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Endograft Management of Thoracic Aneurysm and Dissection:

The New Standard of Care

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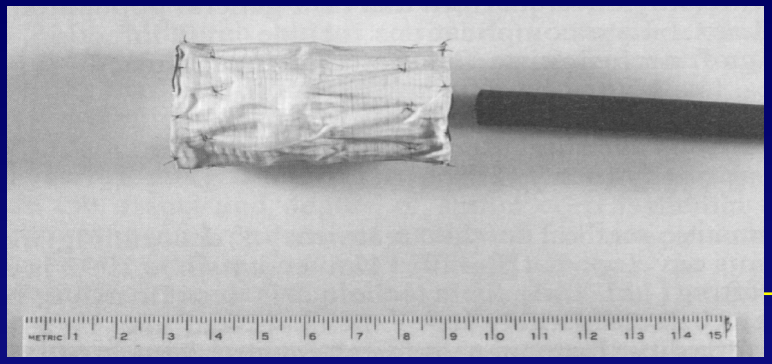
Conflict of Interest Statement

Within the past 12 months, I or my spouse/partner have had a financial interest/arrangement or affiliation with the organization(s) listed below.

Physician Name	Company/Relationship
Christoph A. Nienaber, MD	Nothing to Disclose

TEVAR: What to state after 10 years? A new standard of care?



Remember Stanford 1992
"Home-made" self expanding
Z-stent-graft

- Reliable and effective !
- Lower morbility and mortality than open surgical repair !
- Variable incidence of Endoleak !
- ❖ Secondary endoleak?
- ❖ Durability?
- ❖ Prognosis?

THE NATION'S NEWSPAPER

Special Reprint Edition | USA TODAY | As seen in Life

March 16, 2000

Bursting the deadly danger of aortic aneurysms

Less-invasive surgery offers decreased risk, faster healing

By Robert Davis
USA TODAY

When a doctor found the throbbing mass in Kedrick James' gut, the 68-year-old grandfather knew he was in danger. He could feel it.

"It was a pulsating mass," the Chickasha, Okla., man says. "Every time the heart beat, you could feel it."

The aortic aneurysm — a weakening in the wall of the body's largest blood vessel — was bulging with each beat of his heart.

Left untreated, the growing bubble would likely burst without warning someday, causing massive bleeding, followed by shock and almost certain death.

"It was something I didn't really like to think about," he says. "But those things don't go away by themselves."

Too bad, because the conventional surgery can be deadly.

But a new procedure is offering hope for the 200,000 people a year who learn they have the defect.

As he weighed having his aneurysm repaired, James sometimes considered a friend who went into the hospital for the traditional repair. She died during the operation.

That scenario is tragically common. Five of every 100 patients who have aortic aneurysms fixed die, in part because the operation itself is so traumatic and the recovery so challenging.

"She didn't make it, even though she was right there in the hospital," he says. "I was afraid of that."

But James was lucky.

Just as his aneurysm was growing too big to ignore, the Food and Drug Administration approved a device that allows doctors to fix the weakened wall of the aorta without opening the abdomen.

The traditional fix involves cutting the belly from the bottom of the rib cage to the groin and digging past organs to get to the trouble spot.

Surgeons lay folds of intestine aside so they can reach the aneurysm deep in the gut, just below the kidneys and right atop the spine.

In the new procedure, a polyester sheath, a redesigned version of the one that surgeons have used to fix aneurysms for years, is used to bypass the arterial wall after the blood vessel has become dangerously weak.

Once surgeons get to the aneurysm, they insert the polyester sheath, diverting blood from the weakened wall.

The sheath, a Y-shaped hose, is key because the pressure in the big artery is high. The blood is moving rapidly from the heart on a journey that will travel to the tips of the toes.

The repair works well, but the surgery is delicate and risky. And for elderly patients, who are more likely to suffer from an aortic aneurysm, the impact can be devastating.

The major surgery can challenge other fragile systems. Those with weak hearts may die from heart attacks during the operation. Those with breathing problems may need a respirator for days afterward, leading to infection, pneumonia and death.

And because the intestines temporarily stop working after the surgery, none of these patients can eat for about four days after the procedure. Even the healthiest become weak at a time when they need more energy to recover.

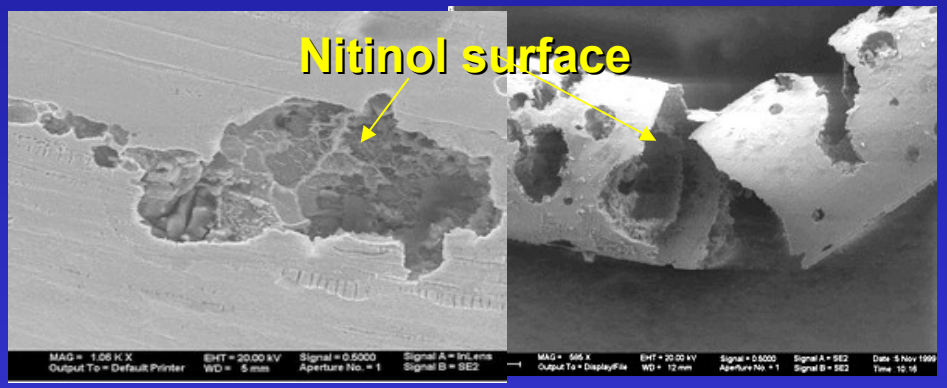
After spending days, sometimes weeks, in the hospital, patients usually need months to get back to full speed.

"It's a long recovery," says Robert Kipperman, a cardiologist at Mercy Health Center in Oklahoma City, where James had his operation.

Mercy is one of 180 medical centers in the nation that are using the redesigned polyester

A better way: Vascular surgeon Jim Melton, right, and cardiologist Robert Kipperman watch their progress as they repair an aortic aneurysm.

Melbourne 1996
Talent Thoracic
nitinol/polyester stent-graft



Evolution of Aortic Stent-Grafting

Who?

1986 – Nicholas Volodos

1991 – Juan Parodi

УДК 616.132-007.64-001.5-089.819.5

Н. Л. Володось, И. П. Карпович, В. Е. Шеханин, В. И. Троян, Л. Ф. Яковенко, Л. С. Керемет, А. С. Неонета, В. И. Кулеба, А. И. Саньков, Г. И. Гавриков

СЛУЧАЙ ДИСТАНЦИОННОГО ЧРЕЗБЕДРЕННОГО ЭНДОПРОТЕЗИРОВАНИЯ ГРУДНОЙ АОРТЫ САМОФИКСИРУЮЩИМСЯ СИНТЕТИЧЕСКИМ ПРОТЕЗОМ ПРИ ТРАВМАТИЧЕСКОЙ АНЕВРИЗМЕ

Харьковский НИИ общей и неотложной хирургии (дир. — проф. В. Т. Зайцев)

Операции протезирования грудной аорты относятся к одним из травматичных в сердечно-сосудистой хирургии. В настоящее время с точки зрения снижения травматичности этого типа операций оптимальным методом, оправдавшим себя в клинической практике, является интраоперационное применение эндопротезов с двойными кольцами (Durcau G. и соавт., 1978). Для осуществления фиксации необходимо выполнение торакотомии, выделение аорты выше и ниже аневризмы, пережатие ее на время введения эндопротеза. Вследствие этого указанный метод не может считаться хорошо решенной альтернативой классическим методам протезирования грудной аорты с применением ИК, временных шунтов или гипотермии, так как сохраняется большая травматичность операции.

Принципиально новым подходом к снижению травматичности при протезировании грудной аорты является дистанционное эндопротезирование, при котором не осуществляются доступ к пораженному сосуду, его выделение и пережатие. И хотя блестящая идея такого протезирования была выдвинута Ch. T. Dotter в 1969 г., в клинике она не была реализована в последующие 15 лет.

Описания случаев выполнения в клинике дистанционного эндопротезирования грудной аорты синтетическим протезом в доступной литературе мы не нашли. В связи с этим считаем целесообразным сообщить о первом клиническом наблюдении дистанционного эндопротезирования грудной аорты при ее травматичной аневризме с помощью самофиксирующегося синтетического протеза.

Больной Б., 53 лет, поступил в сосудистое отделение с жалобами на боли в грудной клетке, общую слабость, одышку при физической нагрузке. Из анамнеза известно, что в 1959 г. больной получил компрессионный перелом XII грудного позвонка вследствие сдавления между автомашинами. Имели место нижняя параплегия, нарушение функции тазовых органов. В 1966 г. во время флюорографического диспансерного обследования у больного выявлена опухоль заднего средостения. 15 апреля 1986 г. больному произведена левосторонняя торакотомия в торакальном отделении областной больницы. При ревизии

Evolution of Aortic Stent-Grafting

Who?

