409	292	197	77	29	6

La Survie était Meilleure chez les Opérés Précoces

Suivi moyen 8 ans



No. AT Risk

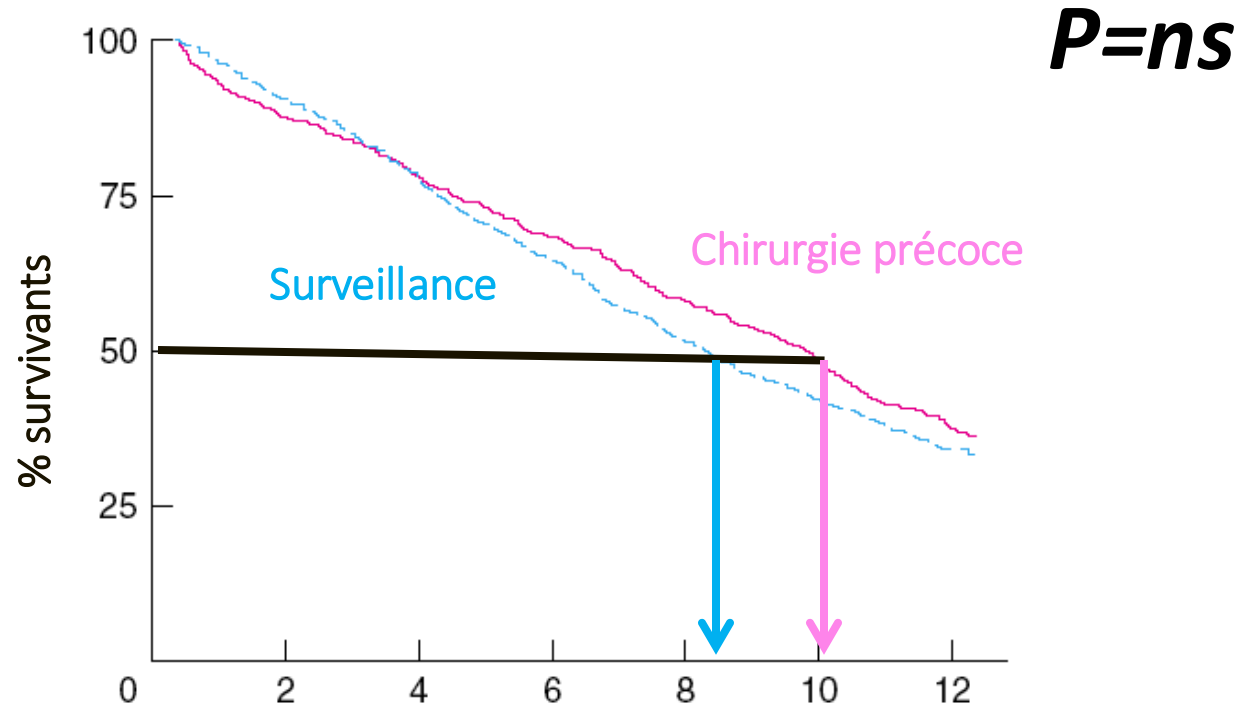
Surveillance group	527	497	468	437	394	363	316	173	97	41
Early-surgery group	563	513	489	465	429	402	371	253	154	66

Figure 3. Kaplan–Meier Estimates of Overall Survival According to Treatment-Group Assignment. **P=0.05 by the log-rank test.** I bars represent the 95 percent confidence intervals for the point estimates.

Final 12-year follow-up of Surgery versus Surveillance in the UK Small Aneurysm Trial

UK Small Aneurysm Trial participants

British Journal of Surgery 2007; **94**: 702–708





Safety of Men With Small and Medium Abdominal Aortic Aneurysms Under Surveillance in the NAAASP

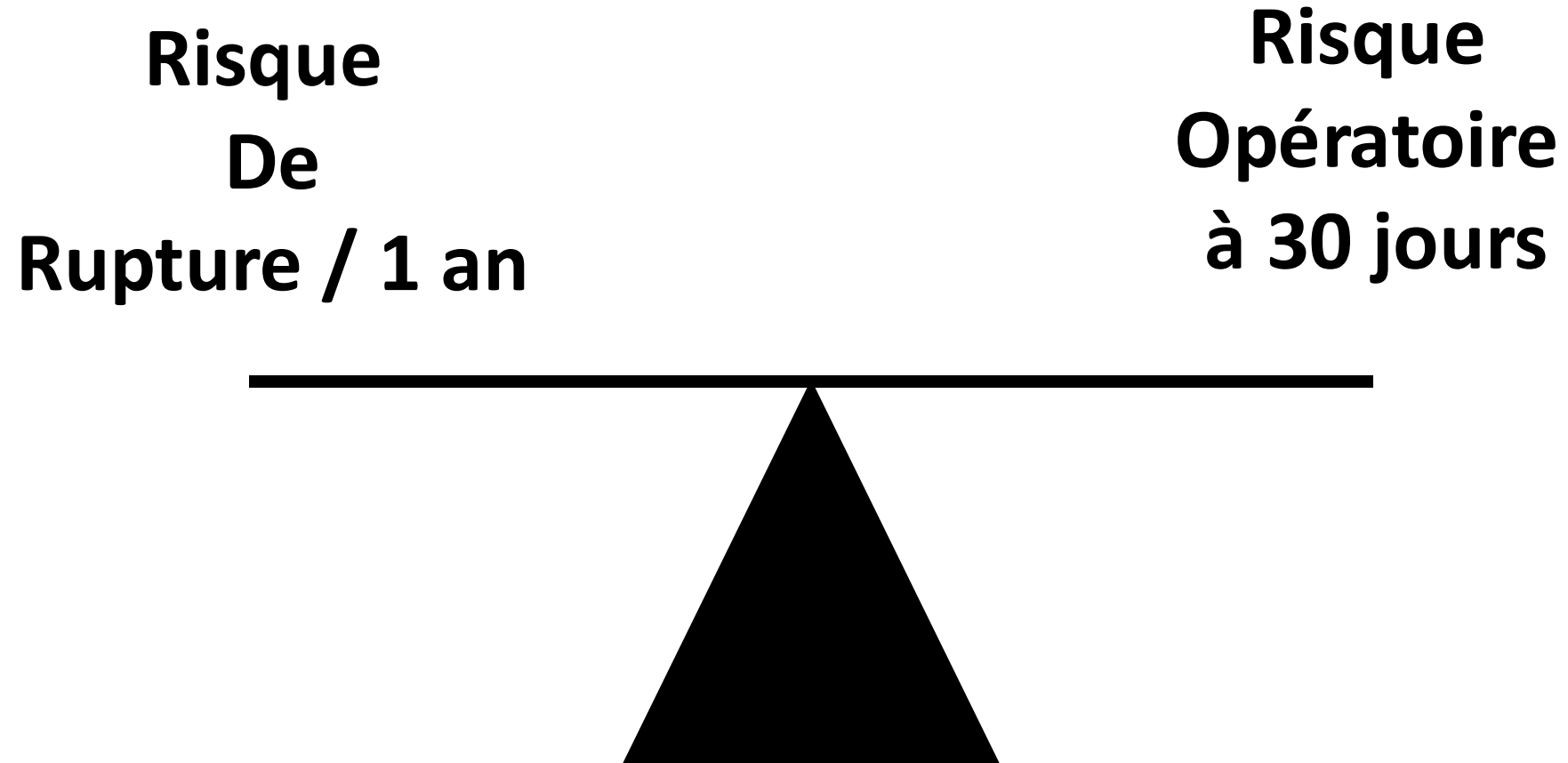


- Entre 50 & 54 mm => un écho doppler tous les 3 mois
- Si Taille > 55mm => avis chirurgien vasculaire rapide

ness, rapid aneurysm growth, or other finding. Of men whose aorta measured ≥ 5.5 cm, 94.9% were referred to the vascular service within 1 day, which is the program standard. Of the 21 men who were not referred,

Men with small or medium AAAs are offered surveillance: annually for small AAAs, and every 3 months for medium AAAs. This schedule is based on evidence from

La balance



Endovascular Repair of Abdominal Aortic Aneurysm does not Improve Early Survival versus Open Repair in Patients Younger than 60 Years^{☆,☆☆} **CME**

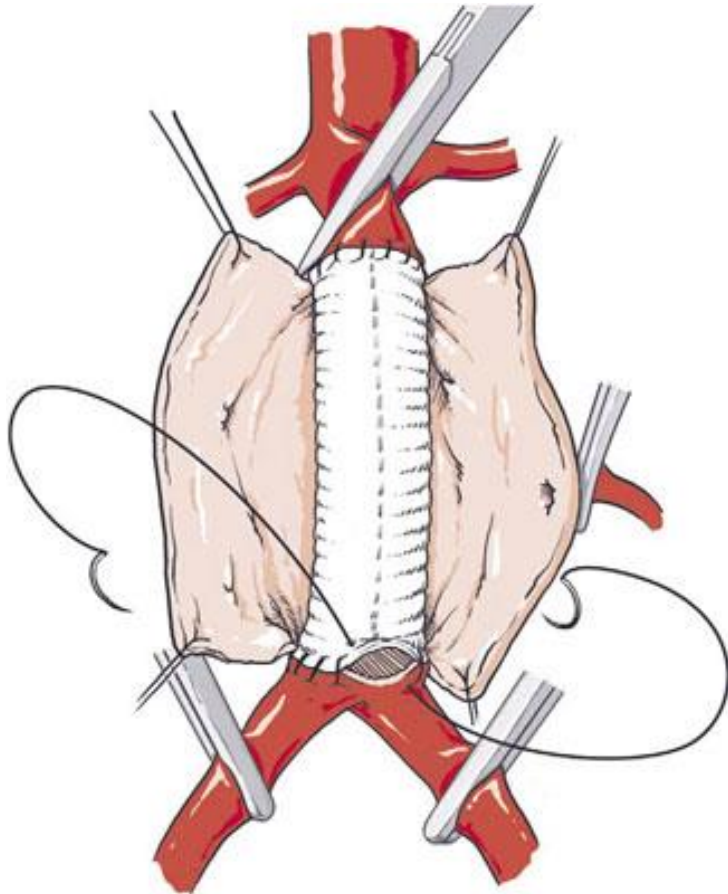
P.K. Gupta^a, B. Ramanan^a, T.G. Lynch^{b,c}, H. Gupta^d, X. Fang^e, M. Balters^a, J.M. Johanning^{b,c}, G.M. Longo^{b,c}, J.N. MacTaggart^{b,c}, I.I. Pipinos^{b,c,*}

European Journal of Vascular and Endovascular Surgery 43 (2012) 506–512

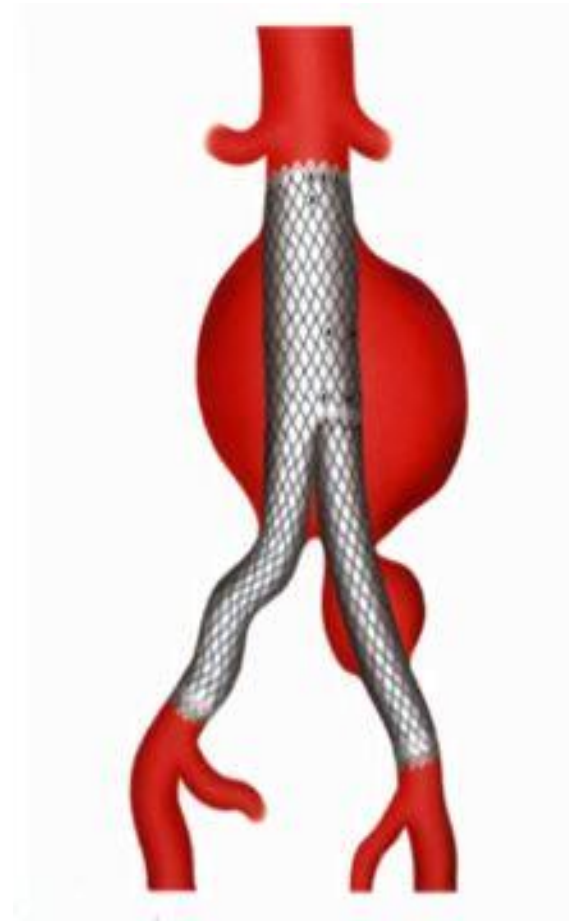
- Analyse des patients âgé de moins de 60 ans issus du NSQIP
- Période d'étude 2007 – 2009

	EVAR N=369	Open Repair N=282	p
Mortalité à 30 jours	1,1%	0,4%	,22

Choix de la Technique

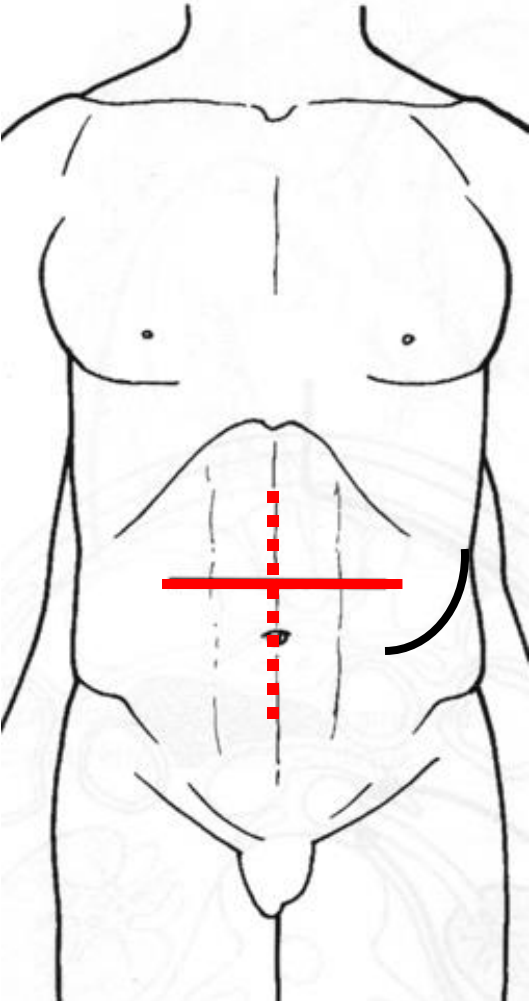


Versus



La Chirurgie

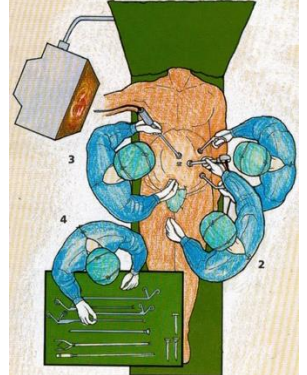
Chirurgie classique



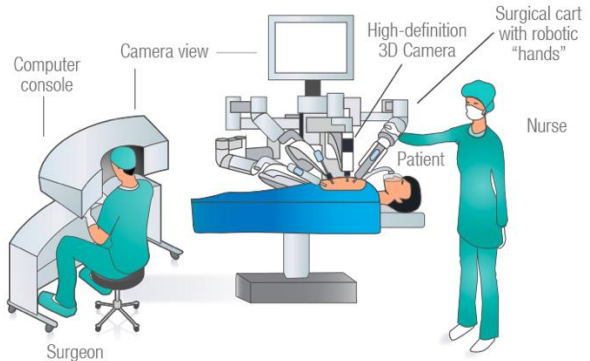
Chirurgie mini invasive



Laparoscopie



Robotic surgery

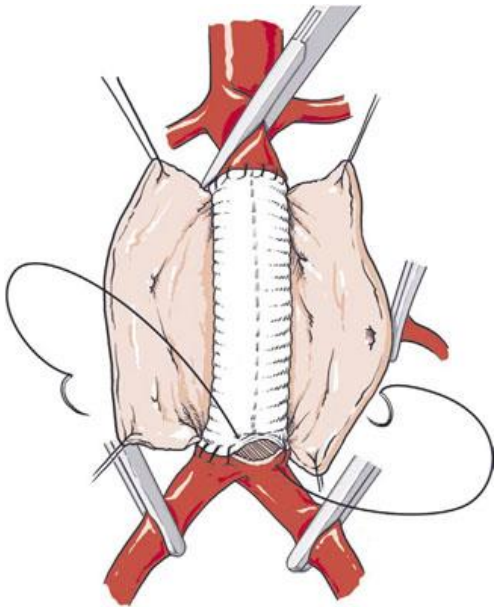


Les Progrès de la Chirurgie

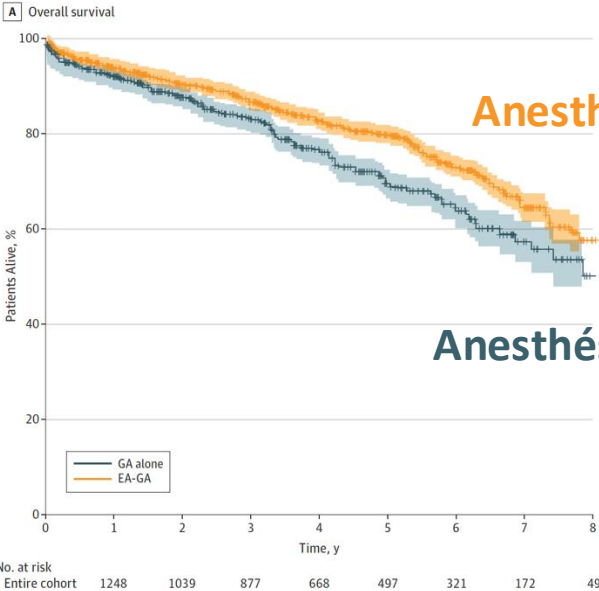
JAMA Surgery | Original Investigation

Combined Epidural-General Anesthesia vs General Anesthesia Alone for Elective Abdominal Aortic Aneurysm Repair

Amit Bardia, MBBS; Akshay Sood, MD; Feroze Mahmood, MD; Vwaire Orhurhu, MD, MPH; Ariel Mueller, MA; Mario Montealegre-Gallegos, MD; Marc R. Shnider, MD; Klaas H. J. Ultee; Marc L. Schermerhorn, MD; Robina Matyal, MD