1986 – Nicholas Volodos

1991 – Juan Parodi

УДК 616.132-007.64-001.5-089.819.5

Н. Л. Володось, И. П. Карпович, В. Е. Шеханин, В. И. Троян, Л. Ф. Яко-

Original articles

Transfemoral Intraluminal Graft Implantation for Abdominal Aortic Aneurysms

J.C. Parodi, MD*, J.C. Palmaz, MD†, H.D. Barone, PhD, *Buenos Aires, Argentina, and San Antonio, Texas*

This study reports on animal experimentation and initial clinical trials exploring the feasibility of exclusion of an abdominal aortic aneurysm by placement of an intraluminal, stent-anchored, Dacron prosthetic graft using retrograde cannulation of the common femoral artery under local or regional anesthesia. Experiments showed that when a balloon-expandable stent was sutured to the partially overlapping ends of a tubular, knitted Dacron graft, friction seals were created which fixed the ends of the graft to the vessel wall. This excludes the aneurysm from circulation and allows normal flow through the graft lumen. Initial treatment in five patients with serious co-morbidities is described. Each patient had an individually tailored balloon diameter and diameter and length of their Dacron graft. Standard stents were used and the diameter of the stent-graft was determined by sonography, computed tomography, and arteriography. In three of them a cephalic stent was used without a distal stent. In two other patients both ends of the Dacron tubular stent were attached to stents using a one-third stent overlap. In these latter two, once the proximal neck of the aneurysm was reached, the sheath was withdrawn and the cephalic balloon inflated with a saline/contrast solution. The catheter was gently removed caudally towards the arterial entry site in the groin to keep tension on the graft, and the second balloon inflated so as to deploy the second stent. Four of the five patients had heparin reversal at the end of the procedure. We are encouraged by this early experience, but believe that further developments and more clinical trials are needed before this technique becomes widely used. (*Ann Vasc Surg* 1991;5:491–499).

KEY WORDS: Graft-stent exclusions; grafts; abdominal aortic aneurysm; transfemoral intraluminal grafts.

Abdominal aortic aneurysm (AAA) has been recognized since antiquity as a lethal pathologic process. As a result, the last 50 years of vascular surgery have seen a variety of attempts at cure of the condition. Intraluminal wiring [1], external wrapping [2], and exclusion of the aneurysm by ligation have been tried and discarded in the past [3]. Experience with those showed that they did not offer durable protection from aneurysm rupture [4]. Neither wrapping nor thrombosis of the aneurysm protected the patient from fatal rupture [5–7].

Today, vascular surgeons are dealing with an increasingly aged population. These are persons in whom abdominal aortic aneurysms occur. Autopsy studies have placed the overall incidence of AAA disease between 1.8 and 6.6% [8–10]. Actual incidence of AAA is increasing with the aging of the

From the Department of Vascular Surgery, Instituto Cardiovascular de Buenos Aires, Buenos Aires, Argentina, and the Department of Radiology, University of Texas†, San Antonio, Texas.*

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Evolution of Aortic Stent-Grafting

Who?

1986 – Nicholas Volodos

1991 – Juan Parodi

1994 – Michael Dake

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ORIGINAL ARTICLE

Volume 331:1729-1734 December 29, 1994 Number 26 Next ▸

Transluminal Placement of Endovascular Stent-Grafts for the Treatment of Descending Thoracic Aortic Aneurysms

Michael D. Dake, D. Craig Miller, Charles P. Semba, R. Scott Mitchell, Philip J. Walker, and Robert P. Liddell

ABSTRACT

Background The usual treatment for thoracic aortic aneurysms is surgical replacement with a prosthetic graft, but the associated morbidity and mortality are considerable. We studied the use of transluminally placed endovascular stent-graft devices as an alternative to surgical repair.

Methods We evaluated the feasibility, safety, and effectiveness of transluminally placed stent-grafts to treat descending thoracic aortic aneurysms in 13 patients over a 24-month period. Atherosclerotic, anastomotic, and post-traumatic true or false aneurysms and aortic dissections were treated. The mean diameter of the aneurysms was 6.1 cm (range, 5 to 8). The endovascular stent-grafts were custom-designed for each patient

ARTICLE

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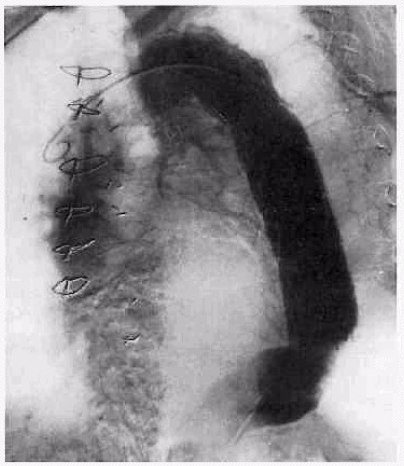


Reprint requests: Dr. J.C. Parodi, Mercedes 4233, Cap. Fed. Buenos Aires, Argentina (1419).

dence of AAA is increasing with the aging of the

Evolution of Aortic Stent-Grafting

Who?

1986 – Nicholas Volodos

1991 – Juan Parodi

1994 – Michael Dake

1999 – Christoph and Mike

The NEW ENGLAND
The New England Journal of Medicine

ENDOVASCULAR STENT–GRAFT PLACEMENT FOR THE TREATMENT OF ACUTE AORTIC DISSECTION

Michael D. Dake, M.D., Noriyuki Kato, M.D., R. Scott Mitchell, M.D., Charles P. Semba, M.D., Mahmood K. Razavi, M.D., Takatsugu Shimono, M.D., Tadanori Hirano, M.D., Kan Takeda, M.D., Isao Yada, M.D., and D. Craig Miller, M.D.

Abstract

Background The standard treatment for acute aortic dissection is either surgical or medical therapy, depending on the morphologic features of the lesion and any associated complications. Irrespective of the form of treatment, the associated mortality and morbidity are considerable.

Methods We studied the placement of endovascular stent–grafts across the primary entry tear for the management of acute aortic dissection originating in the descending thoracic aorta. We evaluated the feasibility, safety, and effectiveness of transluminal stent–graft placement over the entry tear in 4 patients with acute type A aortic dissections (which involve the ascending aorta) and 15 patients with acute type B aortic dissections (which are confined to the descending aorta). Dissections involved aortic branches in 14 of the 19 patients (74 percent), and symptomatic compromise of multiple branch vessels

ACUTE aortic dissection is one of the most catastrophic diseases that can affect the aorta. There are 10 to 20 cases per million population per year,[1,2] and if the condition is left untreated, 36 to 72 percent of patients die within 48 hours of diagnosis, and 62 to 91 percent die within one week.[3] The number of deaths due to aortic dissection is reported to exceed the number of deaths due to rupture of an abdominal aortic aneurysm.[4] During the past two decades, a consensus has evolved regarding acceptable treatment of patients with acute aortic dissection; however, despite recent advances in medical, surgical, and endovascular treatments, this disease remains a formidable clinical challenge. For patients with acute Stanford type A dissections (which involve the ascending aorta), surgical intervention is performed immediately after diagnosis to avert the high risk of death due to

Articles citing this article

NONSURGICAL RECONSTRUCTION OF THORACIC AORTIC DISSECTION BY STENT–GRAFT PLACEMENT

NONSURGICAL RECONSTRUCTION OF THORACIC AORTIC DISSECTION BY STENT–GRAFT PLACEMENT

Christoph A. Nienaber, M.D., Rossella Fattori, M.D., Gunnar Lund, M.D., Christoph Dieckmann, M.D., Walter Wolf, M.D., Yskert von Kodolitsch, M.D., Volkmar Nicolas, M.D., and Angelo Pierangeli, M.D.

Abstract

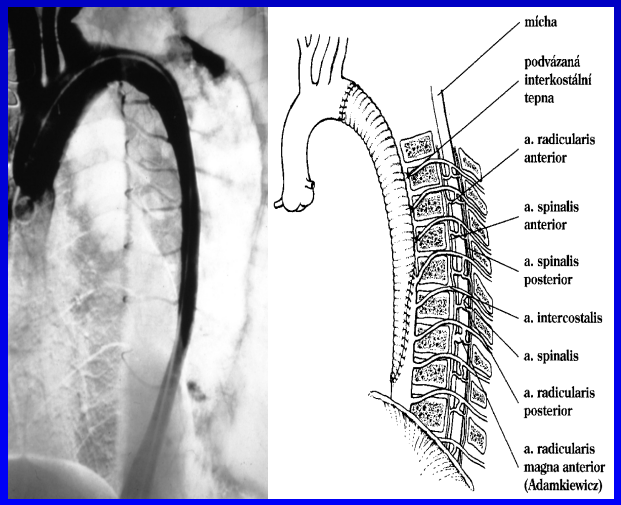
Background The treatment of thoracic aortic dissection is guided by prognostic and anatomical information. Proximal dissection requires surgery, but the appropriate treatment of distal thoracic aortic dissection has not been determined, because surgery has failed to improve the prognosis.

Methods We prospectively evaluated the safety and efficacy of elective transluminal endovascular stent–graft insertion in 12 consecutive patients with descending (type B) aortic dissection and compared the results with surgery in 12 matched controls. In all 24 patients, aortic dissection was diagnosed by magnetic resonance angiography. In each group, the dissection involved the aortic arch in 3 patients and the descending thoracic aorta in all 12 patients. With the patient under general anesthesia, either surgical resection was undertaken or a custom-designed endovascular stent–graft was placed by unilateral arteriotomy.

MANAGEMENT of thoracic aortic dissection depends on the patient's prognosis. Whereas patients with proximal dissections clearly benefit from surgical repair, the therapeutic strategy for dissections of the aortic arch and descending thoracic aorta is far from settled. Given the high morbidity and intraoperative mortality associated with surgical resection,[1,2] the consensus is to reserve surgery for cases of persistent communication without thrombosis of the false lumen[3,4] or unstable (enlarging) Stanford type B dissection.[5-7] With both medical therapy (i.e., the use of antihypertensive agents) and surgery, however, the intermediate and long-term prognoses are poor. With medical therapy, thrombosis of the false lumen and stabilization of the aortic tube are unpredictable, and there is a risk of rupture or progression of the dissection. Conversely, surgical resection carries the risk

Causative factors of high surgical mortality in AD

Aorta descendens



	OR
Tamponade, Hypotension	3,0
Coronary occlusion	1,8
Cerebral Trauma, Shock	> 3,0
Renal failure	4,7
Malperfusion syndrom	6,1
Expansion, imminent Rupture	3,4
Consequences of treatment	?

(spinal Ischemia, Death 14 - 67 %*)

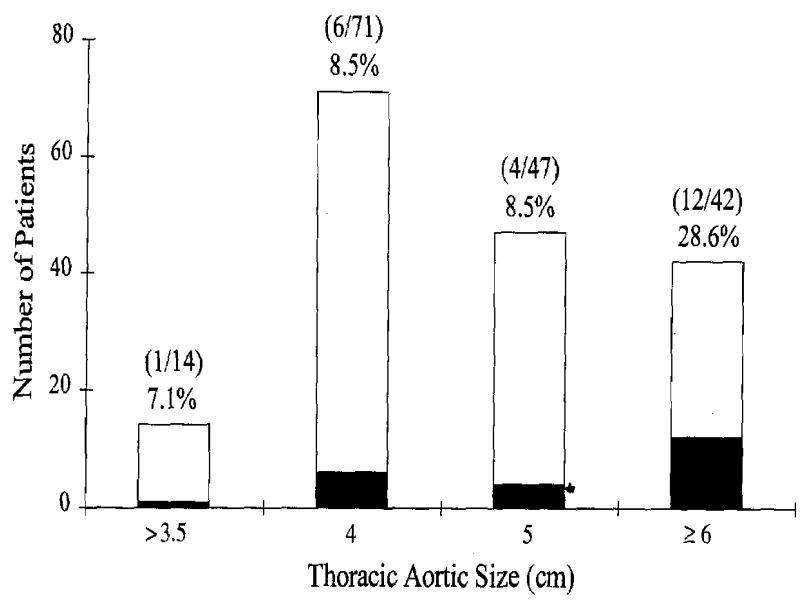
*Coselli et al.,1997
Fuster et al., 1994
Glower et al., 1990

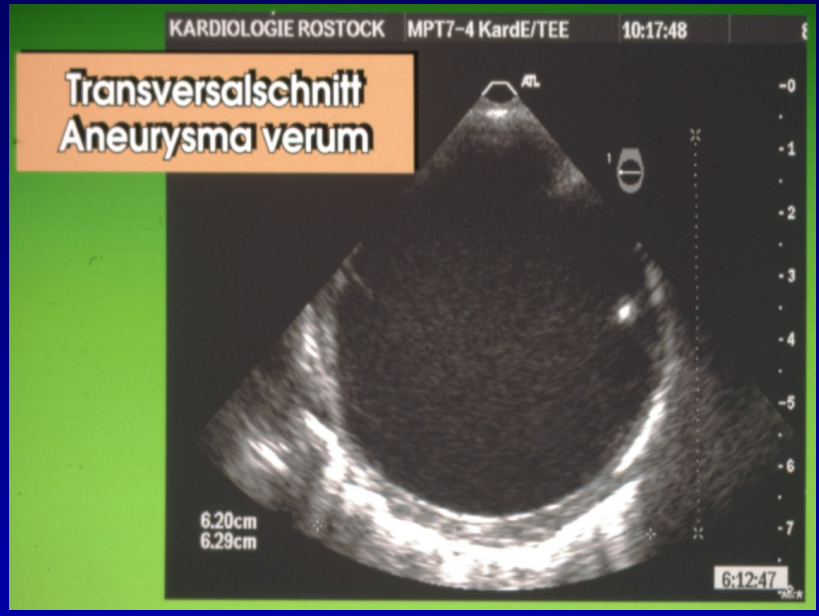
Mehta R., Nienaber C., Eagle, K. Circulation 2002
Suzuki T. et al., Circulation 2003

Relation between TAA diameter and rate of rupture!

Law of La Place

Ruptur rate vs. Diameter in TAA



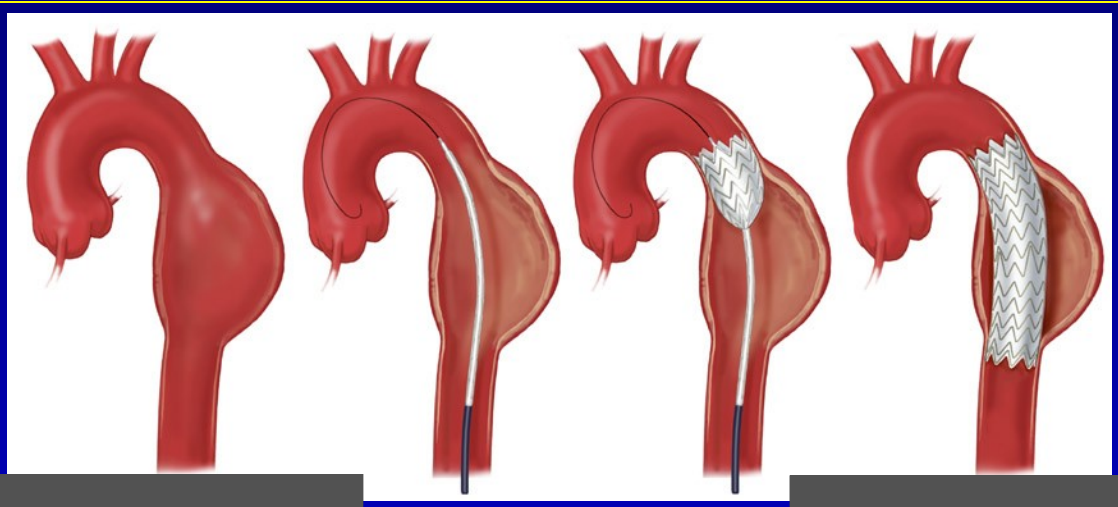


Post surgical thoracic aortic aneurysm (post coarctation surgery)

Stent graft in TAA

Ince H, Nienaber CA, et al., CIRCULATION 2003; 108:2967-2970

Endovascular Exclusion of TAA (post-surgical aneurysm after coarctation)