Survie après chirurgie pour anévrisme aortique



Anesthésie Epidurale + Générale

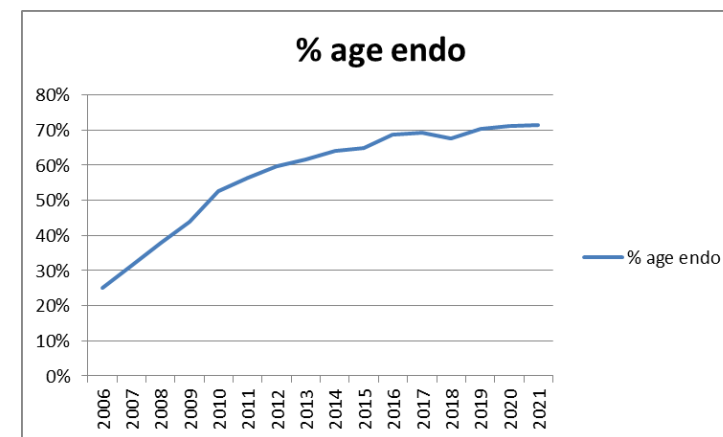
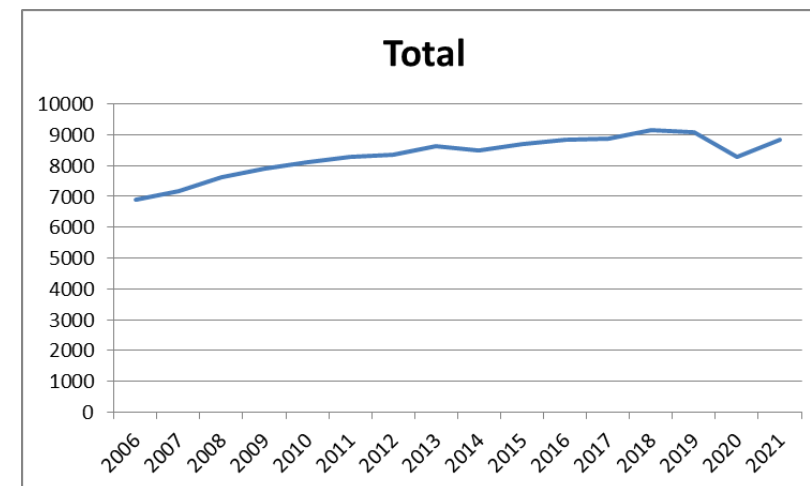
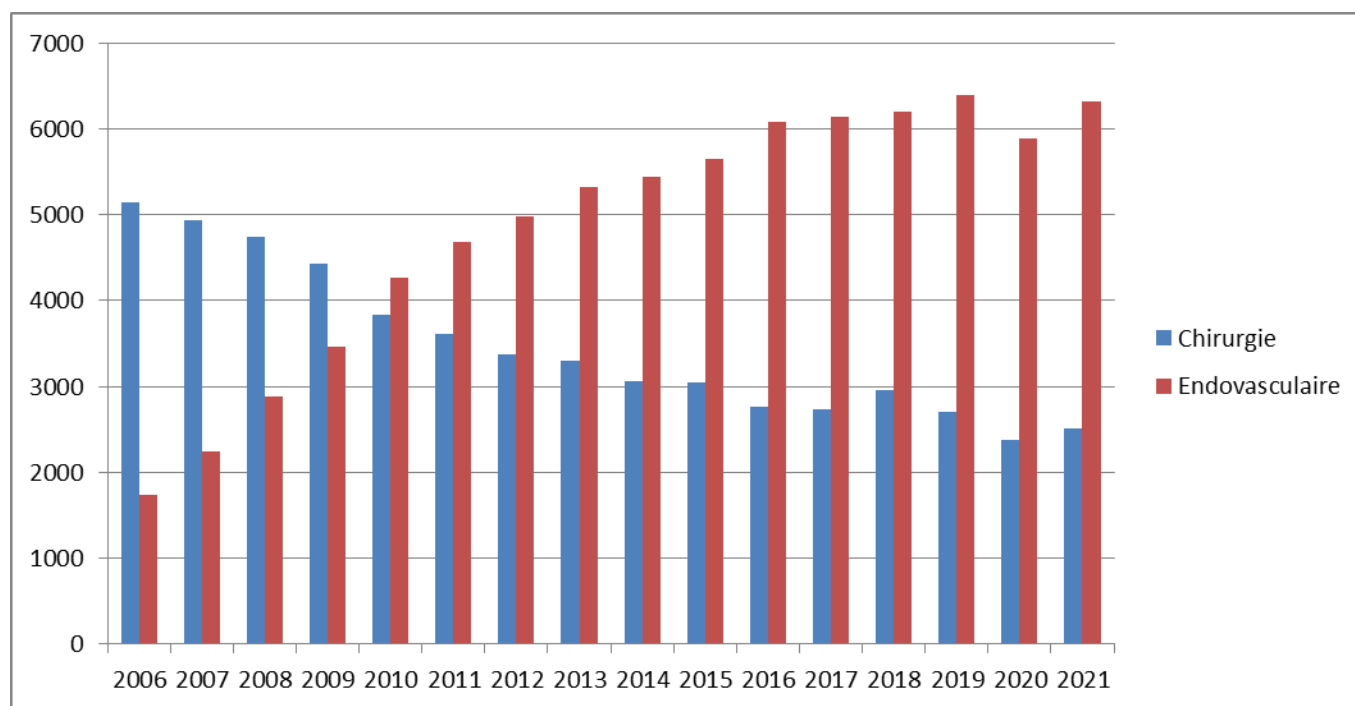
Anesthésie Générale

La Salle Hybride

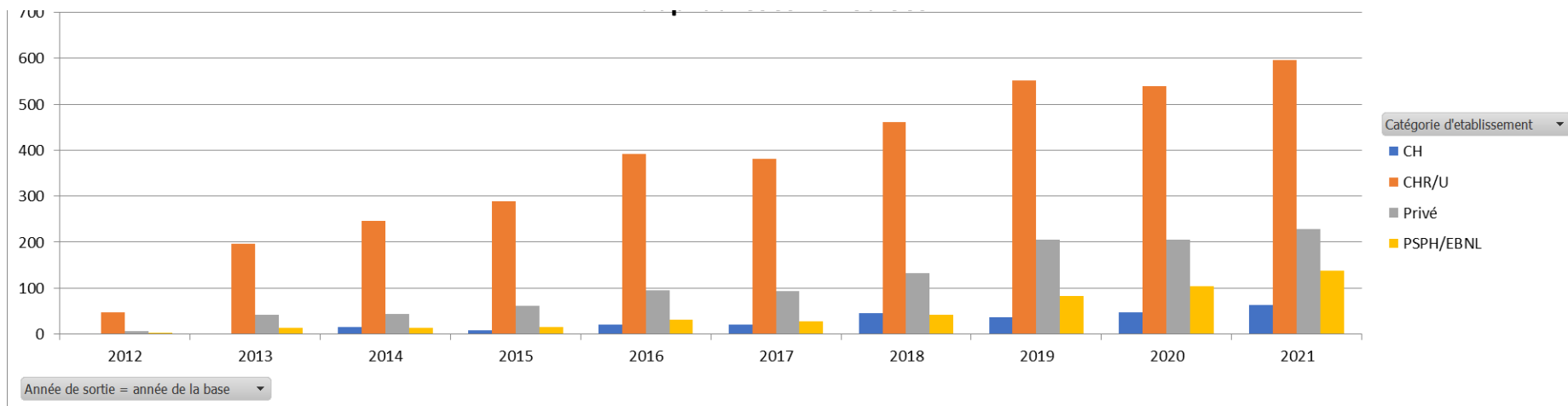
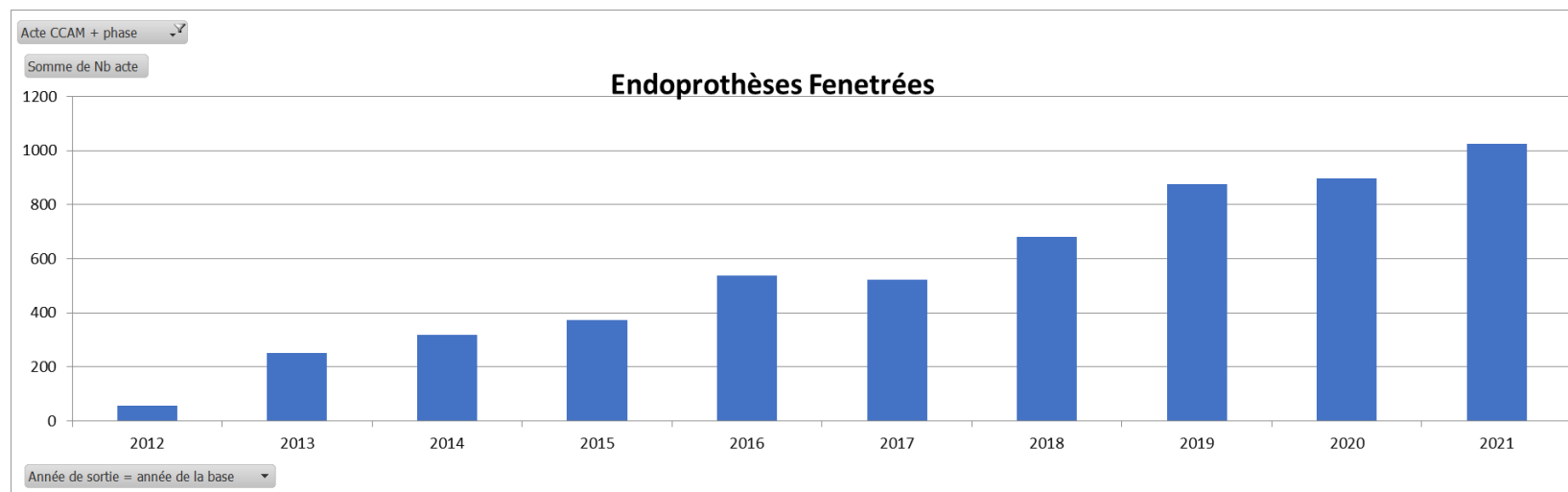


Evolution de la prise en charge

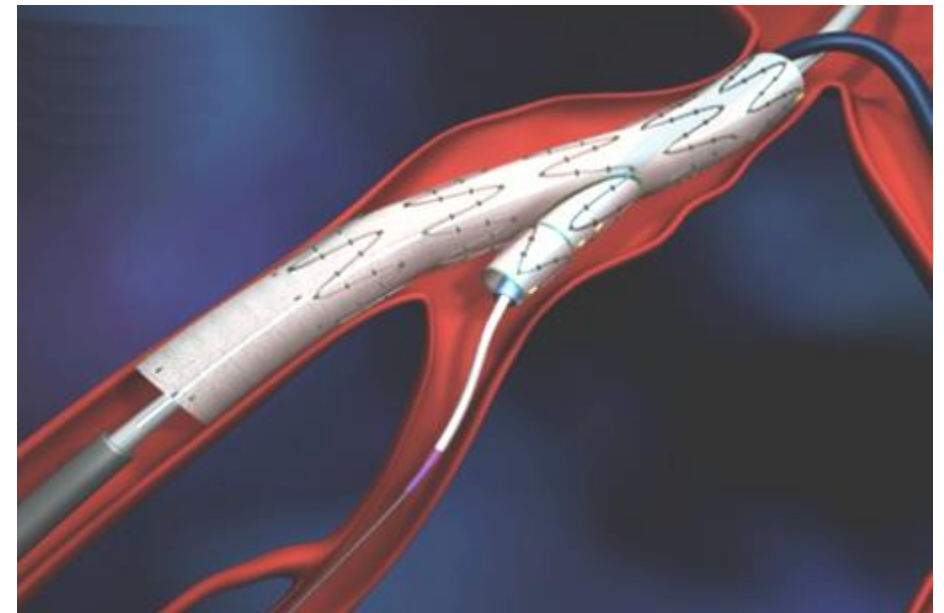
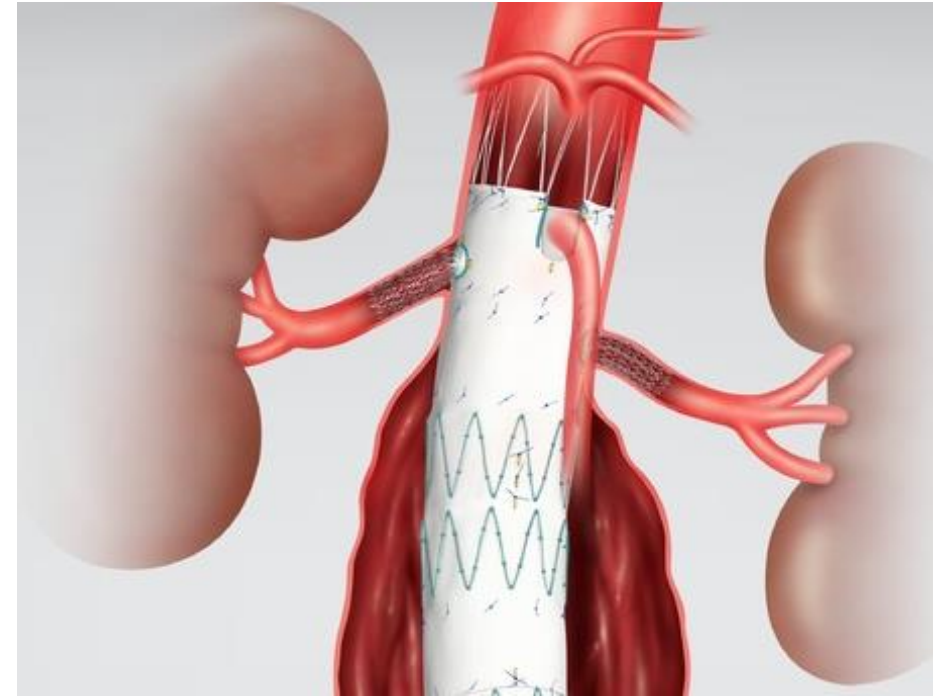
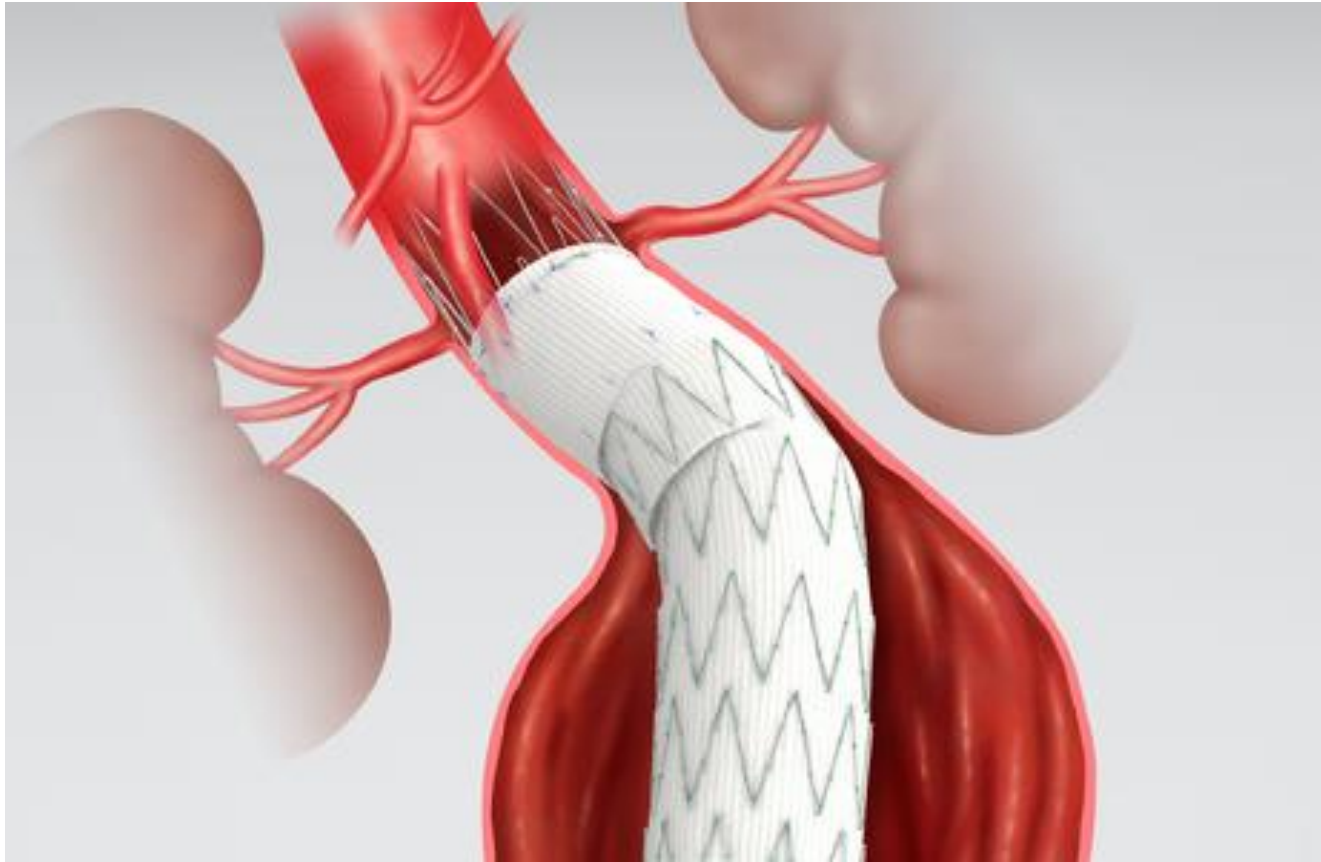
- N=133230, progression
- Endovasculaire : 25-> 72%



Endoprothèses fenêtrées



L'endovasculaire



Les Faits: Meta analyse 2012 AAA sous rénal Chirurgie vs endovasculaire

6 essais randomisés

Patients à risque chirurgical normal

Mortalité péri opératoire

1% vs 3,3 % p=0.0006

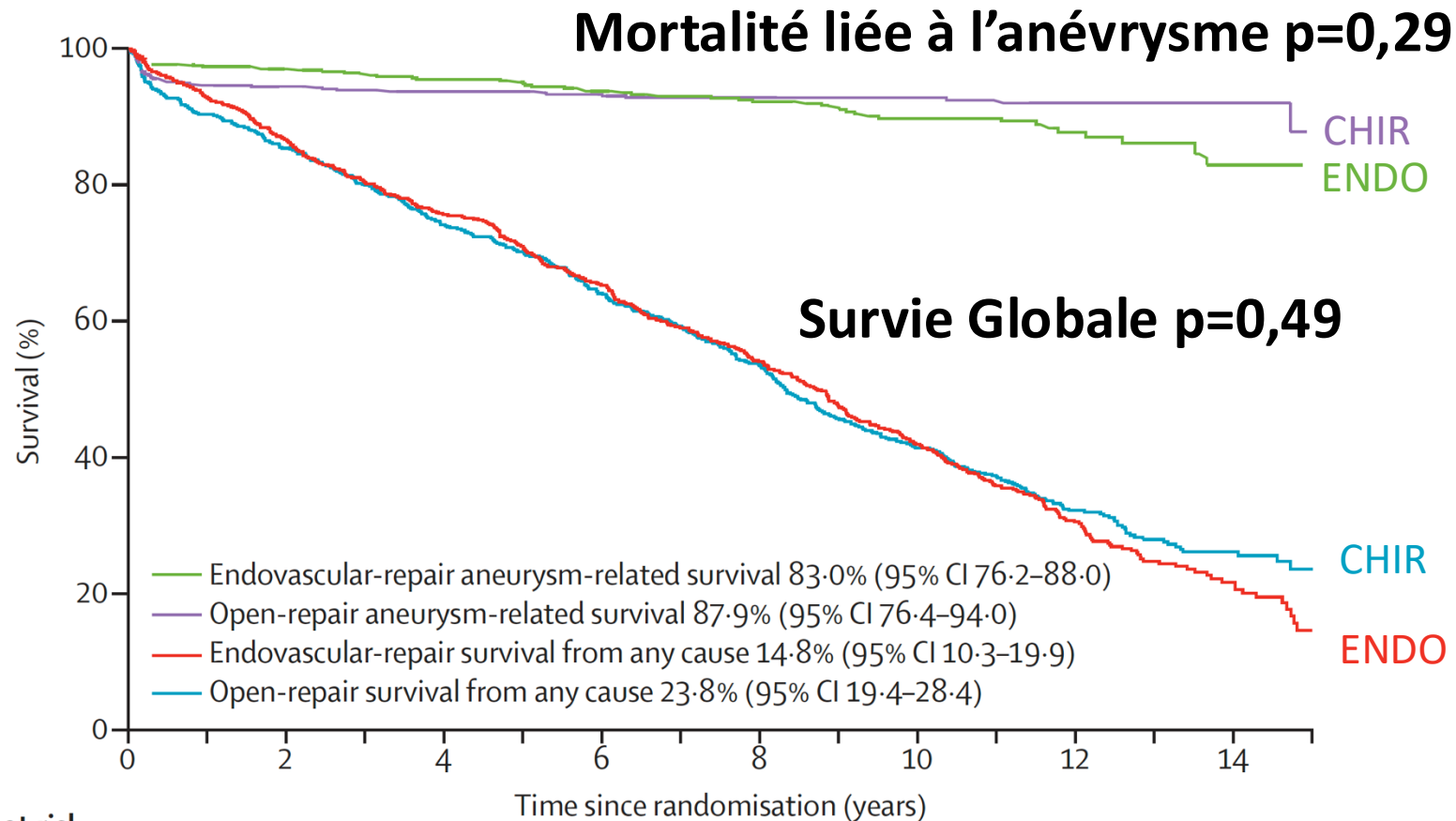
Taux de ré intervention Global

10% vs 8% p=0.02



Endovascular versus open repair of abdominal aortic aneurysm in 15-years' follow-up of the UK endovascular aneurysm repair trial 1 (EVAR trial 1): a randomised controlled trial