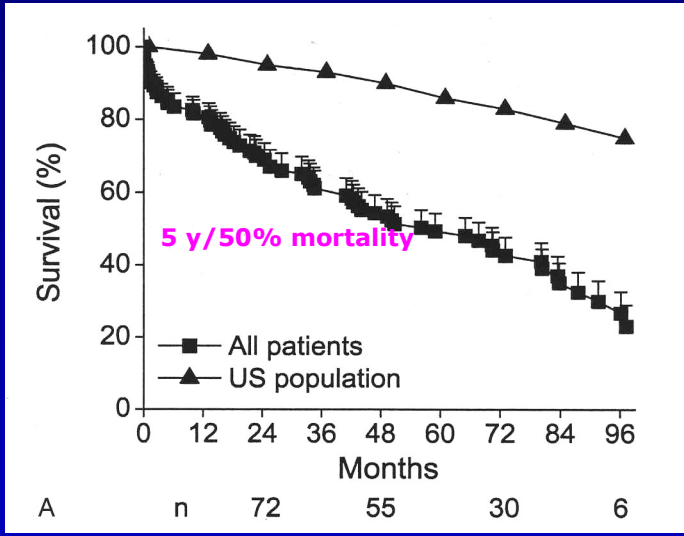


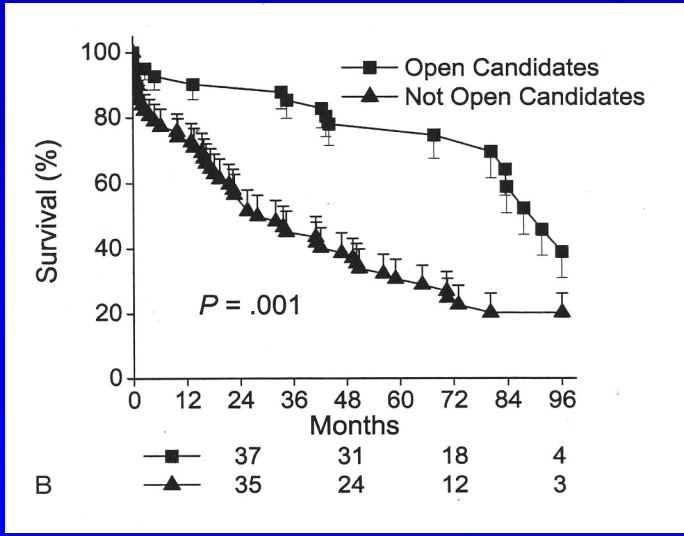
1

2

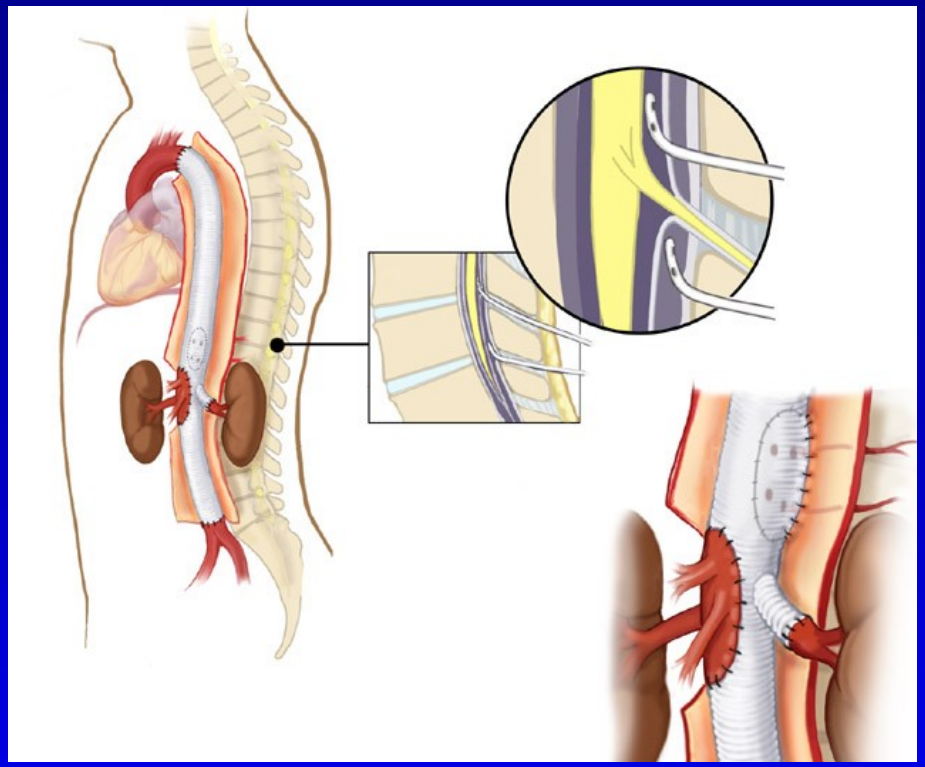
Ince et al., Circulation 2003; 108:2967-2970

Historical data on outcomes after SG in TAA





Long-term survival after SG in TAA vs. population

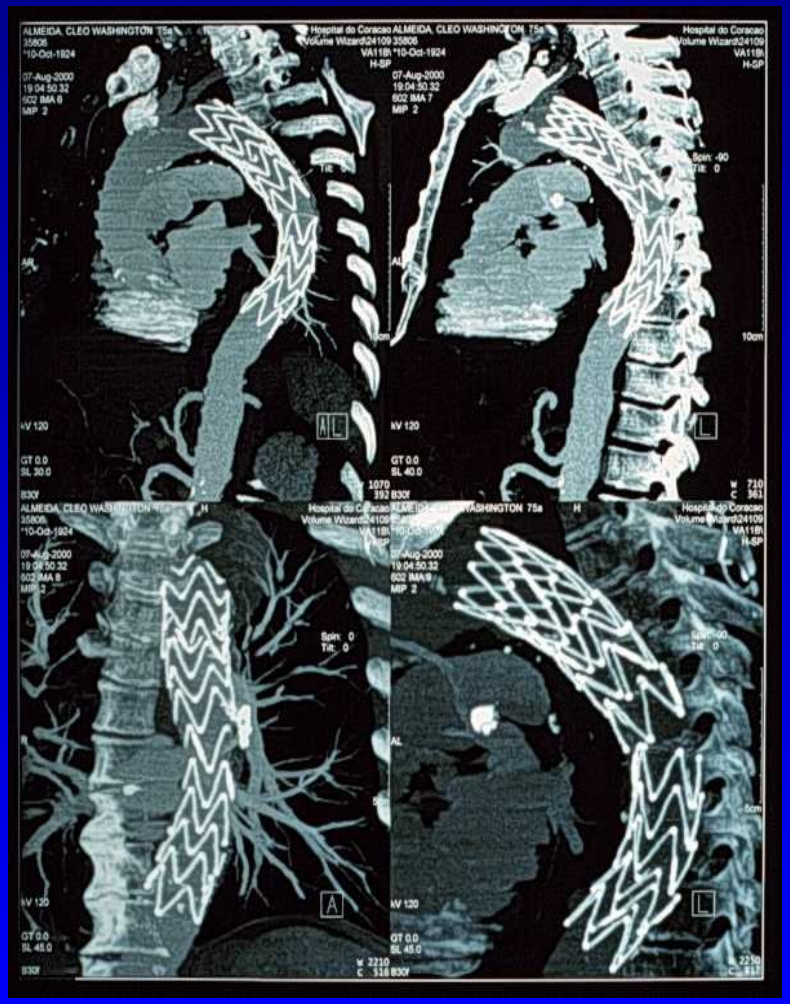


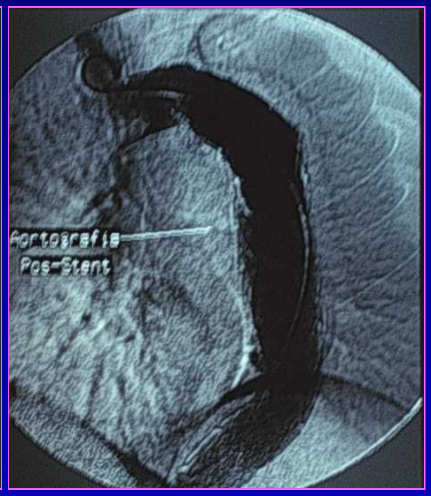
Outcomes of patients subjected to stentgraft treatment considered fit or unfit for open surgery

Demers P, et al. J Thorac Cardiovasc Surg 2004;127. 664-673

Needs imaging for surveillance and participation in technological evolution of SG

Reconstructed ce CTA





1 piece of stent-graft

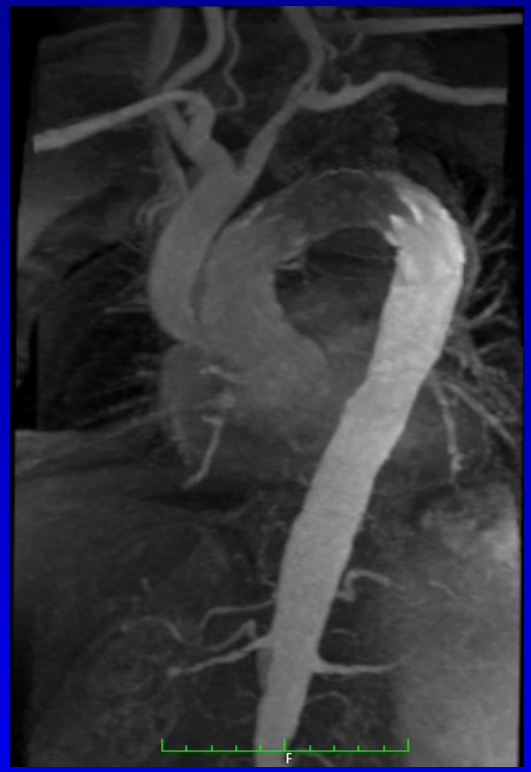
Disconnection of 2 stent-graft

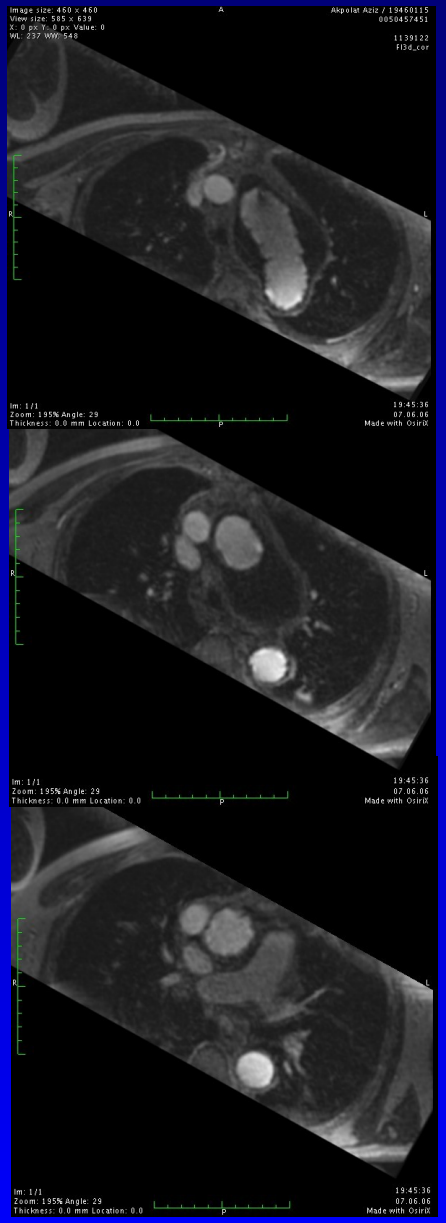
Hybrid Procedure with cardiac surgery

Before

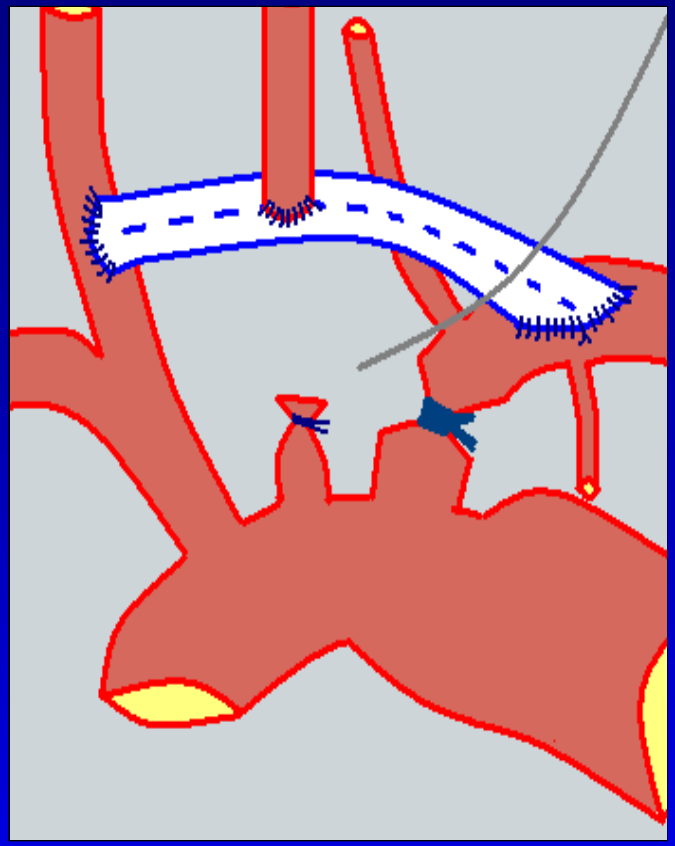
After

Rerouting and stenting of arch



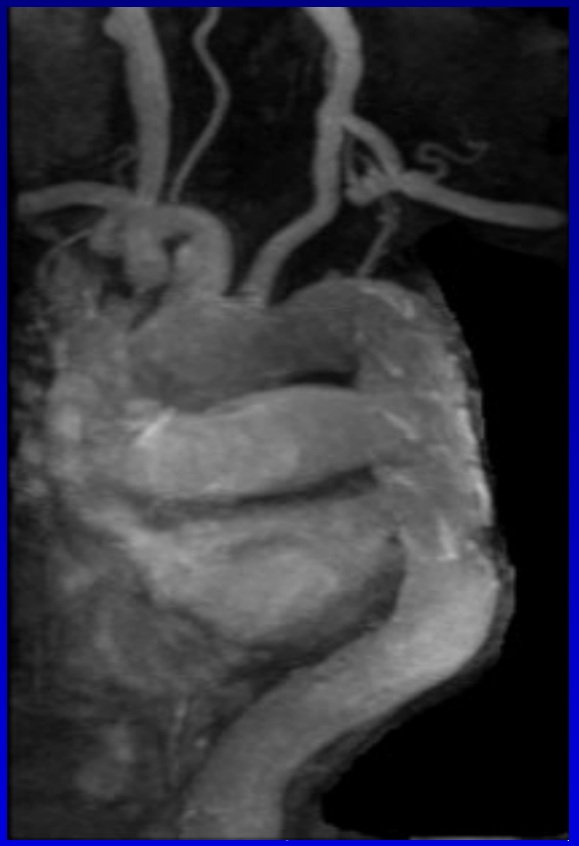


… or hybride with vascular surgery, SG and a duct occluder.



Schematic drawing

Carotido-subclavian bypass performed

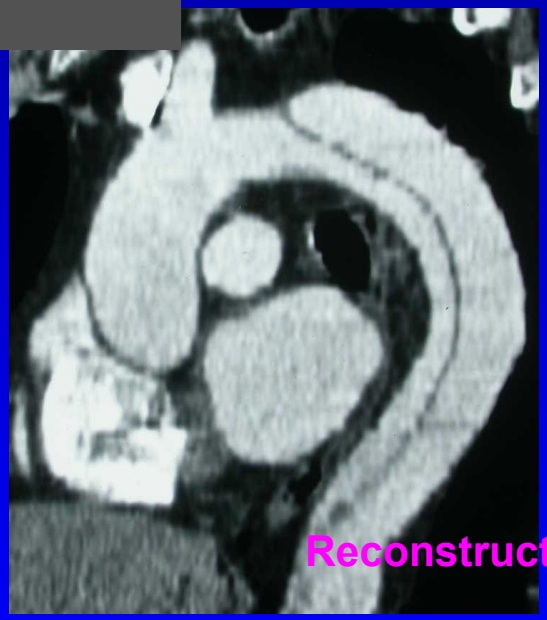


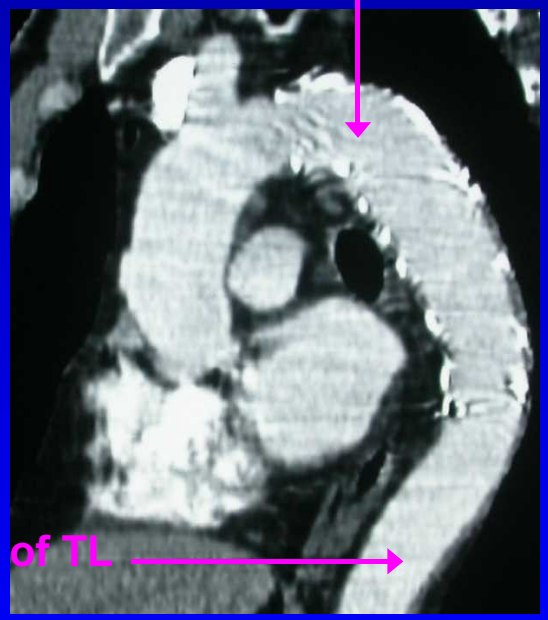
after SG-Implantation exclusion of the aneurysm from blood flow, and duct occluder of LSA