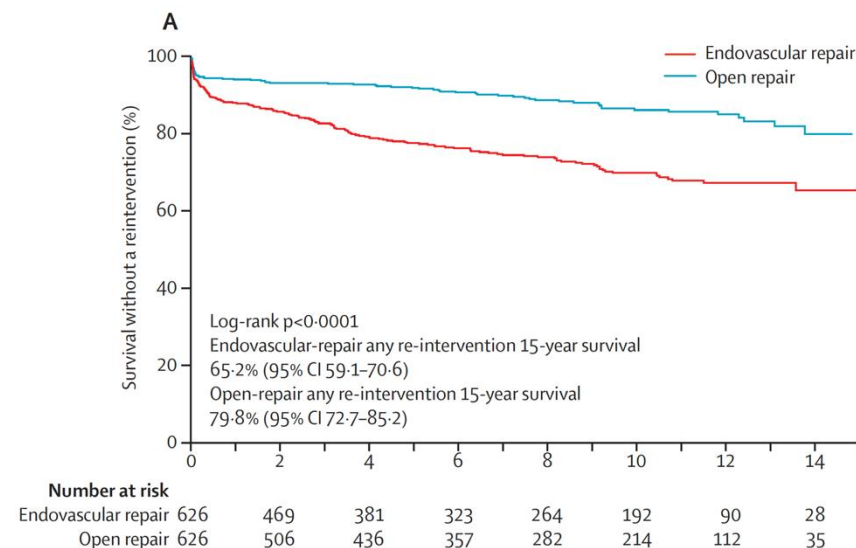
2016



	Number at risk							
	0	2	4	6	8	10	12	14
Endovascular repair	626	543	474	409	339	263	135	41
Open repair	626	534	464	399	333	257	143	50

Les Procédures Secondaires liées à l'anévrisme, EVAR-1, Suivi 15 ans

	Endovascular repair (n=626)		Open repair (n=626)	
	n/N (%)	Rate per 100 person-years	n/N (%)	Rate per 100 person-years
Any re-intervention				
All patients	164/626 (26%)‡	4.1	74/626 (12%)	1.7
0-6 months	67/626 (11%)	23.7	36/626 (6%)	12.5
>6 months to 4 years	56/536 (10%)	3.5	9/559 (2%)	0.5
>4-8 years	21/381 (6%)	1.6	16/436 (4%)	1.1
>8 years	20/264 (8%)	2.3	13/282 (5%)	1.3



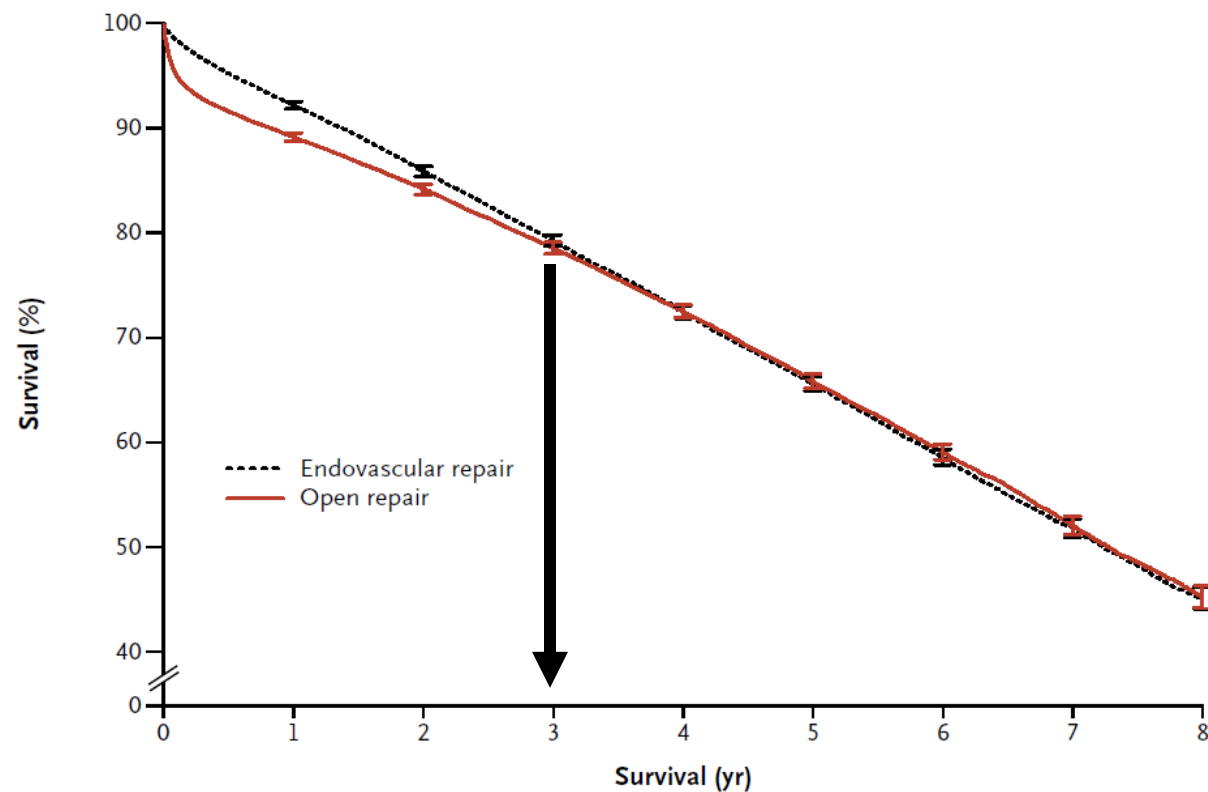
	ENDO	CHIR
Procédure Secondaire	26%	12%

ORIGINAL ARTICLE

Long-Term Outcomes of Abdominal Aortic Aneurysm in the Medicare Population

Marc L. Schermerhorn, M.D., Dominique B. Buck, M.D.,
A. James O'Malley, Ph.D., Thomas Curran, M.D., John C. McCallum, M.D.,
Jeremy Darling, B.A., and Bruce E. Landon, M.D., M.B.A.

- 39 966 patients, suivi 8 ans
- **Taux de Re-intervention 18.8%**
- Rupture d'anévrisme 5.4%
- **Survie à 8 ans ≈ 50%**



National Institute for Health and Care Excellence

Draft for consultation

Abdominal aortic aneurysm: diagnosis and management

Evidence review K: Effectiveness of endovascular aneurysm repair, open surgical repair and non-surgical management of unruptured abdominal aortic aneurysms

NICE guideline <number>

Evidence reviews

May 2018

The screenshot shows the 'vascularnews' website. The main article is titled 'Draft NICE aortic guidelines cause endovascular controversy' and is dated 16th January 2019 with 2148 views. To the right is a Medtronic advertisement for the Valiant Navion™ Thoracic Stent Graft System, highlighting its 'Low Profile: 18 Fr O.D.' and a 'LEARN MORE' button. A red arrow points to the article from the advertisement area.

The slide features the 'LIVE 2019' logo (Leading, Innovative, Vascular, Education) and the text: 'The proposed NICE guideline is irrational and will not gain wide acceptance'. It includes logos for WITS UNIVERSITY and the FACULTY OF HEALTH SCIENCES. A small inset image shows a speaker at a podium with the name 'Martin Veller'.

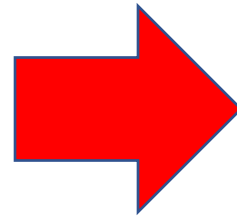
Abdominal aortic aneurysm: diagnosis and management

Evidence review K: Effectiveness of
endovascular aneurysm repair, open surgical
repair and non-surgical management of
unruptured abdominal aortic aneurysms

NICE guideline <number>

Evidence reviews

May 2018



SPECIAL ARTICLE | VOLUME 72, ISSUE 6, P2145-2148,
DECEMBER 01, 2020

A new randomized controlled trial on abdominal aortic aneurysm repair is needed

Konstantinos Spanos, MD, MSc, PhD,^{a,b} Christian-Alexander Behrendt, MD,^b
George Kouvelos, MD, MSc, PhD,^a Athanasios D. Giannoukas, MD, MSc, PhD, FEBVS,^a and
Tilo Kölbel, MD, PhD,^b Larissa, Greece; and Hamburg, Germany

477 Recommendations

- 478 K1. For people with unruptured AAAs meeting criteria in 1.5.1, offer open surgical repair
479 unless there are anaesthetic or medical contraindications.
- 480 K2. Do not offer EVAR to people with an unruptured infrarenal AAA if open surgical repair is
481 suitable.
- 482 K3. Do not offer EVAR to people with an unruptured infrarenal AAA if open surgical repair is
483 unsuitable because of their anaesthetic and medical condition

Cardiovasc Intervent Radiol (2020) 43:169–171
<https://doi.org/10.1007/s00270-019-02361-z>

EDITORIAL

Is This the End for EVAR?

Raman Uberoi¹  • Michael Jenkins²

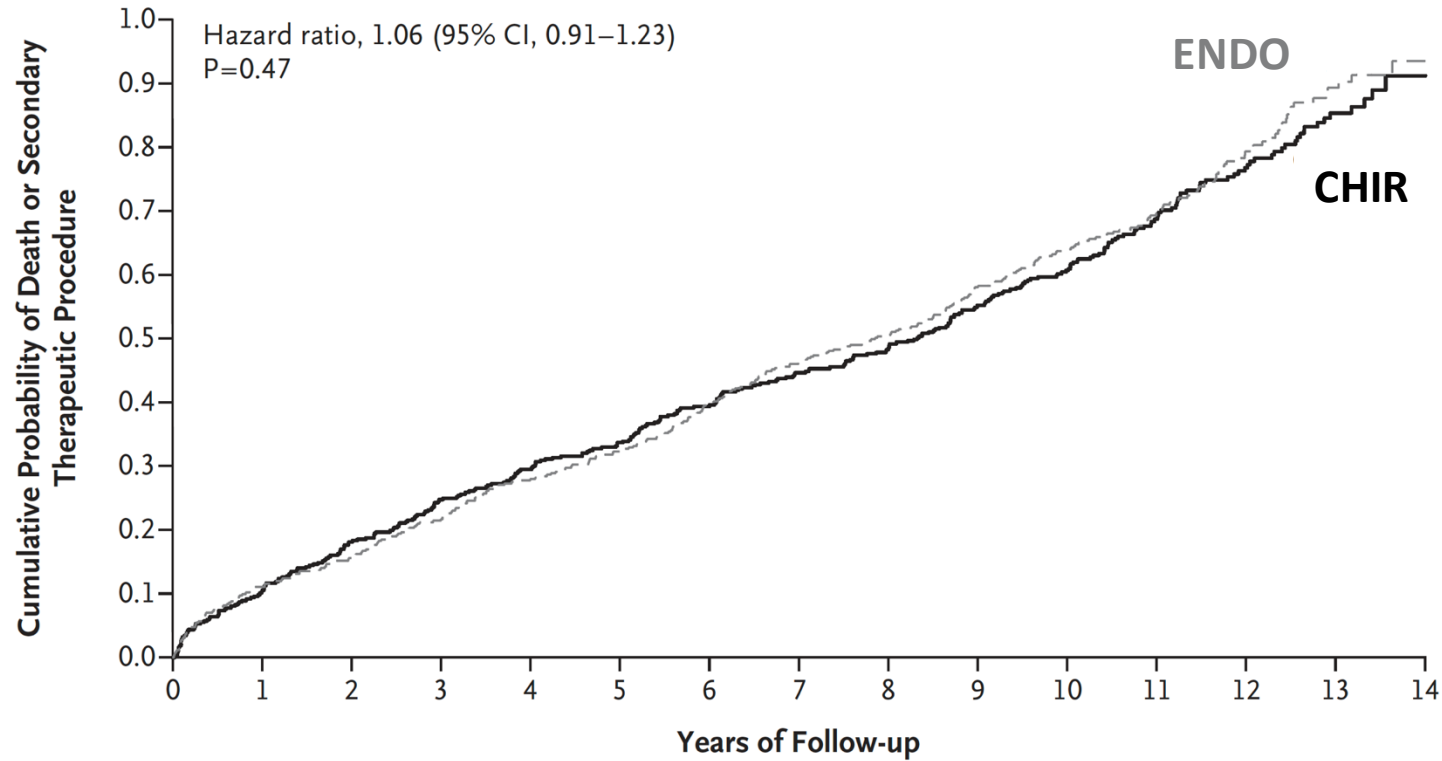
↳ Abandon totale des endoprothèses sous rénales en électif

ORIGINAL ARTICLE

2019

Open versus Endovascular Repair of Abdominal Aortic Aneurysm

Décès ou procédure secondaire



No. at Risk

Open repair	437	386	347	314	308	290	265	242	225	194	152	89	47	19	1
Endovascular repair	444	395	375	349	319	300	266	238	219	184	136	90	40	12	2



NICE abdominal aortic aneurysm guideline takes an “unprecedented” turn

14th August 2019 1927



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Valiant Navion™
Thoracic Stent Graft System

Low Profile:
18 Fr O.D.

LEARN MORE

UC201806185-01 EE © 2018 Medtronic.

Medtronic

Most read in past 7 days



Increased mortality in females after TEVAR points to importance of gender...

23rd June 2017



MagicTouch AVF sirolimus-coated balloon granted FDA



Abdominal aortic aneurysm: diagnosis and management

NICE guideline [NG156] Published: 19 March 2020

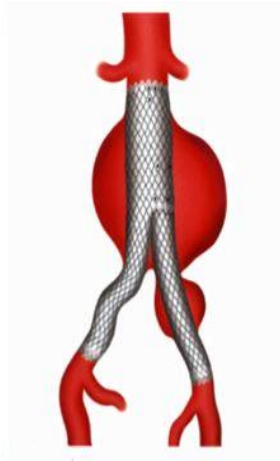
Open surgical repair, standard endovascular aneurysm repair or conservative management

- 1.5.3 Offer open surgical repair for people with unruptured AAAs meeting the criteria in recommendation 1.5.1, unless it is contraindicated because of their abdominal copathology, anaesthetic risks, and/or medical comorbidities.
- 1.5.4 Consider endovascular aneurysm repair (EVAR) for people with unruptured AAAs who meet the criteria in recommendation 1.5.1 and who have abdominal copathology, such as a [hostile abdomen](#), horseshoe kidney or a stoma, or other considerations, specific to and discussed with the person, that may make EVAR the preferred option.
- 1.5.5 Consider EVAR or conservative management for people with unruptured AAAs meeting the criteria in recommendation 1.5.1 who have anaesthetic risks and/or medical comorbidities that would contraindicate open surgical repair.

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

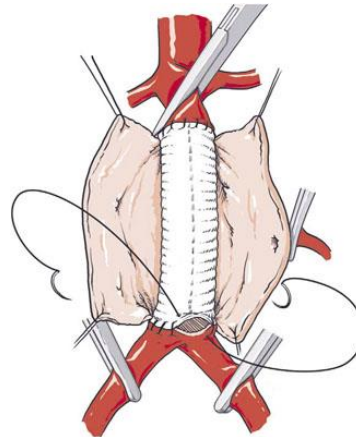
Recommendation 60		
In most patients with suitable anatomy and reasonable life expectancy, endovascular abdominal aortic aneurysm repair should be considered as the preferred treatment modality		
Class	Level	References
IIa	B	[7,22,341,293,352,52,53,359,23,357,343,28,345,11,361,29,344,30,342,360,350,203,204,351]

Espérance de vie raisonnable
et anatomie compatible



Recommendation 61		
In patients with long life expectancy, open abdominal aortic aneurysm repair should be considered as the preferred treatment modality		
Class	Level	References
IIa	B	[21,22,341,23,343,28,345,29,344,30,342]

Espérance de vie longue



Recommendation 62		
In patients with limited life expectancy, elective abdominal aortic aneurysm repair is not recommended		
Class	Level	References
III	B	[52,53,203,204]

Pararenal aortic aneurysm repair using fenestrated endografts

Matteus A. M. Linsen, MD,^a Vincent Jongkind, MD,^a Denise Nio, MD,^b Arjan W. J. Hoksbergen, MD,^a and Willem Wisselink, MD,^a *Amsterdam and Hoofddorp, The Netherlands*

JVS, 2012

Période: 2006 – 2011

9 études, 629 patients, 1622 vaisseaux cibles

Suivi moyen: 15 à 25 mois



Principaux Résultats (1)

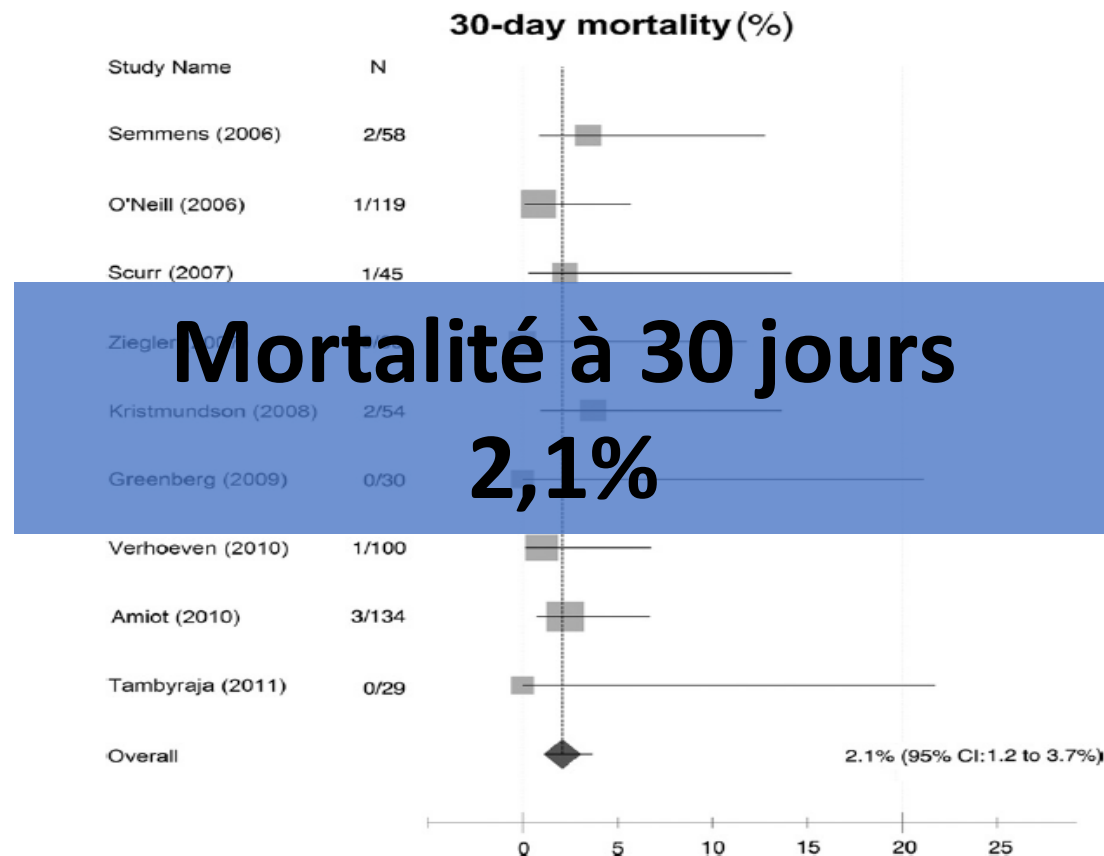
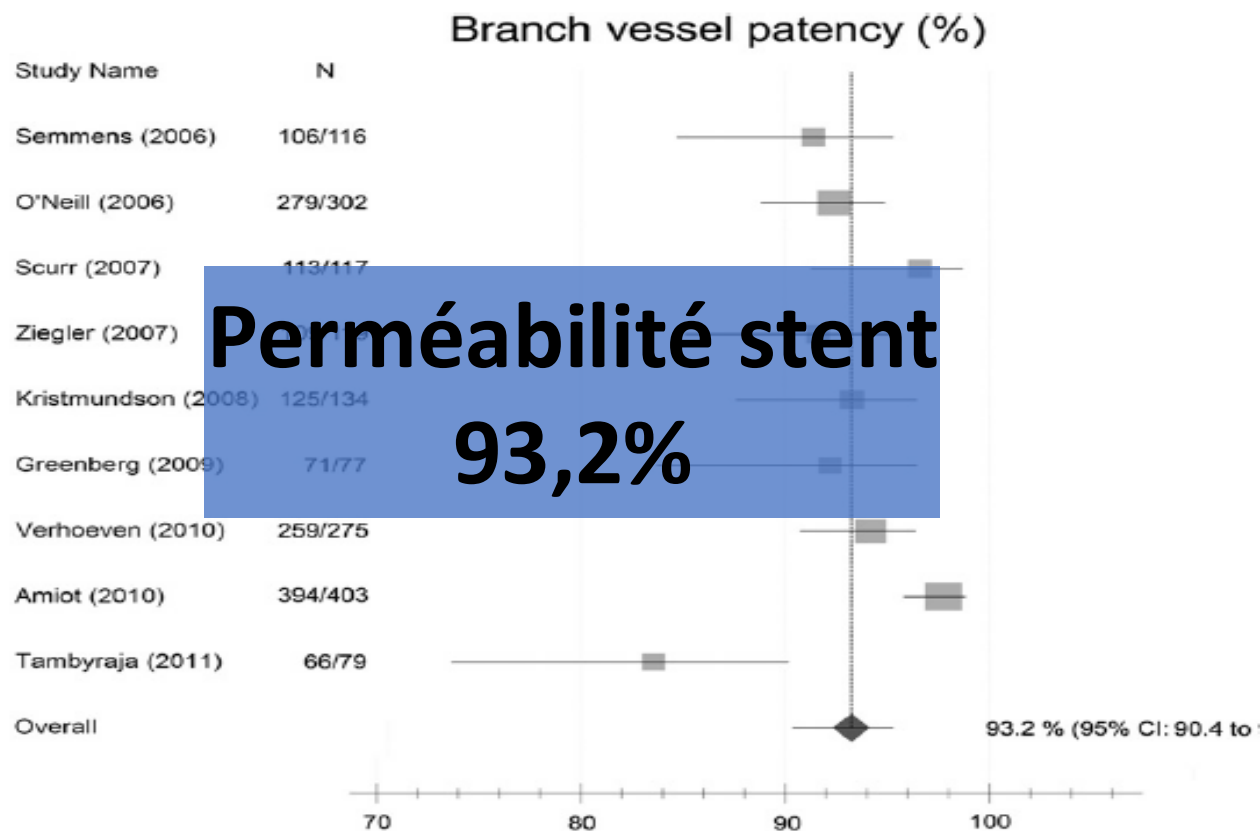


Fig 3. Forest plot shows 30-day mortality for all studies. *CI*, Confidence interval.