New Concept: "Aortic Reconstruction" in Dissection

Diagnosis

Treatment by remodeling

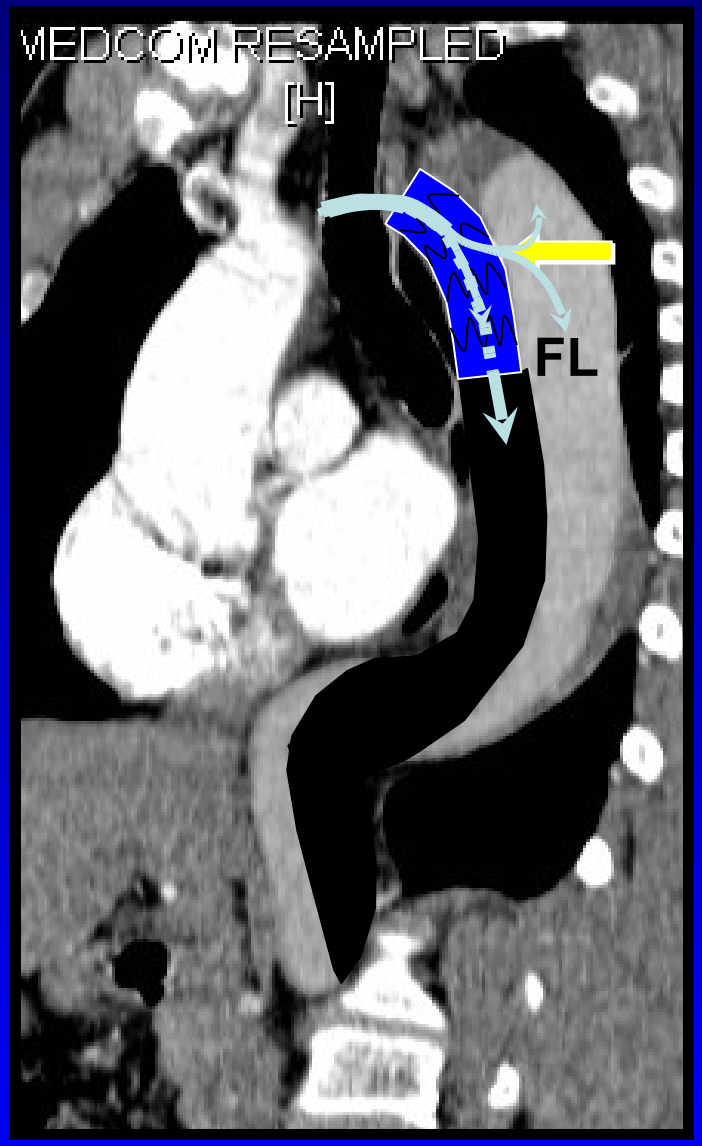




before stentgraft

1 year after stentgraft

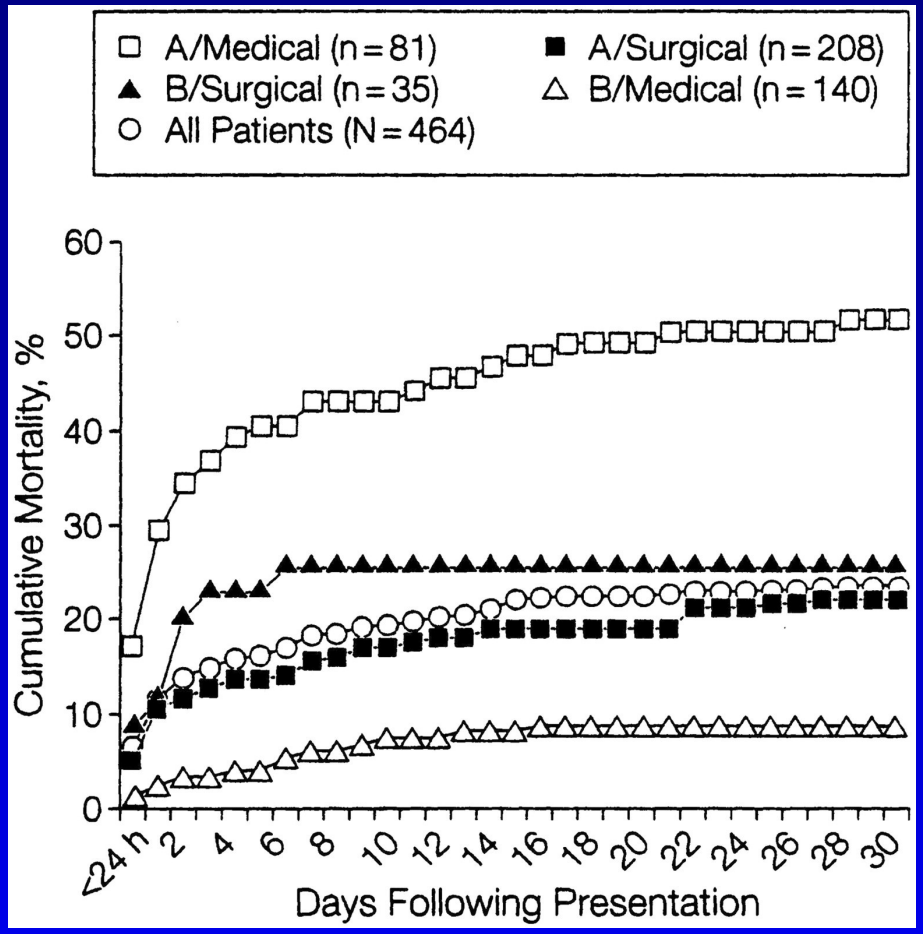
Concept of Endovascular Repair in Aortic Dissection



- Closure of the proximal entry tear
- Depressurization of the false lumen
- Thrombosis of FL
- Redirection of blood flow towards TL
- Induction of „aortic remodeling“

Therapies and Outcomes of aortic dissection?

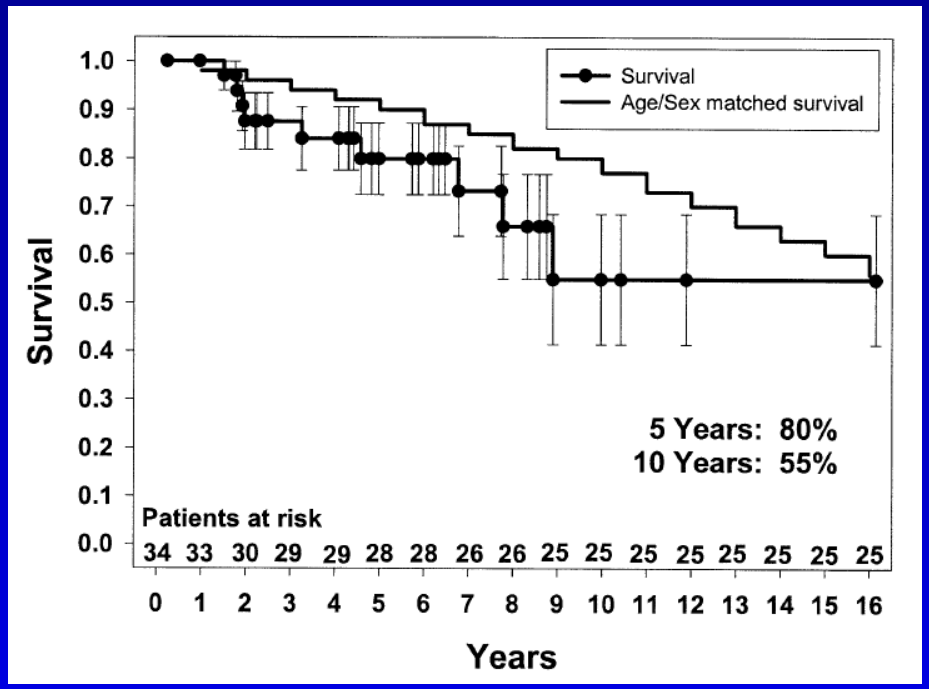
All dissections



IRAD 2000

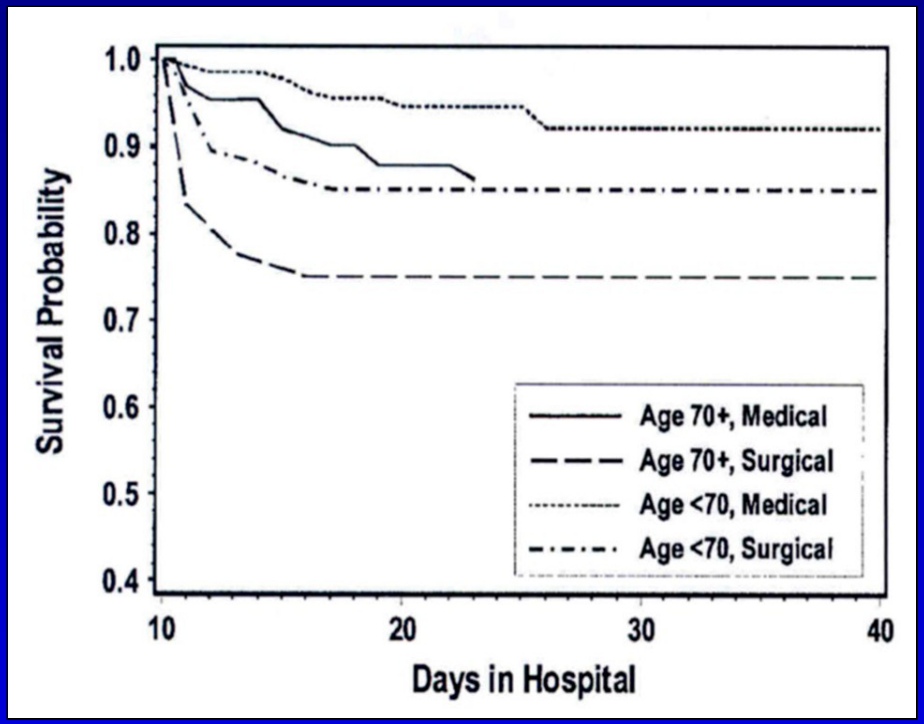
Hagan et al, JAMA 2000; 283:897-903

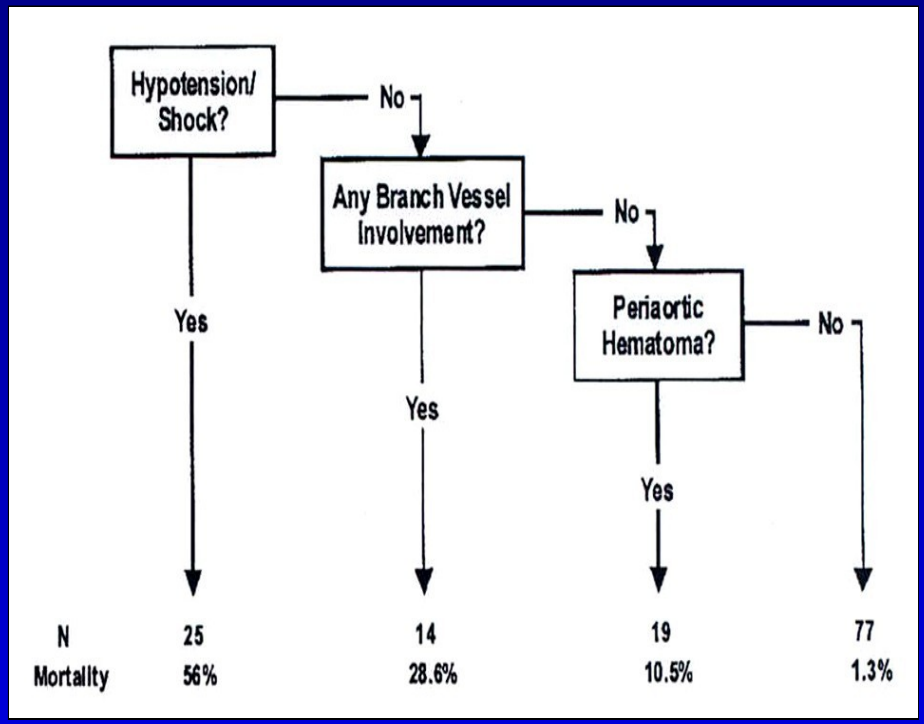
Survival after surgery for acute type B dissection



Lansman et al. Ann Thorac Surg 2002; 74:1833-1835

Classification tree for risk of in-hospital death in Type B Aortic Dissection



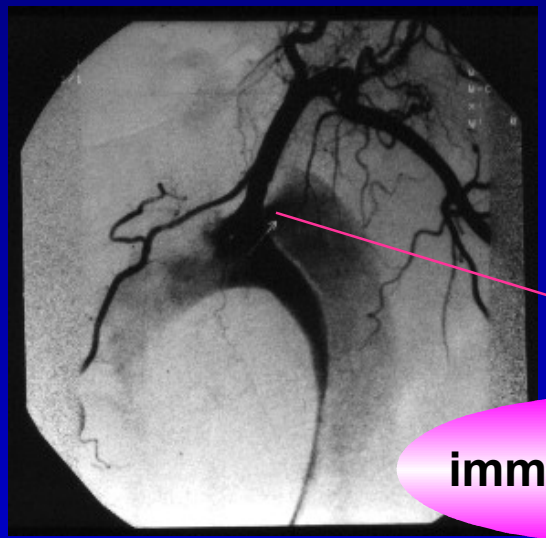


Who should be treated with stentgraft?

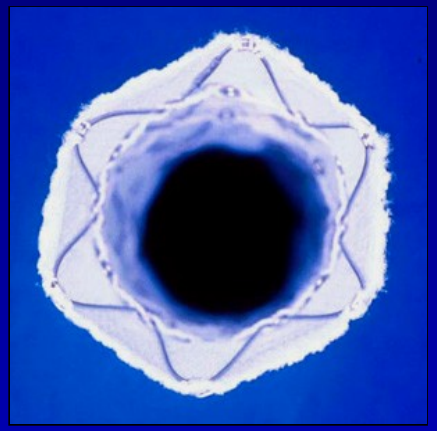
Mehta et al., Ann Thorac Surg 2004; 77:1622-9