Principaux Résultats (2)



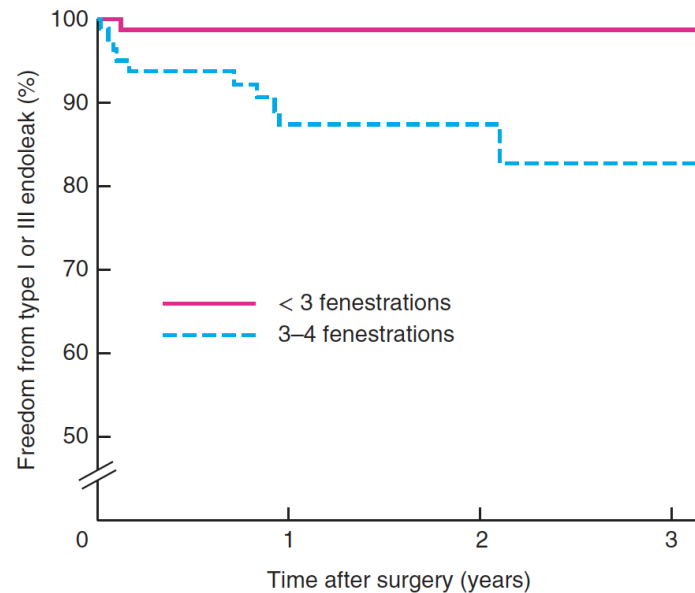
Perméabilité stent
93,2%

Taux
de
Ré-intervention
17%

Long-term follow-up of fenestrated endovascular repair for juxtarenal aortic aneurysm

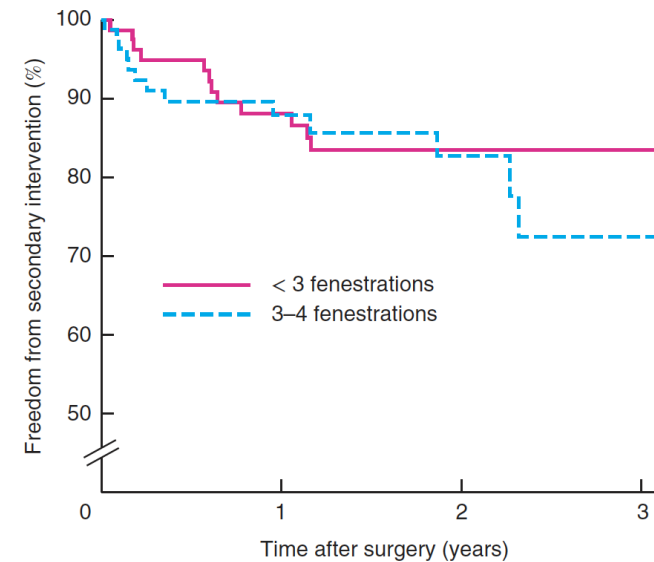
I. N. Roy^{1,3} , A. M. Millen¹, S. M. Jones¹, S. R. Vallabhaneni^{1,3}, J. R. H. Scurr¹, R. G. McWilliams², J. A. Brennan¹ and R. K. Fisher¹

Suivi moyen 34 mois
Mortalité liée à l'anévrisme 0%
Procédure secondaire 20%
Accroissement de l'anévrisme 20%



No. at risk	0	1	2	3
< 3	83	66	55	44
3-4	90	45	28	15

Fig. 3 Freedom from type I or III endoleak following fenestrated endovascular aneurysm repair in a single UK centre in relation to number of fenestrations in stent-graft. $P < 0.001$ (log rank test)



No. at risk	0	1	2	3
< 3	83	58	46	37
3-4	90	45	27	13

Fig. 4 Freedom from secondary intervention following fenestrated endovascular aneurysm repair in a single UK centre in relation to number of fenestrations in stent-graft. $P = 0.508$ (log rank test)

Long-term outcomes after fenestrated endovascular aortic repair for juxtarenal aortic aneurysms

Magnus Sveinsson, MD,^{a,b} Björn Sonesson, MD, PhD,^b Thorarinn Kristmundsson, MD, PhD,^{b,c} Nuno Dias, MD, PhD,^b and Timothy Resch, MD, PhD,^{b,d} Helsingborg and Malmö, Sweden; and Copenhagen, Denmark

94 patients suivi moyen 7 ans
Perméabilité II= 97,5% à 5ans
Réintervention =40% des patients
Mortalité liée à l'anévrisme 3%
1 rupture
2 infections
Augmentation de taille 9%

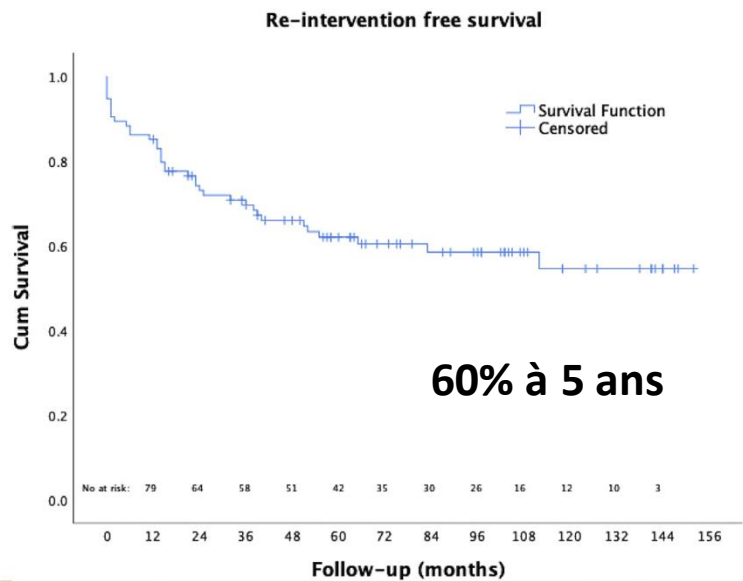


Fig 2. Kaplan-Meier estimate of reintervention-free survival for 94 patients. *Cum*, Cumulative.

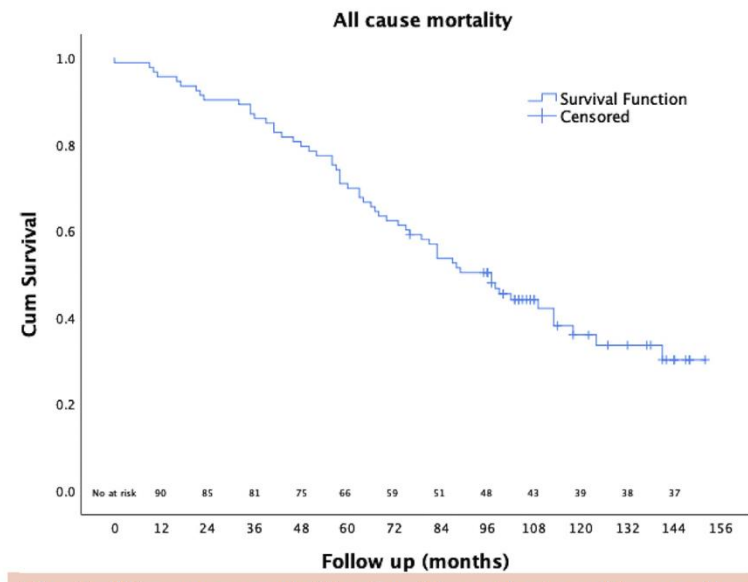
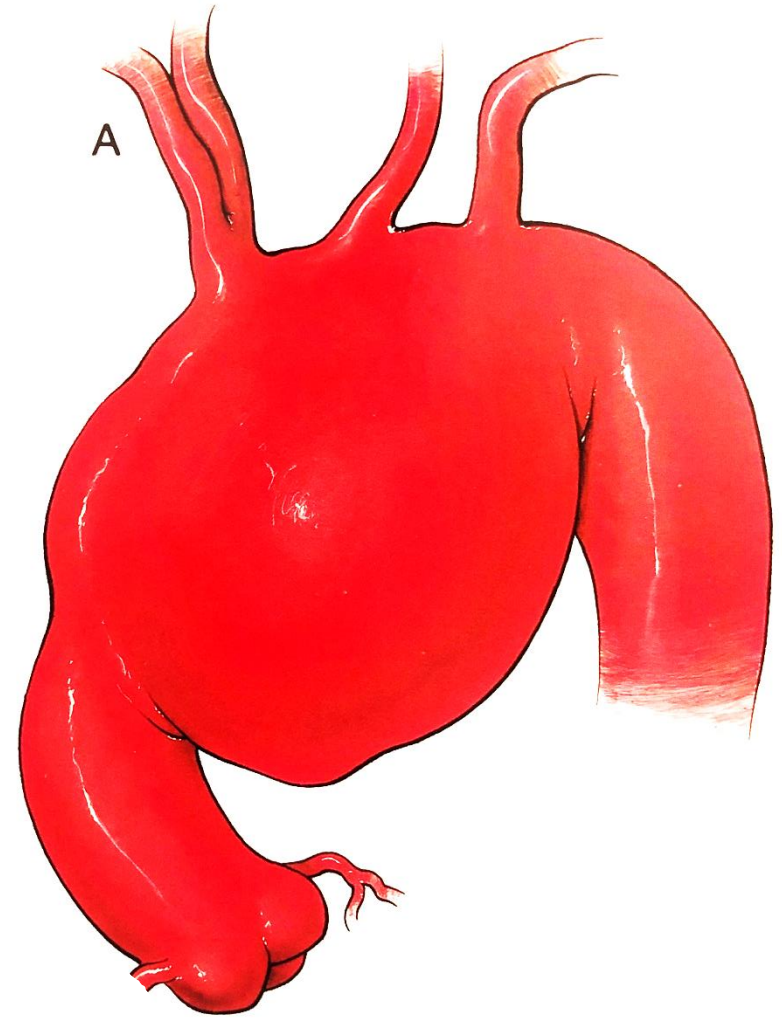
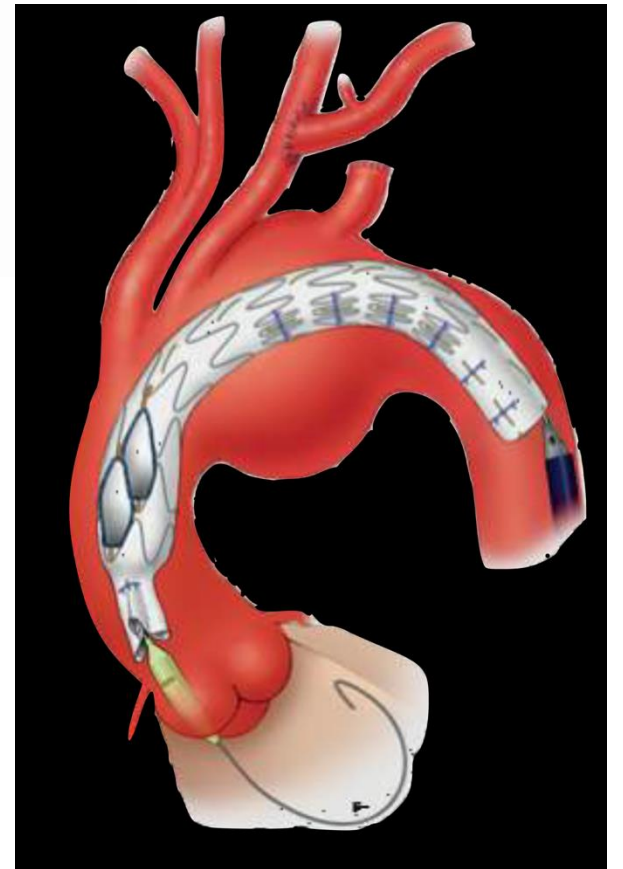
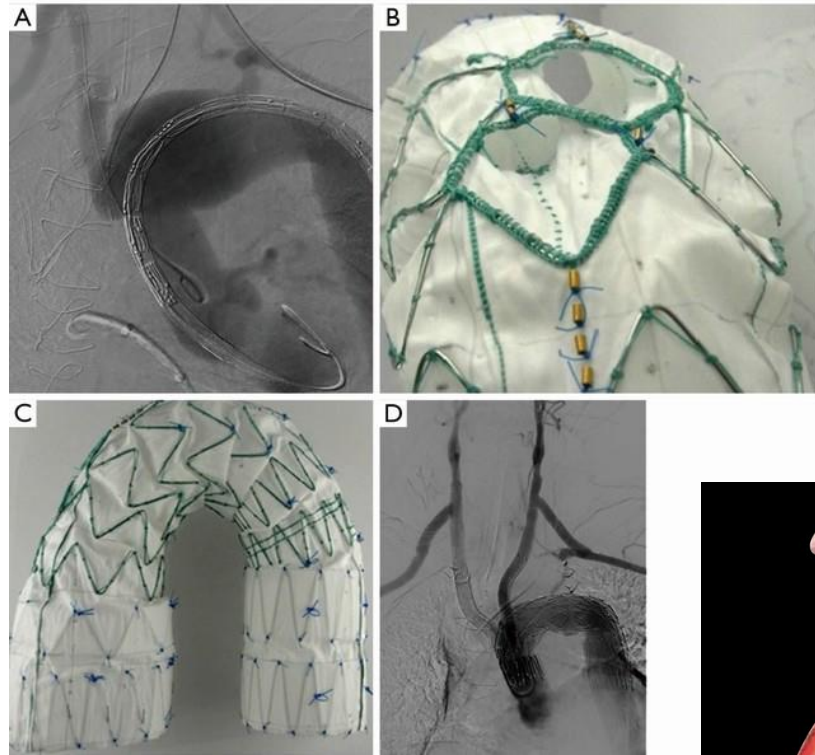
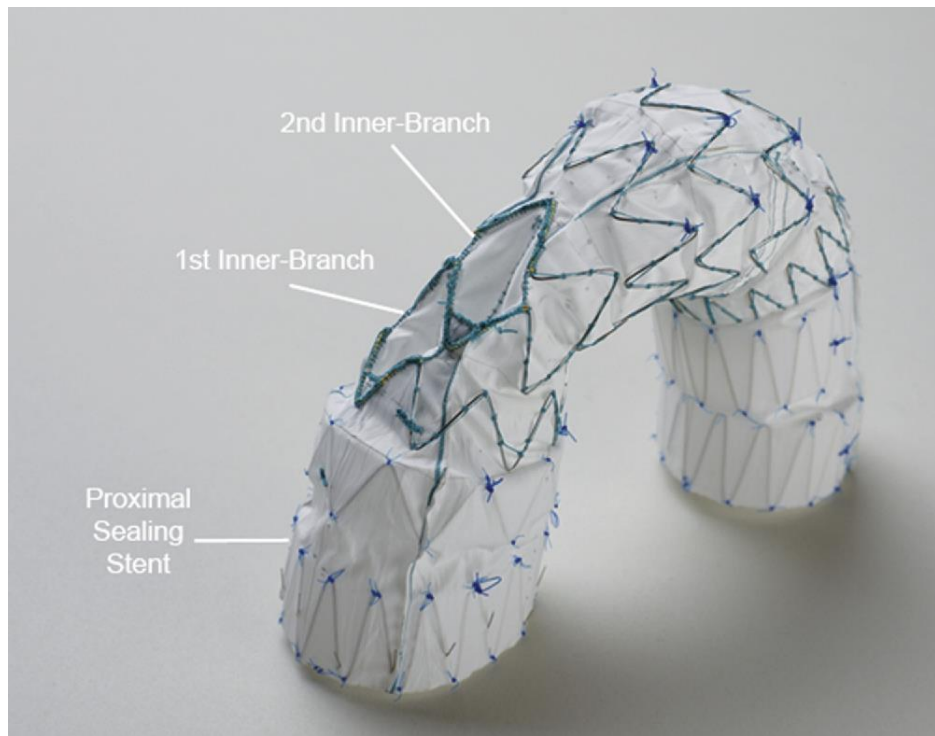


Fig 3. All-cause mortality for 94 patients with median follow-up of 89 months (range, 0-152 months). *Cum*, Cumulative.

• **Take Home Message:** The long-term outcomes after treatment of juxtarenal abdominal aortic aneurysms with fenestrated endovascular aneurysm repair remain good, and the treatment is safe and effective, although the need for reintervention remained high.

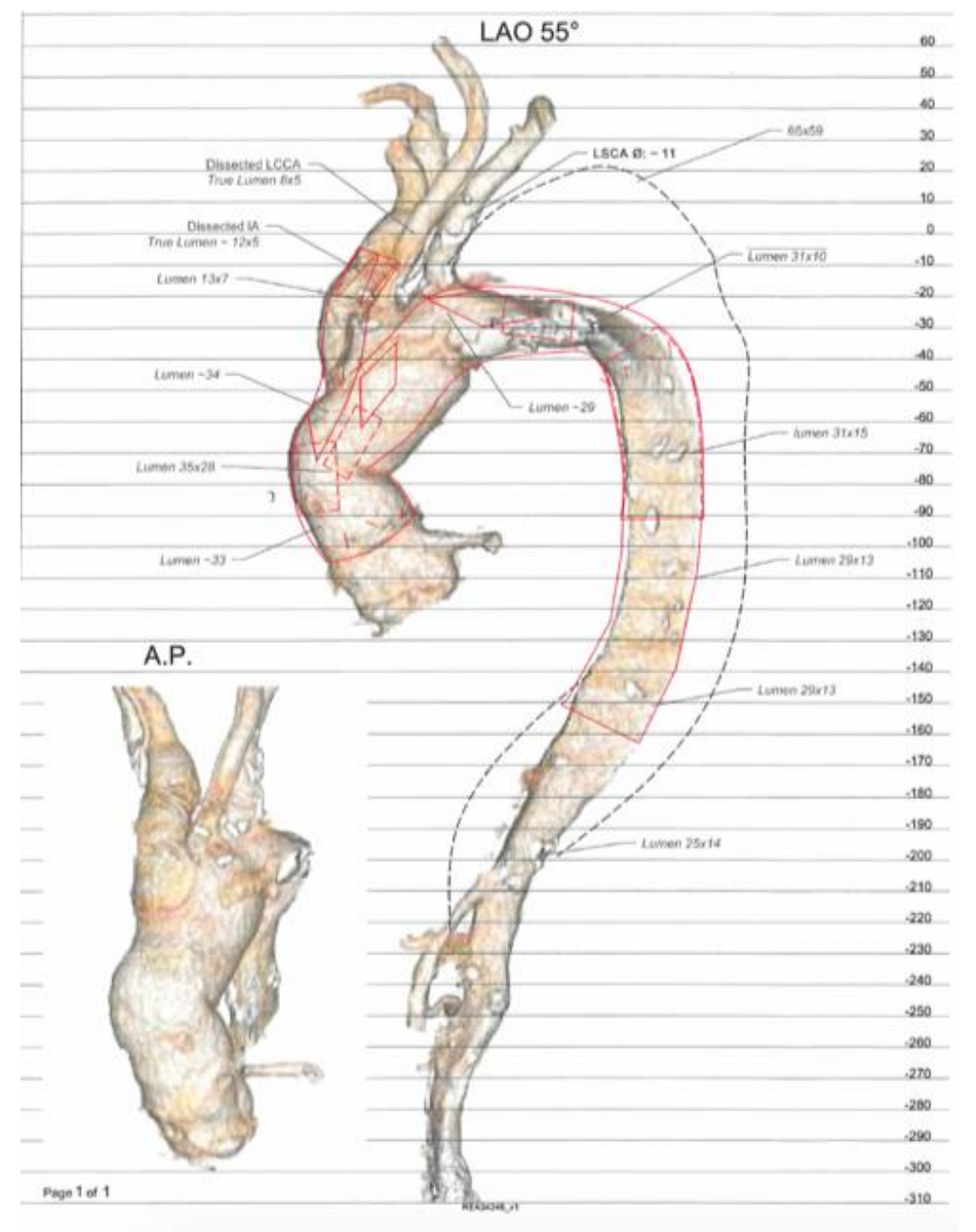
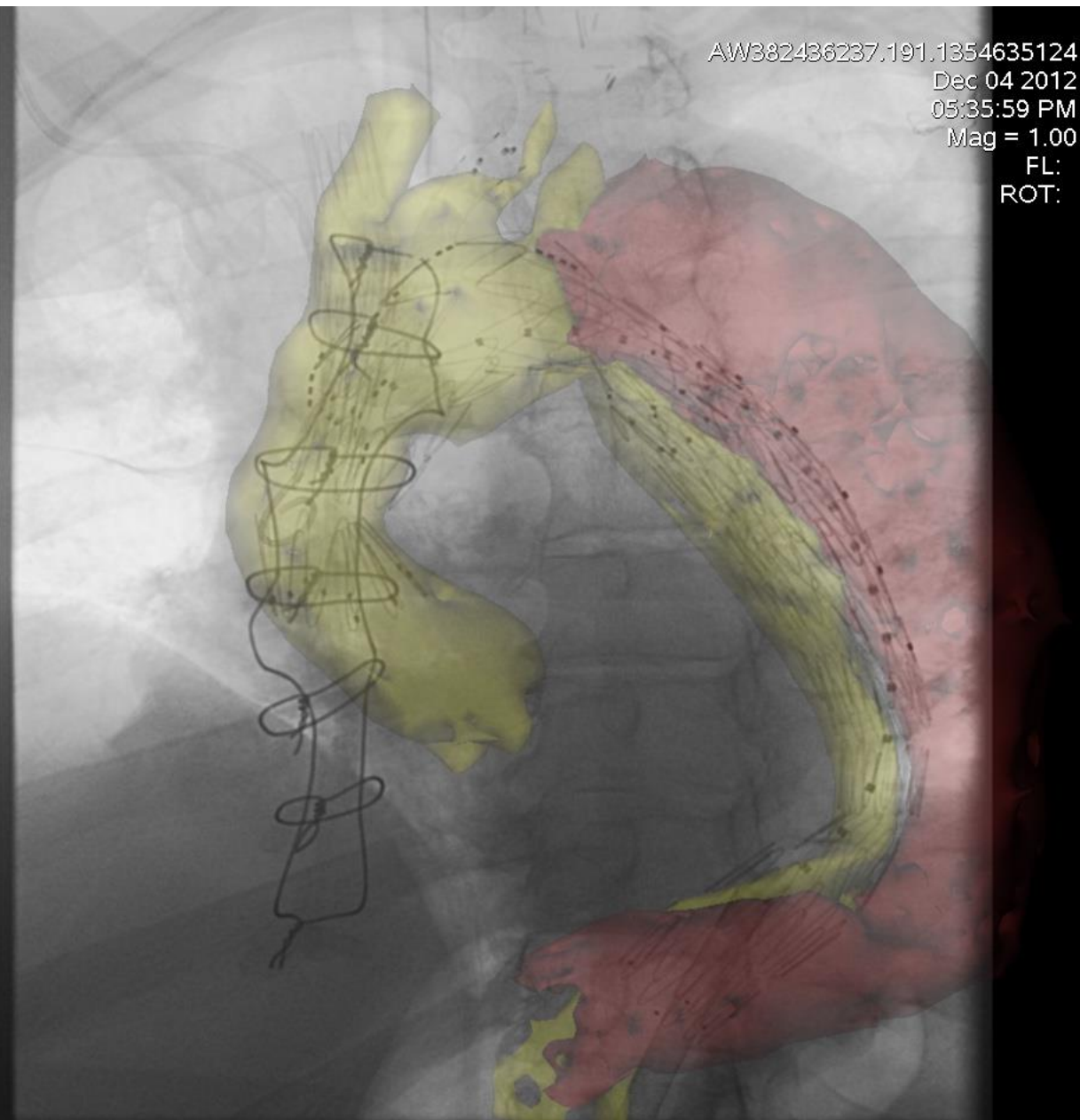
La crosse





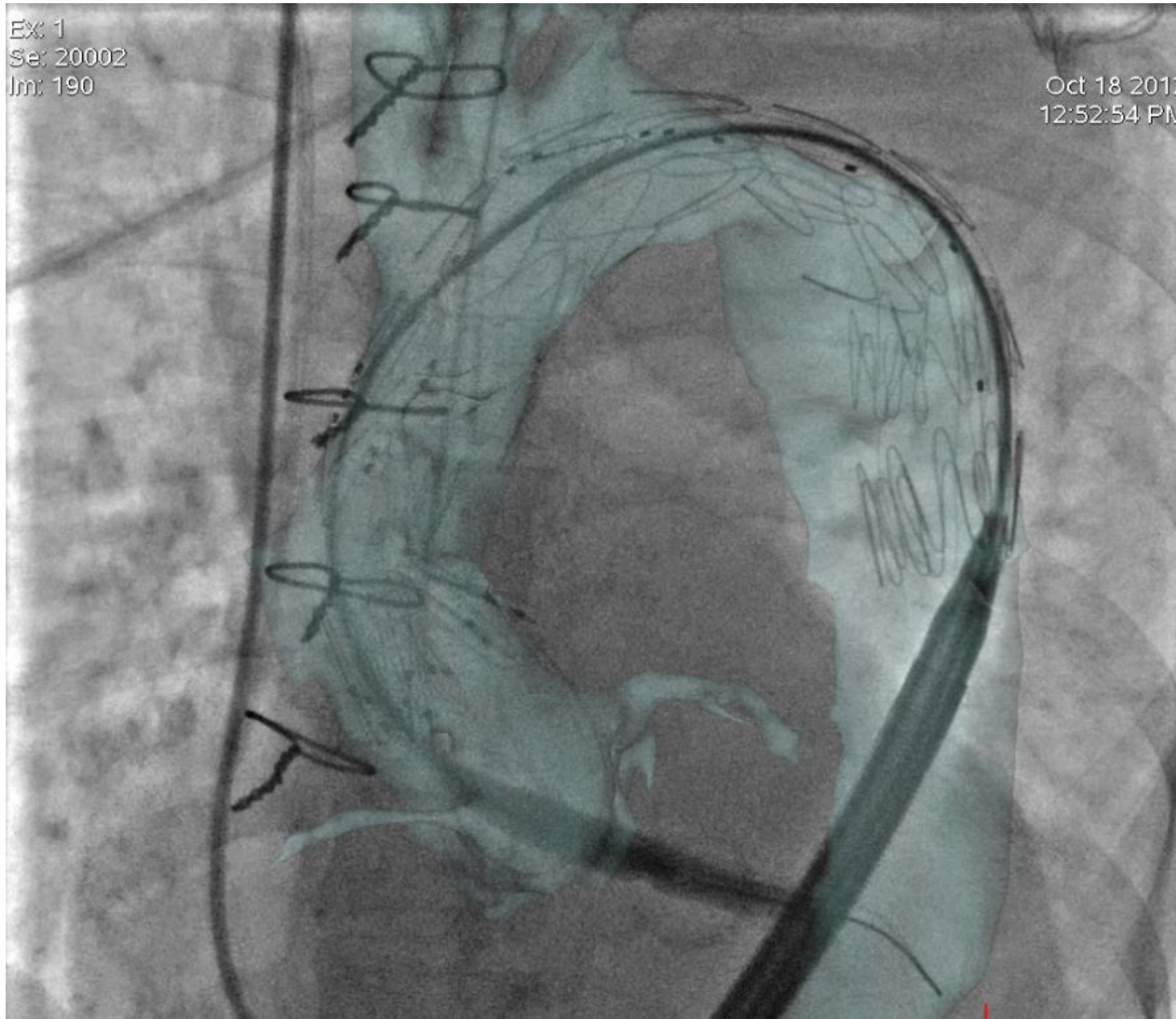
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Se: 5
Im: 1

AW382436237.191.1354635124
Dec 04 2012
05:35:59 PM
Mag = 1.00
FL:
ROT:

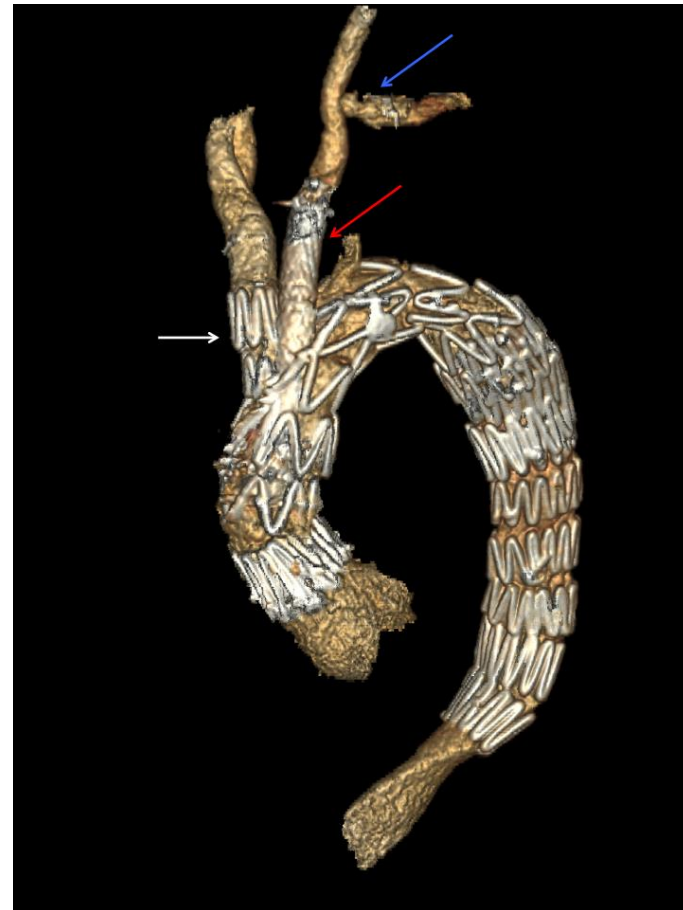


Ex: 1
Se: 20002
Im: 190

Oct 18 2012
12:52:54 PM



Premier Cas à Marseille Aout 2019



REA34244_v2	NON STANDARD DEVICE REQUEST - PROPRIETARY COOK MEDICAL	VERSION 1
Device: BRANCH-ASCENDING-ARCH-DESCENDING-DEVICE Component: G38371 - THORACIC-ASCENDING-BRANCH	PAGE 2 of 5	
<p style="text-align: center; font-size: x-small;">ANTERIOR VIEW</p>	<p style="text-align: center; font-size: x-small;">LATERAL VIEW</p>	<p style="font-size: x-small;">INTERNAL LOW PROFILE SIDEBRANCH #1 DIAMETER: 12mm LENGTH: 21mm DIST FROM PROX EDGE: 59mm CLOCK: 12:30</p> <p style="font-size: x-small;">INTERNAL LOW PROFILE SIDEBRANCH #2 DIAMETER: 8mm LENGTH: 21mm DIST FROM PROX EDGE: 79mm CLOCK: 11:30</p> <ul style="list-style-type: none"> 2 sets of DIAMETER REDUCING TIES SPIRAL STABILISING WIRE LOW PROFILE FABRIC STAGED RELEASE CURVED NITINOL CANNULA & FLEXOR SHEATH NO STANDARD GOLD MARKERS ON PROXIMAL EDGE OF GRAFT 35MM INTRODUCER TIP <p style="font-size: x-small;">Plus: ZTA-PT-36-32-209</p>
<p>SIDEBRANCH 1 & 2 INTERNAL LOW PROFILE SIDEBRANCH with STRAIGHT NITINOL WIRE</p> <p style="font-size: x-small;">Lateral view **See graft for gold marker placement</p>		
<p>Please note the following: 1. By signing this graft plan you are confirming that the patient has consented to the provision of their personal information to Cook Medical. The patient understands that in order to plan and manufacture the requested device, Cook Medical may share his/her personal information with other Cook Group companies in the United States, Australia, Denmark, United Kingdom and Ireland and has consented to his/her personal information being so shared. 2. You are confirming that all clinically important features (eg. fenestration size / orientation, gold marker placement, sealing stents) are included in this graft design prior to your approval. 3. Unsigned plans or alterations may lead to a delay in the supply of this device. Please sign and date each page. If you wish to alter any part of this plan please initial and date each change.</p>		
Sheath Size: 24FR FLEXOR O.D.: 9.1mm Sheath Length: 100cm	Patient ID: _____ Doctor: Prof. BARTOLI Hospital: La Timone, Marseille, France	E No.: AE62900
UK-SN _____ Not to scale	Drawn - SC _____ All Dimensions shown are in mm	Date: 18-Jun-19 Drs Signature: _____ Date: 21 juin 2019

Editor's Choice — Subsequent Results for Arch Aneurysm Repair with Inner Branched Endografts,

R. Spear ^a, S. Haulon ^{a,*}, T. Ohki ^b, N. Tsilimparis ^c, Y. Kanaoka ^b, C.P.E. Milne ^a, S. Debus ^c, R. Takizawa ^b, T. Kölbel ^c

^a Aortic Centre, CHRU Lille, France

^b Vascular Surgery, Jikei University, Tokyo, Japan

^c German Aortic Center, University Heart Center Hamburg, Germany

**Tous les patients étaient
contre indiqués à la
chirurgie conventionnelle**

Table 3. Comparative analysis (median [Q1–Q3] or *n* [%]).

	Group 1 (<i>n</i> = 38)	Group 2 (<i>n</i> = 27)	<i>p</i>
Procedure			
Length (min)	250 (210–330)	295 (232–360)	.35
X-ray time (min)	46 (32–84)	39.3 (34–61)	.07
Volume of contrast (mL)	150 (95–207)	183 (120–290)	.03
Early post-operative			
Endoleaks	11 (28.9%)	3 (11.1%)	.08
Secondary procedures	4 (10.5%)	4 (14.8%)	.61
Cerebrovascular events	6 (15.8%)	3 (11.1%)	.60
Systemic complications	17 (44.7%)	13 (43.3%)	.79
Mortality	5 (13.2%)	0 (0%)	.05
Follow up (<i>n</i> = 33)			
Endoleaks	3 (9.1%)	2 (7.4%)	.82
Secondary procedures	3 (9.1%)	2 (7.4%)	.82
Mortality	4 (12.1%)	1 (3.7%)	.24
Overall mortality	9 (23.6%)	1 (3.7%)	.02

Group 1: early experience study.⁴

Group 2: current study.

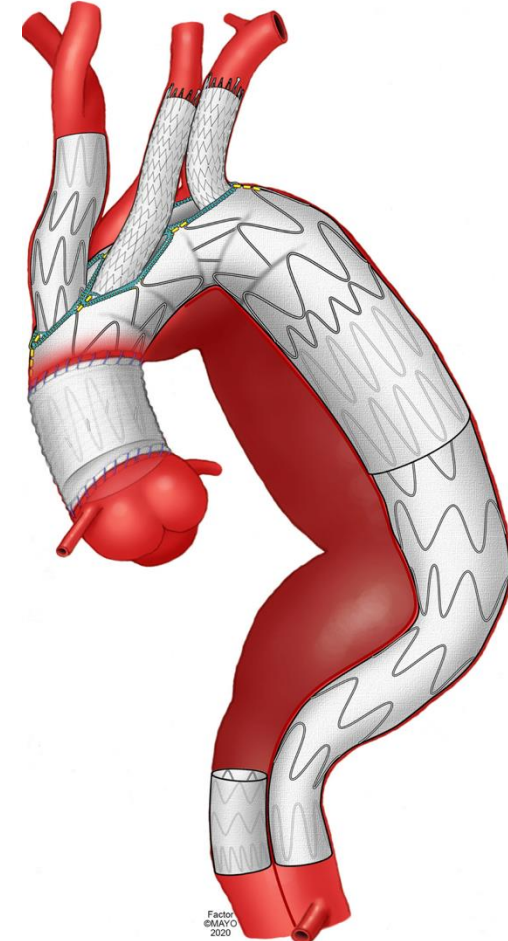
Methods

Faisabilité des endoprothèse de la crosse

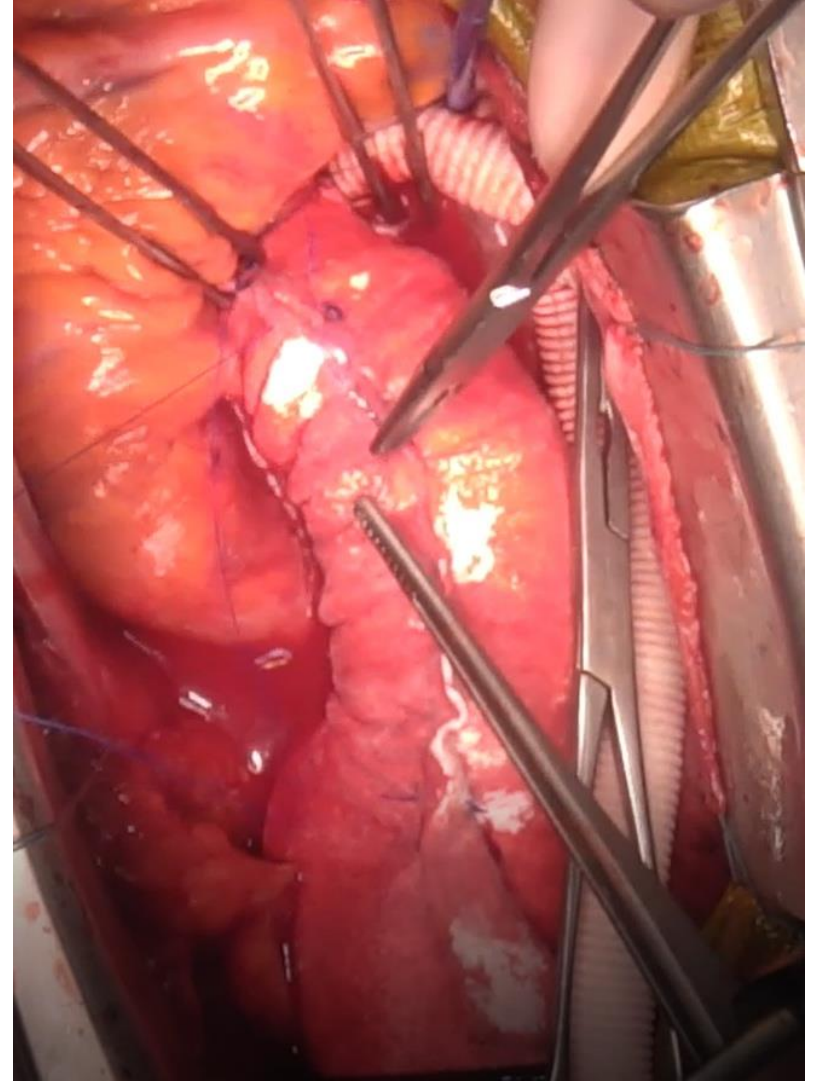
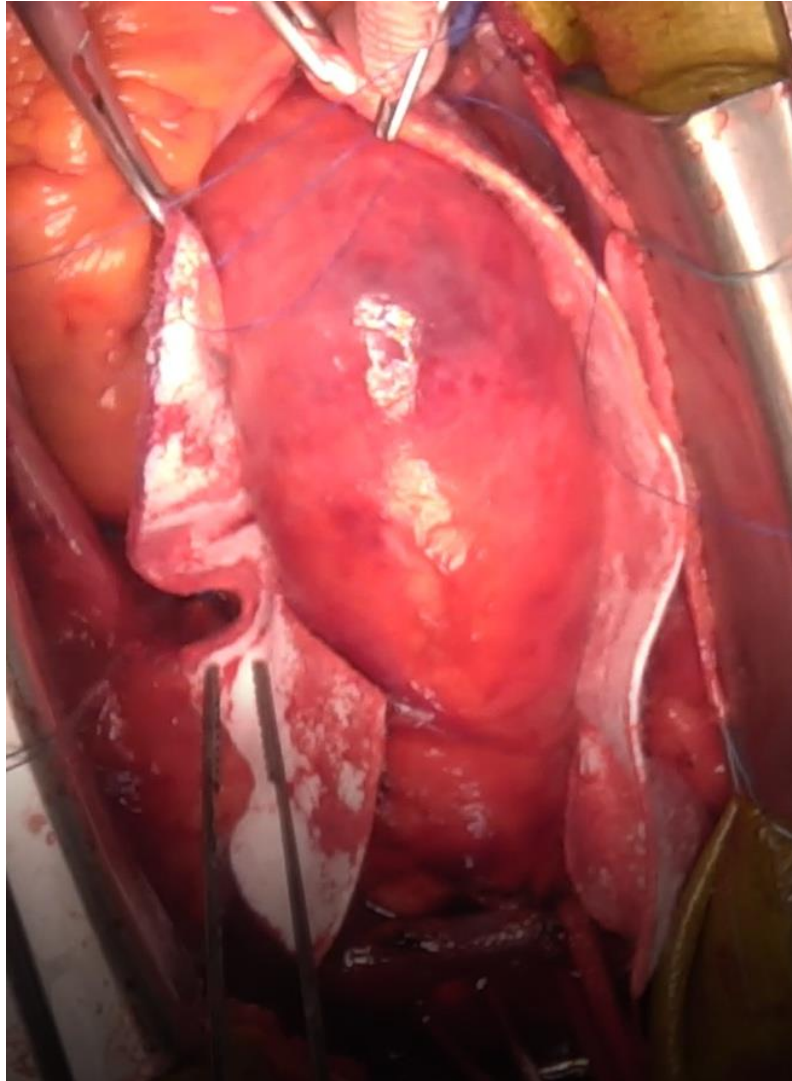
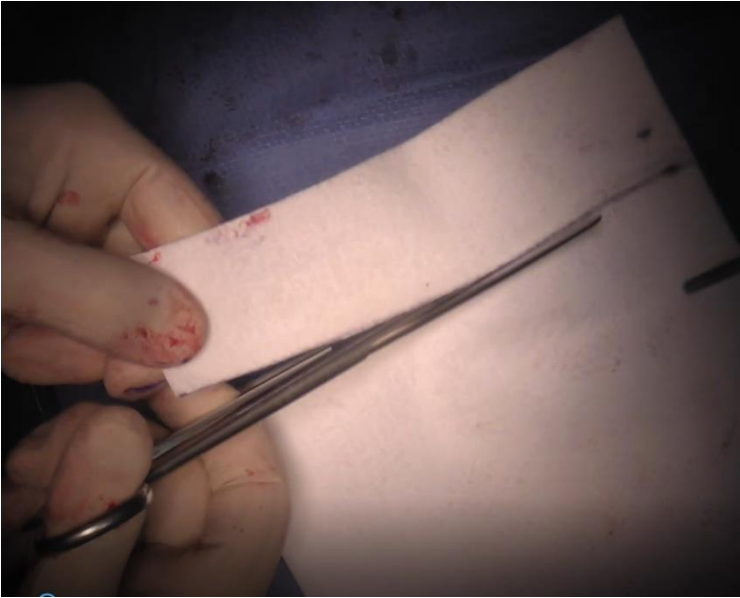
Aorte ascendante de diameter $< 38\text{mm}$

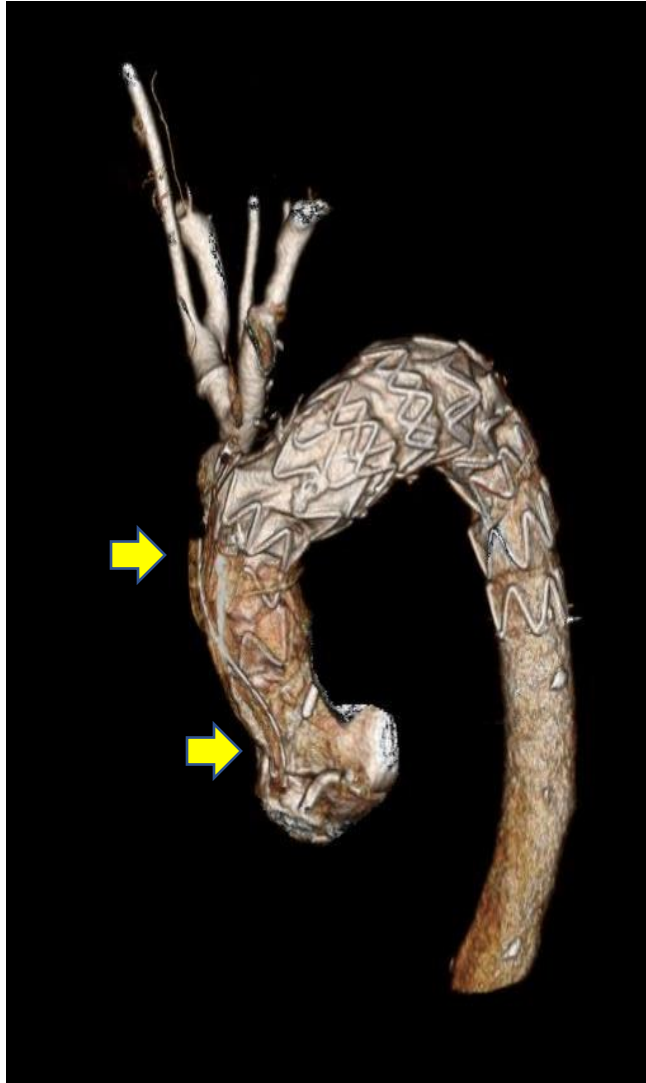
Si ce diamètre est supérieur

- remplacement du segment 1
- wrapping ou banding de l'aorte ascendante



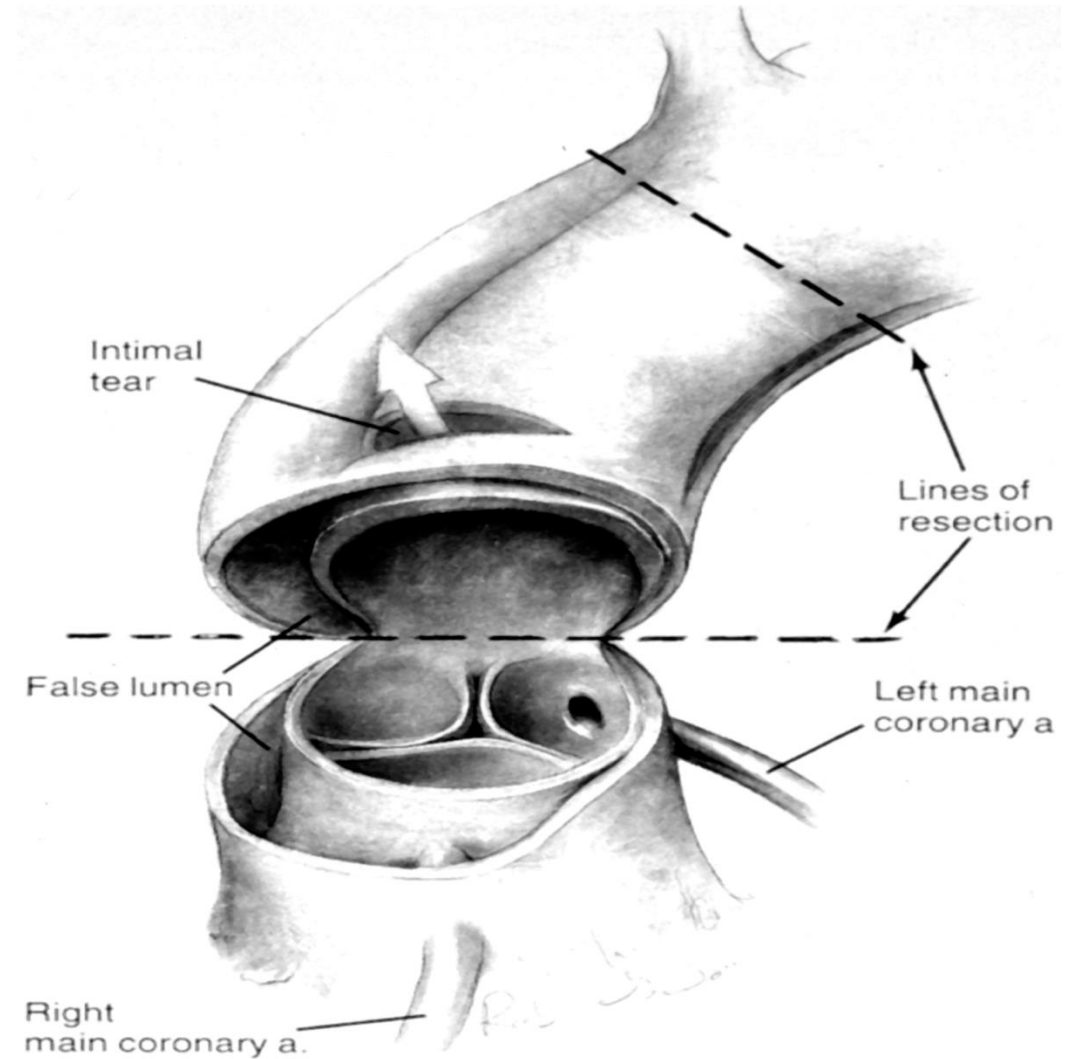
Wrapping (46 → 36mm)





Le segment 1

**Patient contre indiqué
pour la chirurgie
cardiaque**



La Dissection de type A

J ENDOVASC THER
2000;7:506-512

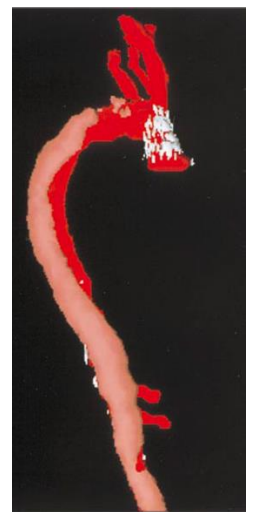
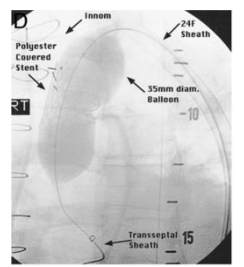
506 J ENDOVASC THER 2000;7:506-512

◆ CASE REPORT ◆

Transseptal Guidewire Stabilization Facilitates Stent-Graft Deployment for Persistent Proximal Ascending Aortic Dissection

Gerald Dorros, MD; Ari M. Dorros, MD; Sara Planton, RN; Daniel O'Hair, MD; and Mahmoud Zayed, MD

The William Dorros-Isadore Feuer Interventional Cardiovascular Disease Foundation and St. Luke's Medical Center, Milwaukee, Wisconsin, USA

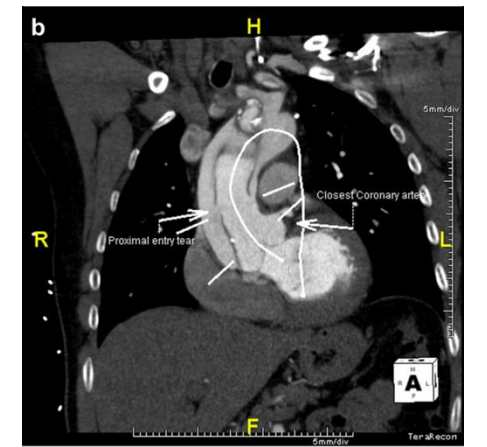
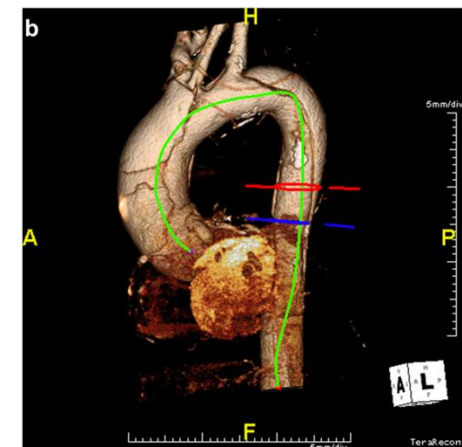


Eur J Vasc Endovasc Surg (2011) 42, 442-447



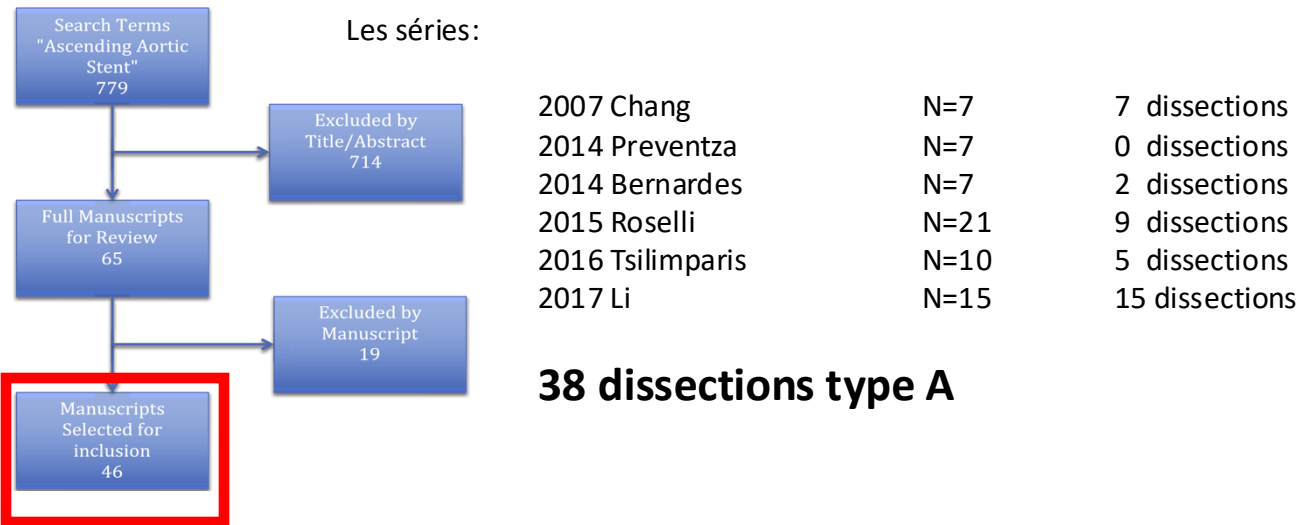
Endovascular Approaches to Acute Aortic Type A Dissection: A CT-Based Feasibility Study

J. Sobocinski^a, N. O'Brien^a, B. Maurel^b, M. Bartoli^c, Y. Goueffic^d, T. Sassard^e, M. Midulla^f, M. Koussa^a, A. Vincentelli^a, S. Haulon^{a,*}



A systematic review of primary endovascular repair of the ascending aorta

Corbin E. Muetterties, MD,^a Rohan Menon, BS,^b and Grayson H. Wheatley III, MD,^c Philadelphia, Pa; Washington, D.C.; and Nashville, Tenn



CONCLUSIONS

Despite the absence of a dedicated stent graft for the ascending aorta, at present, patients with a range of ascending aortic diseases are being successfully treated by endovascular technologies. Surgeons are currently

2018 Li et al: Mid-term Outcomes from A Multicenter Study: Is TEVAR Safe for Ascending Aortic Dissection?

N=56 dissections de type A

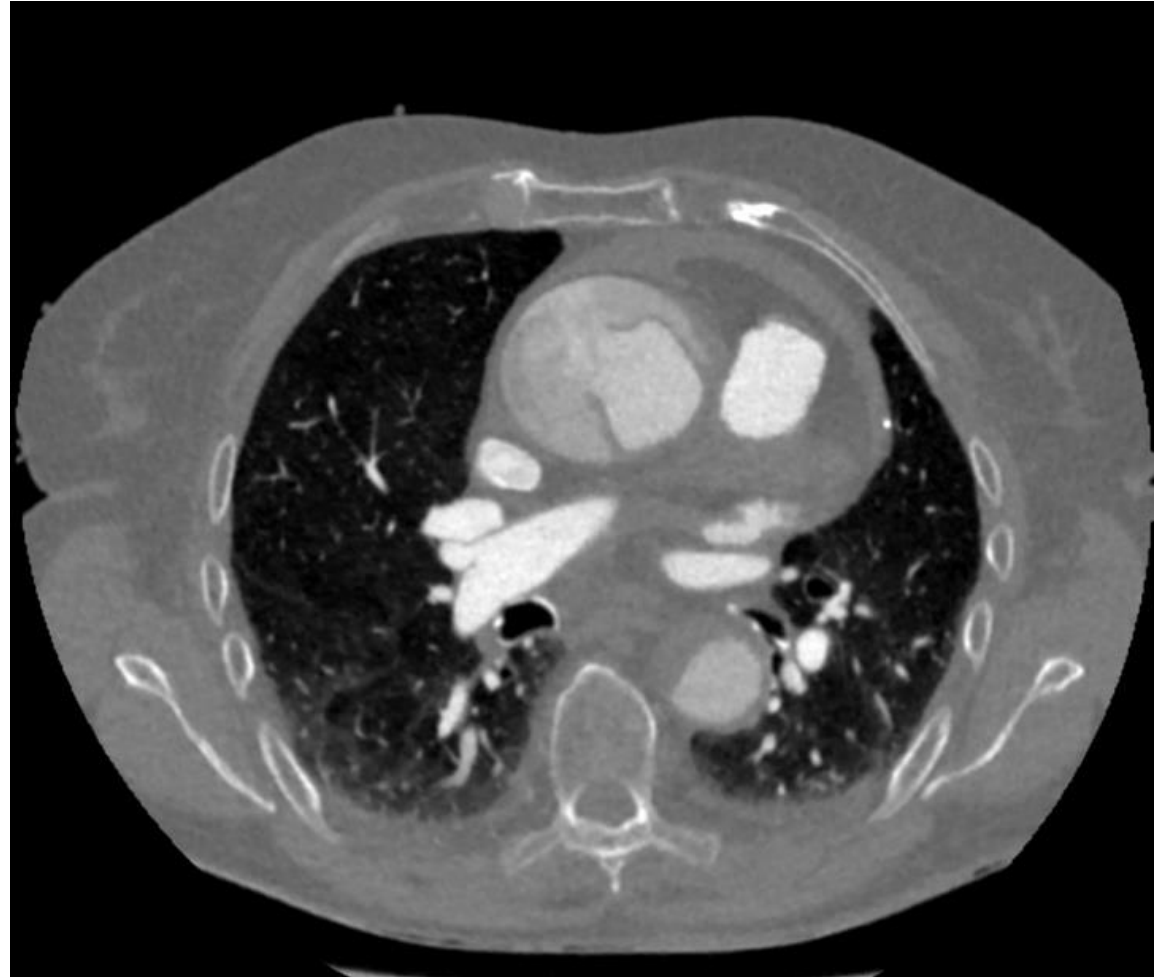
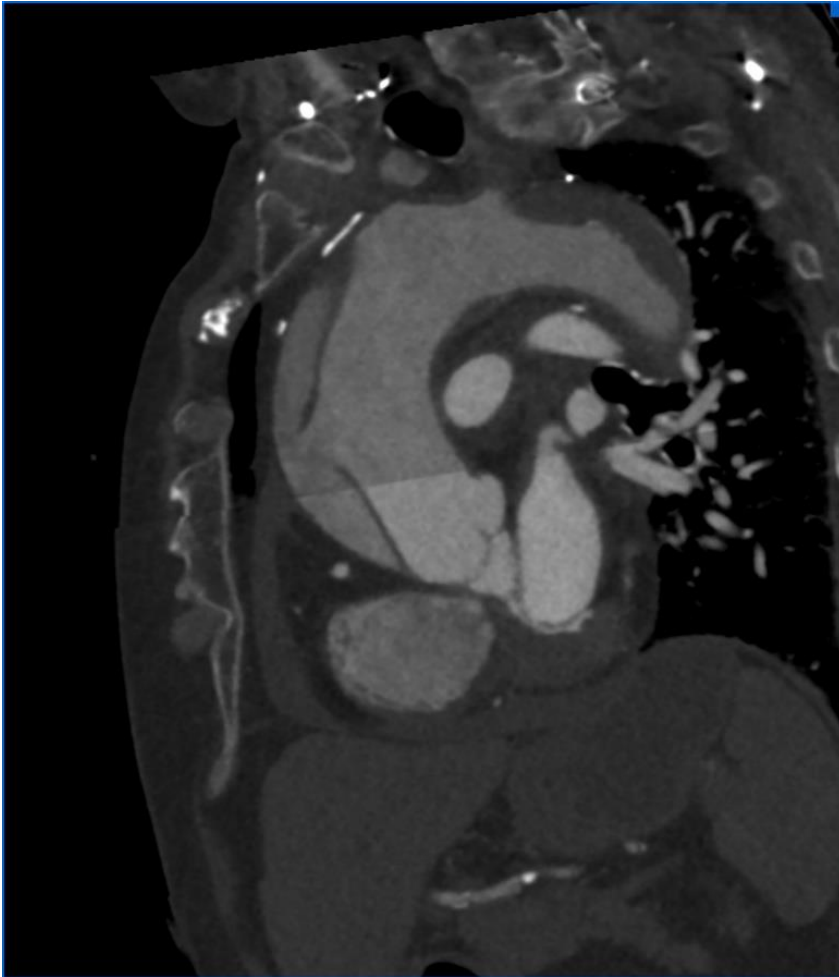
Aigue et subaigue N=37 (65%)

Mortalité à 30 jours 7,1%

Suivi moyen 40 mois

Conclusions: TEVAR could be an effective alternative for high-risk patients. However, issues resulted from postoperative complications still call for attention.

Patiente 84 ans, insuffisante respiratoire



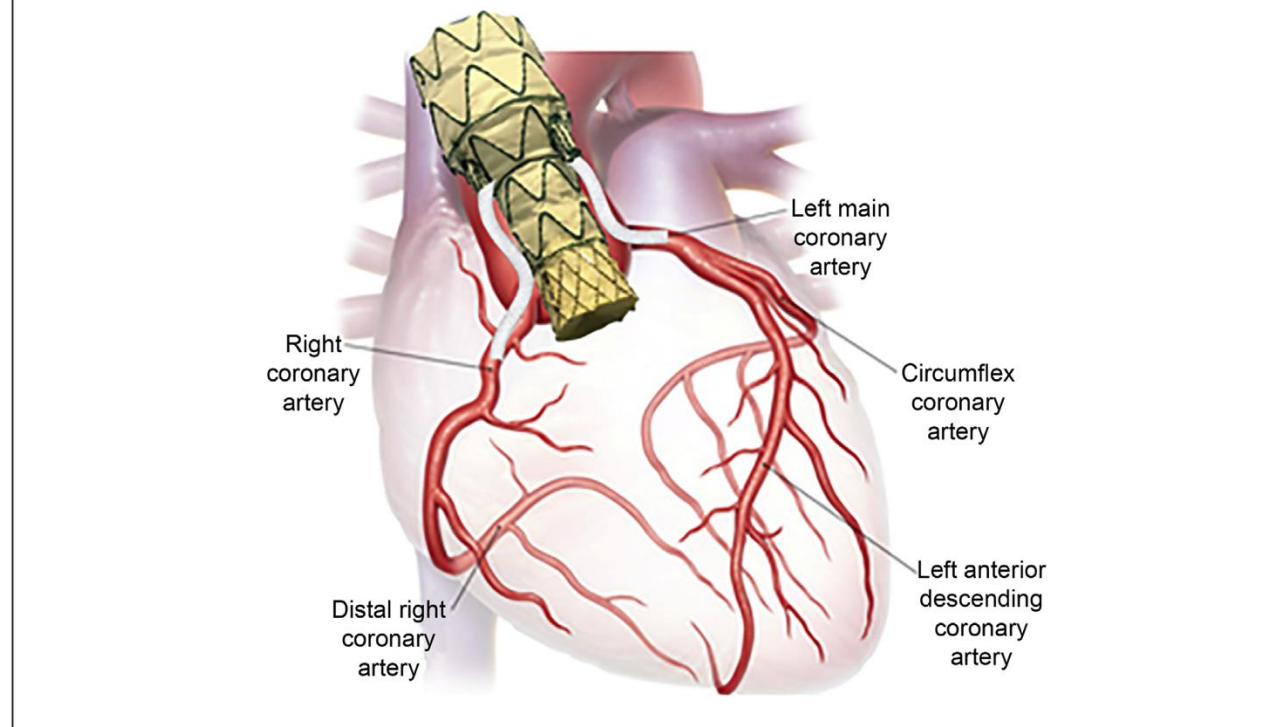
CLINICAL CASE: FIRST IN HUMAN

First-in-Human Endo-Bentall Procedure for Simultaneous Treatment of the Ascending Aorta and Aortic Valve



Diego Felipe Gaia, MD, PhD,^a Oscar Bernal, MD,^b Edilberto Castilho, MD,^a Carolina Baeta Neves Duarte Ferreira, MD,^a Danny Dvir, MD,^c Matheus Simonato, MD,^a José Honório Palma, MD, PhD^a

FIGURE 2 Endo-Bentall Prosthesis Concept Illustrated



Les Dissections de Type B Non Compliquées

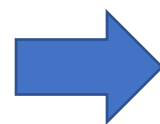


2014 ESC Guidelines on the diagnosis and treatment of aortic diseases



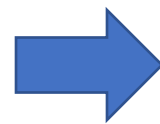
European Heart Journal (2014) 35, 2873–2926
doi:10.1093/eurheartj/ehu281

Medical therapy



Recommendations for treatment of aortic dissection			
Recommendations	Class ^a	Level ^b	Ref. ^c
In all patients with AD, medical therapy including pain relief and blood pressure control is recommended.	I	C	

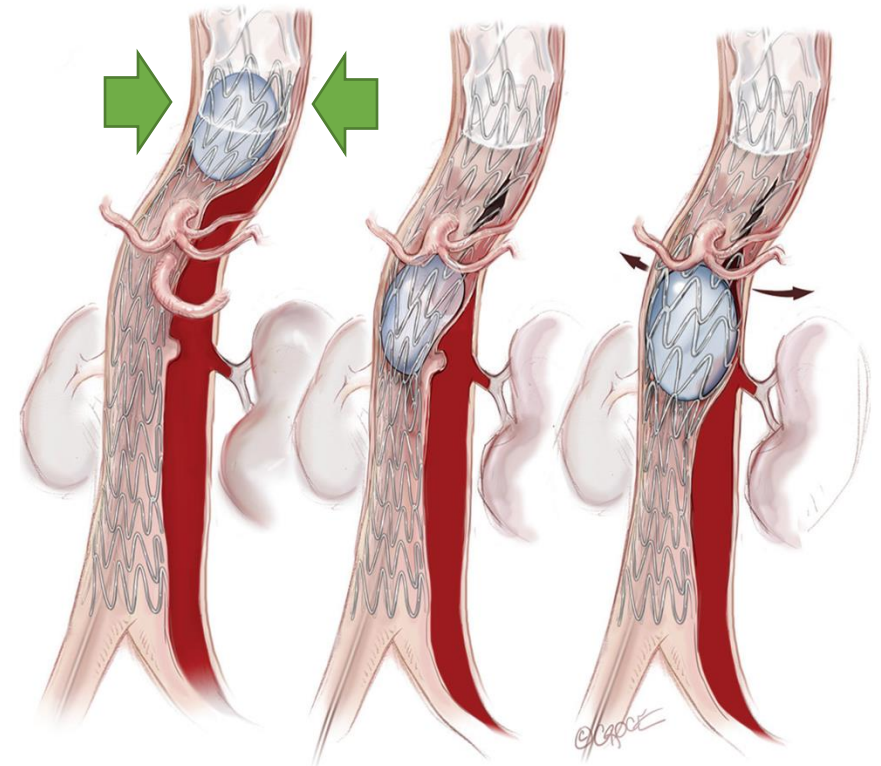
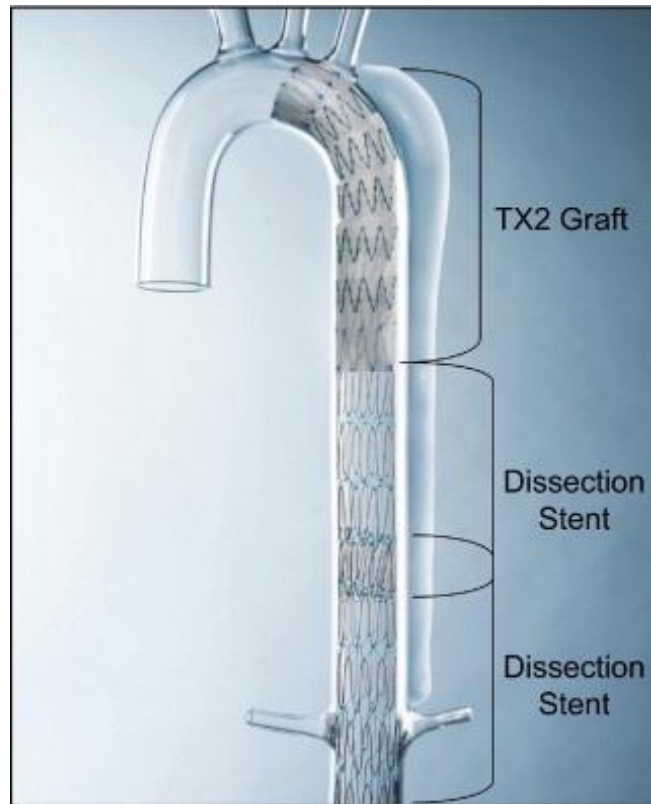
Type B uncomplicated



In uncomplicated Type B AD, medical therapy should always be recommended.	I	C	
In uncomplicated Type B AD, TEVAR <u>should</u> be considered.	IIa	B	218,219

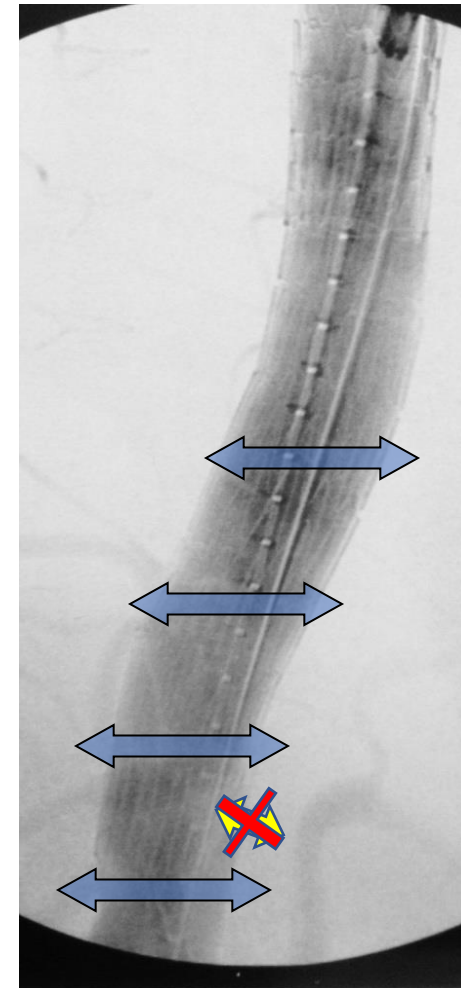
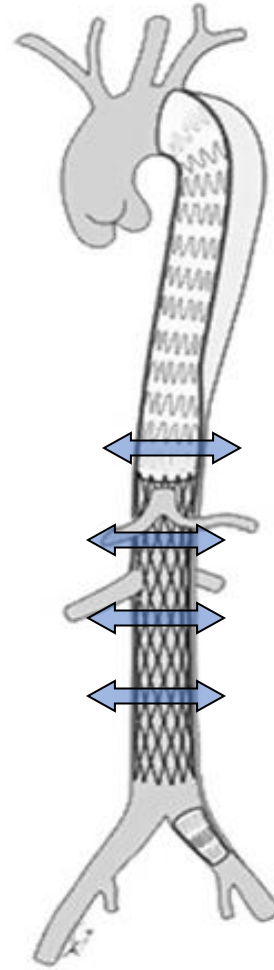
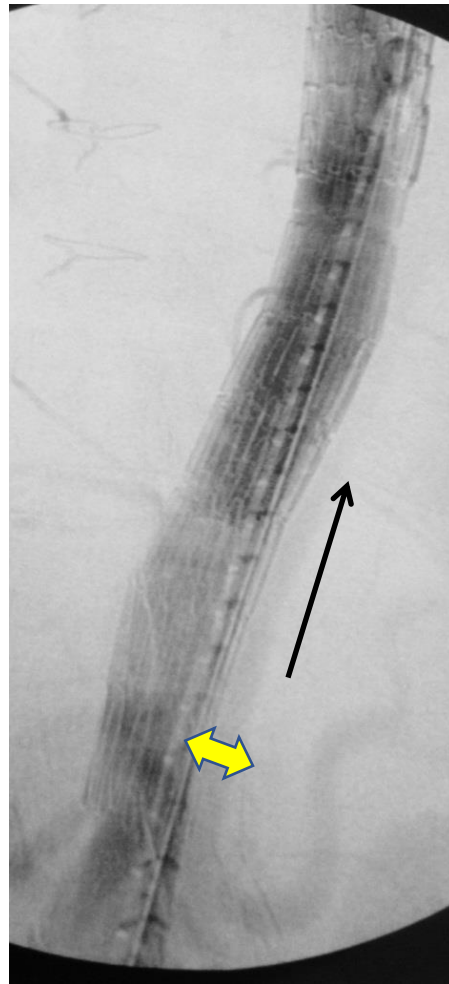
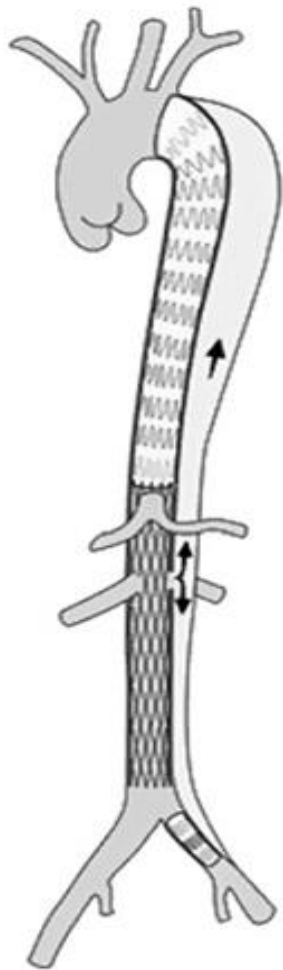
Stent-Assisted Balloon-Induced Intimal Disruption and Relamination in Aortic Dissection Repair: The STABILISE concept

Sophie C. Hofferberth, MBBS, BSc,^a Ian K. Nixon, MBBS, FRACS,^a Raymond C. Boston, PhD,^b Craig S. McLachlan, PhD, MPH,^c and Peter J. Mossop, MBBS, FRACR^{d,e}



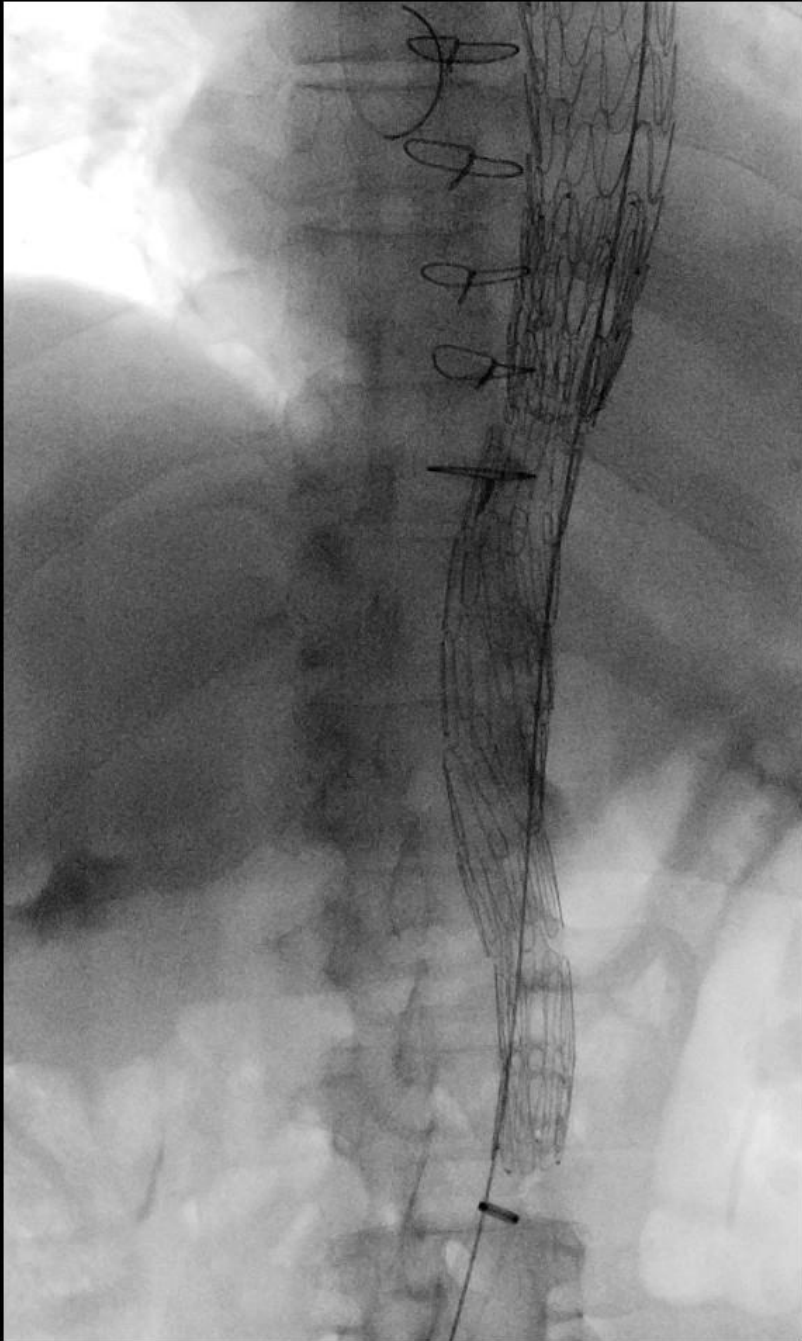
INTÉRÊT DU STENT NON COUVERT À LONG TERME ?

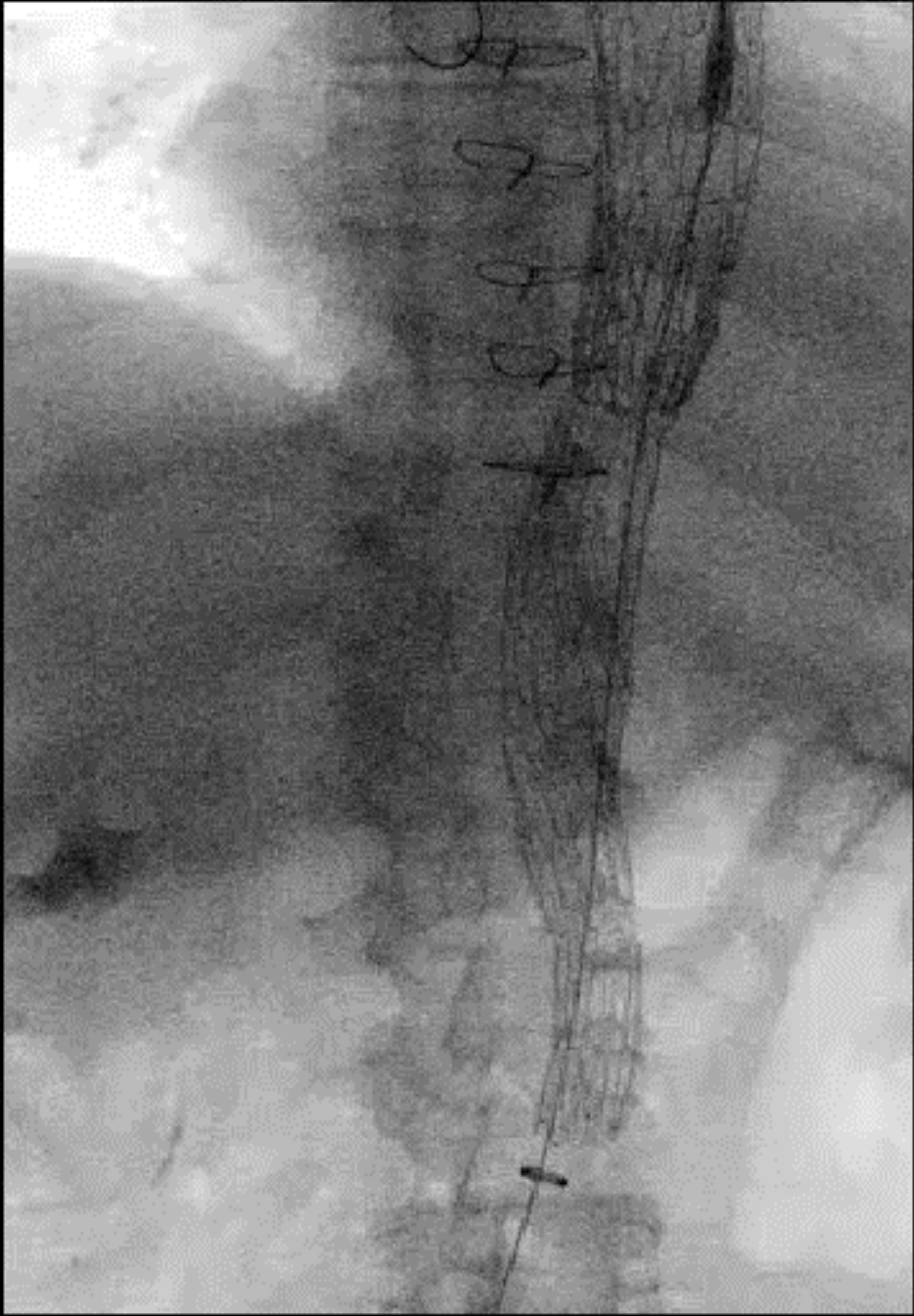
Stent-Assisted Balloon-Induced Intimal Disruption and Relamination in Aortic Dissection Repair: The STABILISE concept JTCS 2014



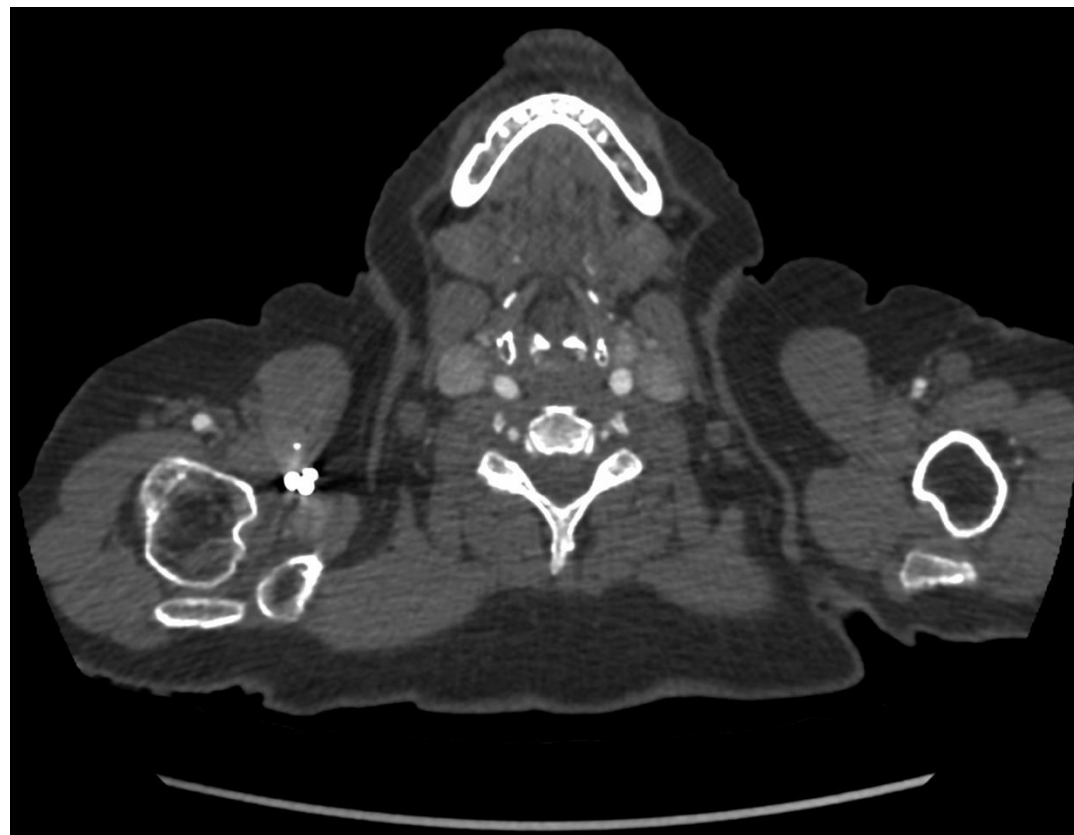
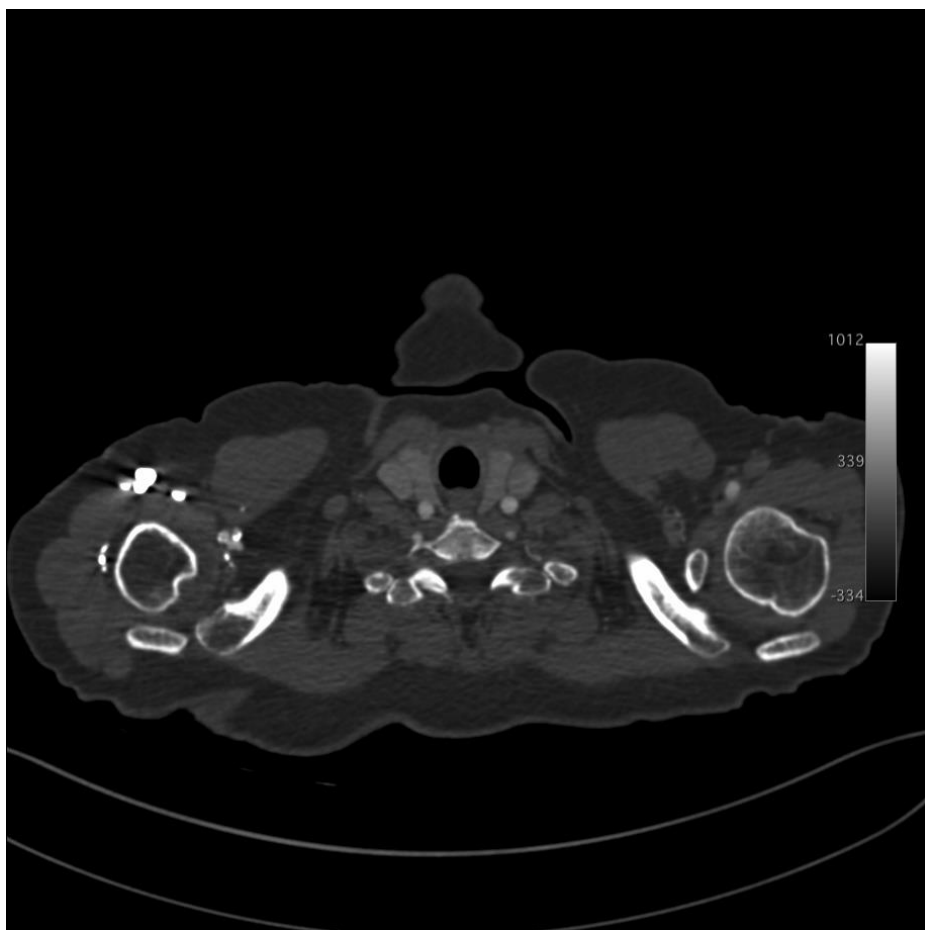








A 2 ans



Littérature

Mid-term Outcomes of Stent Assisted Balloon Induced Intimal Disruption and Relamination in Aortic Dissection Repair (STABILISE) in Acute Type B Aortic Dissection

Elsa M. Faure ^{a,b,c,*}, Salma El Batti ^{a,c}, Marwan Abou Rjeili ^a, Pierre Julia ^a, Jean-Marc Alsac ^a Eur J Vasc Endovasc Surg (2018) |

Satisfactory short-term outcomes of the STABILISE technique for type B aortic dissection

Germano Melissano, MD,^a Luca Bertoglio, MD,^a Enrico Rinaldi, MD,^a Daniele Mascia, MD,^a Andrea Kahlberg, MD,^a Diletta Loschi, MD,^a Monica De Luca, MD,^b Fabrizio Monaco, MD,^b and Roberto Chiesa, MD,^a Milan, Italy (J Vasc Surg 2018)

Stent-Assisted Balloon-Induced Intimal Disruption and Relamination in Aortic Dissection Repair: The STABILISE concept

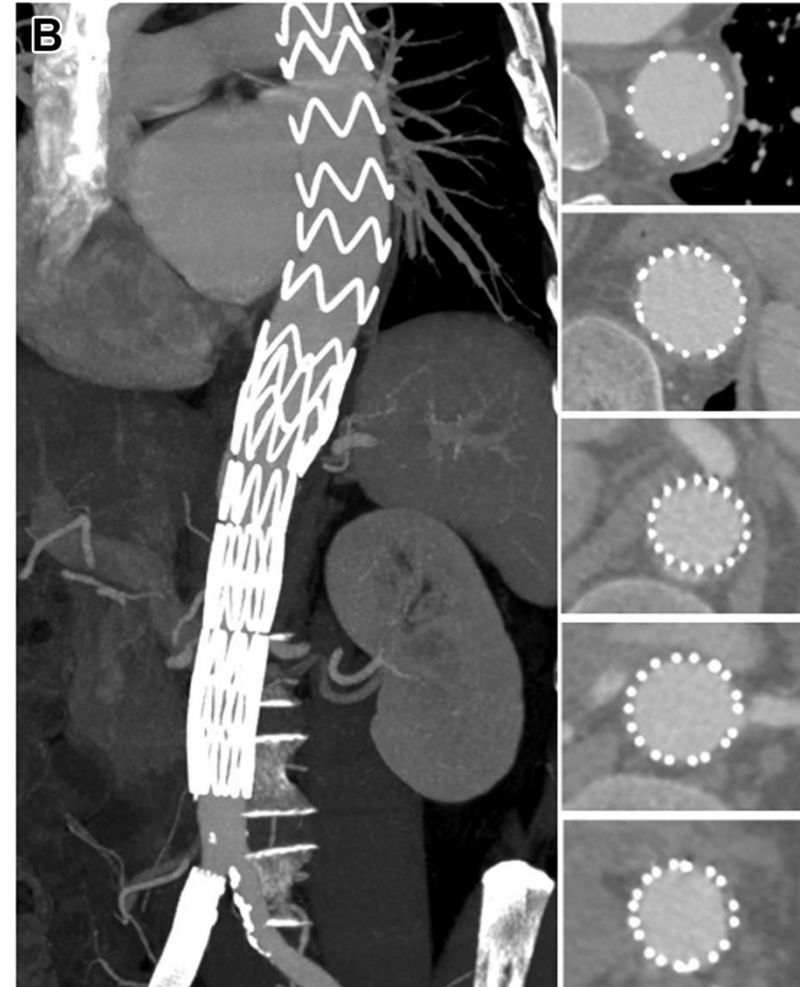
Sophie C. Hofferberth, MBBS, BSc,^a Ian K. Nixon, MBBS, FRACS,^a Raymond C. Boston, PhD,^b Craig S. McLachlan, PhD, MPH,^c and Peter J. Mossop, MBBS, FRACR^{d,e} J Thorac Cardiovasc Surg 2014:

Stent-assisted balloon-induced intimal disruption and relamination of aortic dissection in patients with Marfan syndrome: Mid-Term Outcomes and aortic remodeling

Elsa Madeleine Faure, MD, Salma El Batti, MD, PhD, Marwan Abou Rjeili, MD, Iannis Ben Abdallah, MD, Pierre Julia, MD, PhD, Jean-Marc Alsac, MD, PhD

The Journal of Thoracic and Cardiovascular Surgery

« Promising !!! »





STABILISE for Complicated Type B Dissection after 15 Months' Follow Up: A Word of Caution

Raphael Soler¹, Michel A Bartoli², Philippe Amabile¹, Gabrielle Sarlon-Bartoli¹, Pierre-Édouard Magnan¹

Affiliations + expand

PMID: 33781679 DOI: [10.1016/j.ejvs.2021.02.025](https://doi.org/10.1016/j.ejvs.2021.02.025)

[Free article](#)

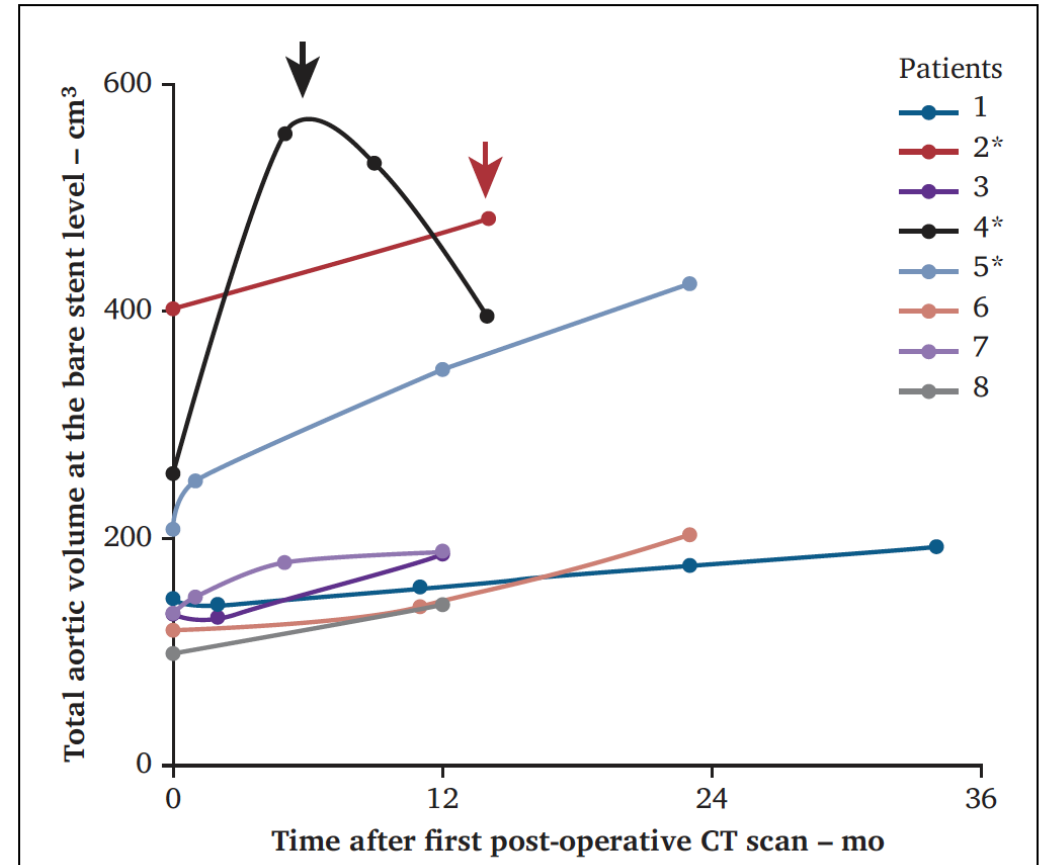
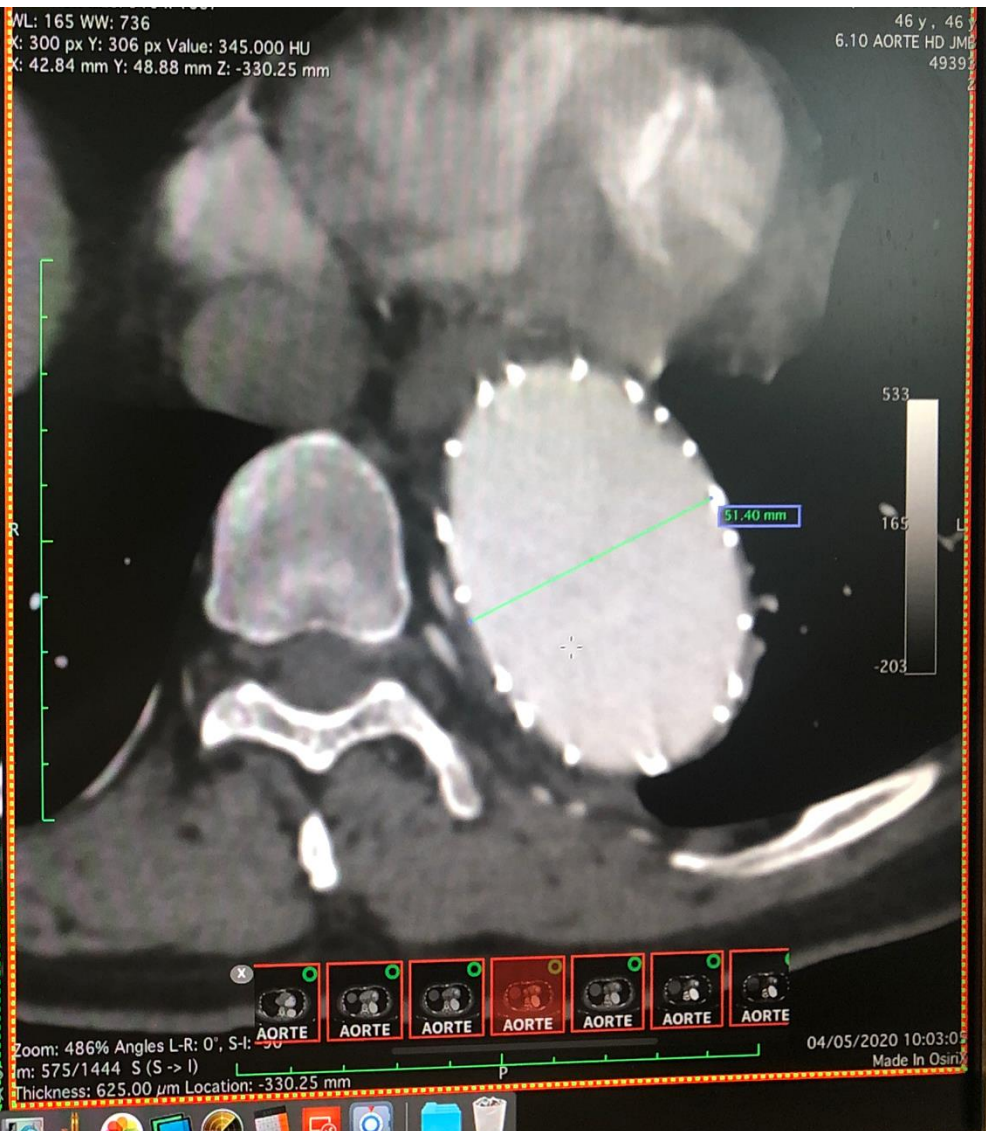


Figure 1. Aortic volume at the level of the bare stent in patients treated by the STABILISE technique at different surveillance time points by computed tomography (CT) scan. Arrows indicate secondary procedures performed in patients 2 and 4. The asterisks indicate patients with connective tissue disorder.



6.4 Toje GR ;Sans IV- Arteriel-Portal - Tardif
29419 WL: 165 WW: 736
X: 300 px Y: 306 px Value: 345.000 HU
X: 42.84 mm Y: 48.88 mm Z: -330.25 mm

46 y, 46 y
6.10 AORTE HD JM
4939

Zoom: 462% Angles L-R: 0°, S-I: -90°
m: 158/473 S (S->I)
Thickness: 1.25 mm Location: -28.25 mm



09/02/2019 17:31:0
Made In OsiriX

Zoom: 486% Angles L-R: 0°, S-I: 90°
m: 575/1444 S (S->I)
Thickness: 625.00 μm Location: -330.25 mm



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Conclusion

- Les indications chirurgicales de l'aorte thoraciques sont plus agressives selon l'ESC,
- Les indications de traitement des anévrysmes doivent se baser en plus du diamètre aussi sur l'état général du patient et son espérance
- La technologie endovasculaire est toujours en progression avec désormais une maturité de la technologie sous rénale et fenêtrée
- il faut toujours garder du recul vis à vis des nouveautés en effet par définition ce sont des techniques pour lesquels on ne dispose pas de suivi



Je vous remercie