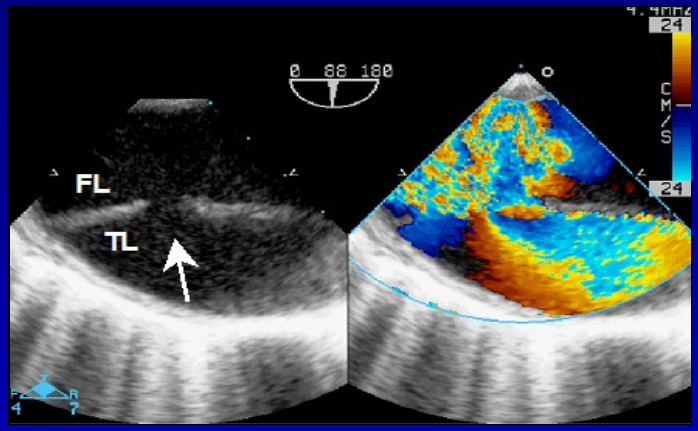
Emergency Indication

Supra side-branch fixation



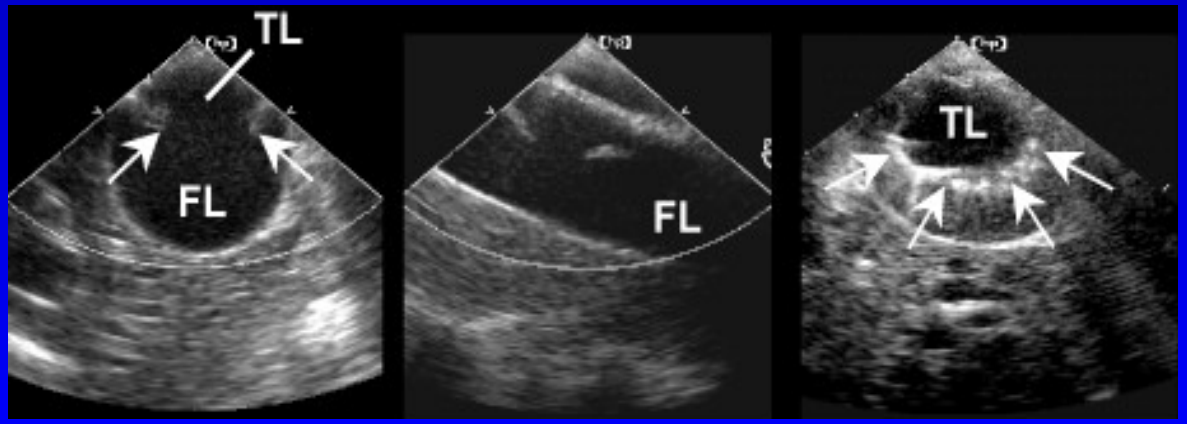
DSA



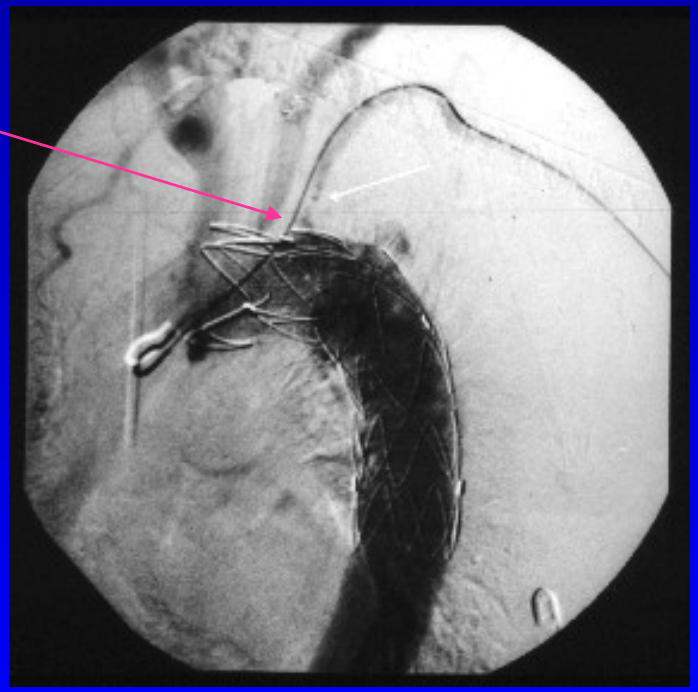


imminent rupture

Type B dissection

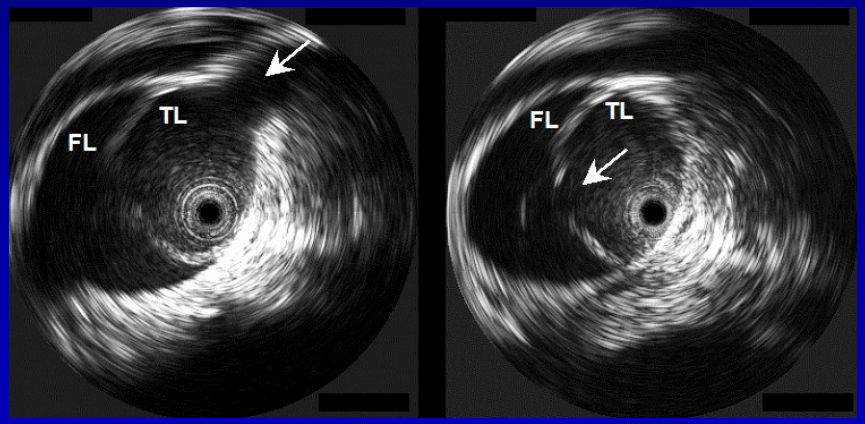


TEE

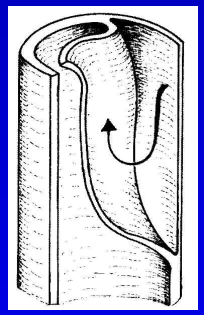


Emergency Indication

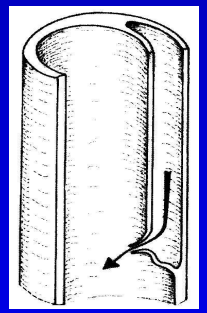
IVUS



obstructive Malperfusion

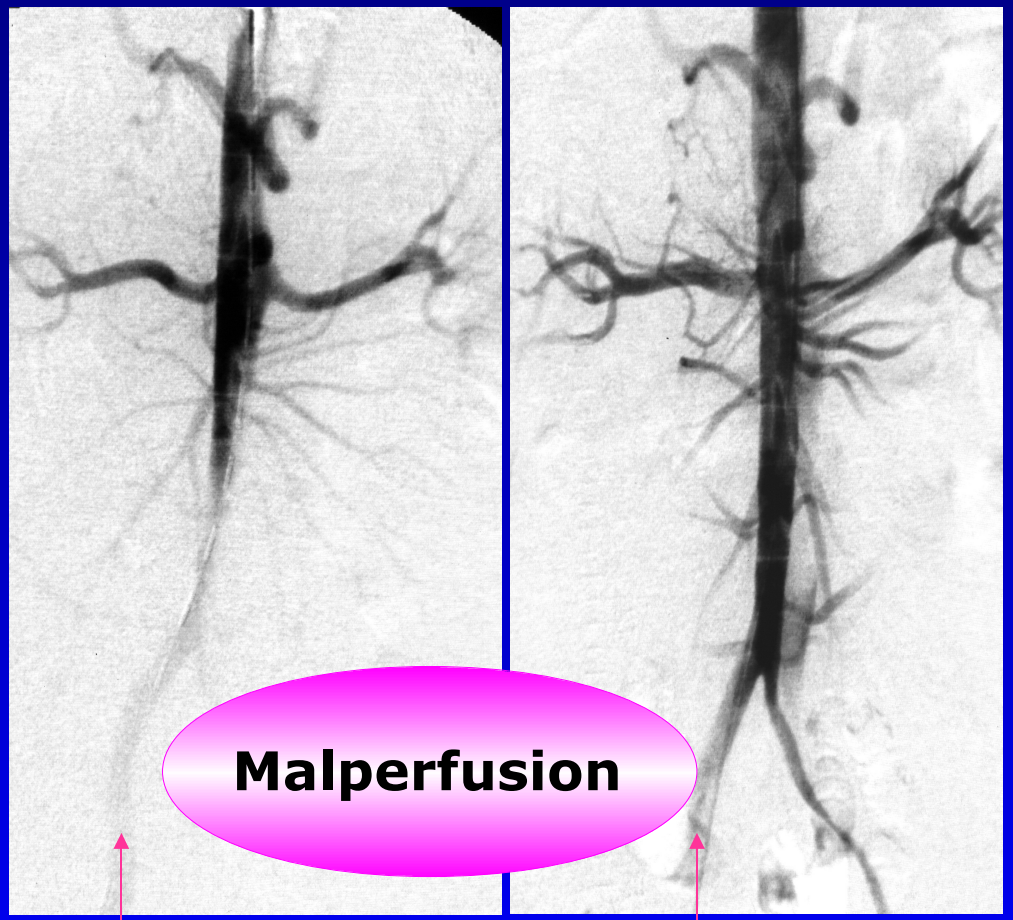


dynamic



static

Angio



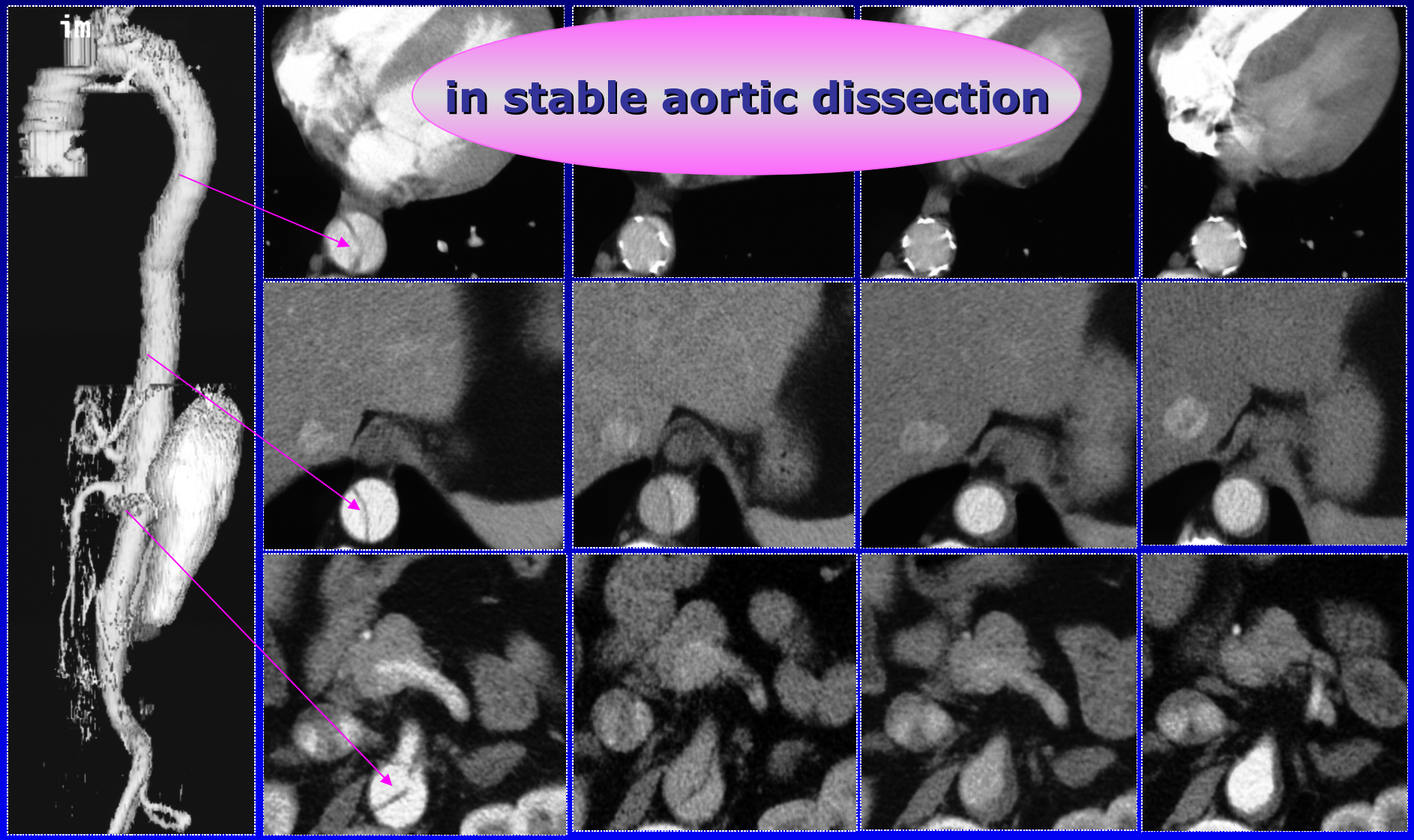
Dissection related Malperfusion before Stentgraft

Revascularisation after Stentgraft

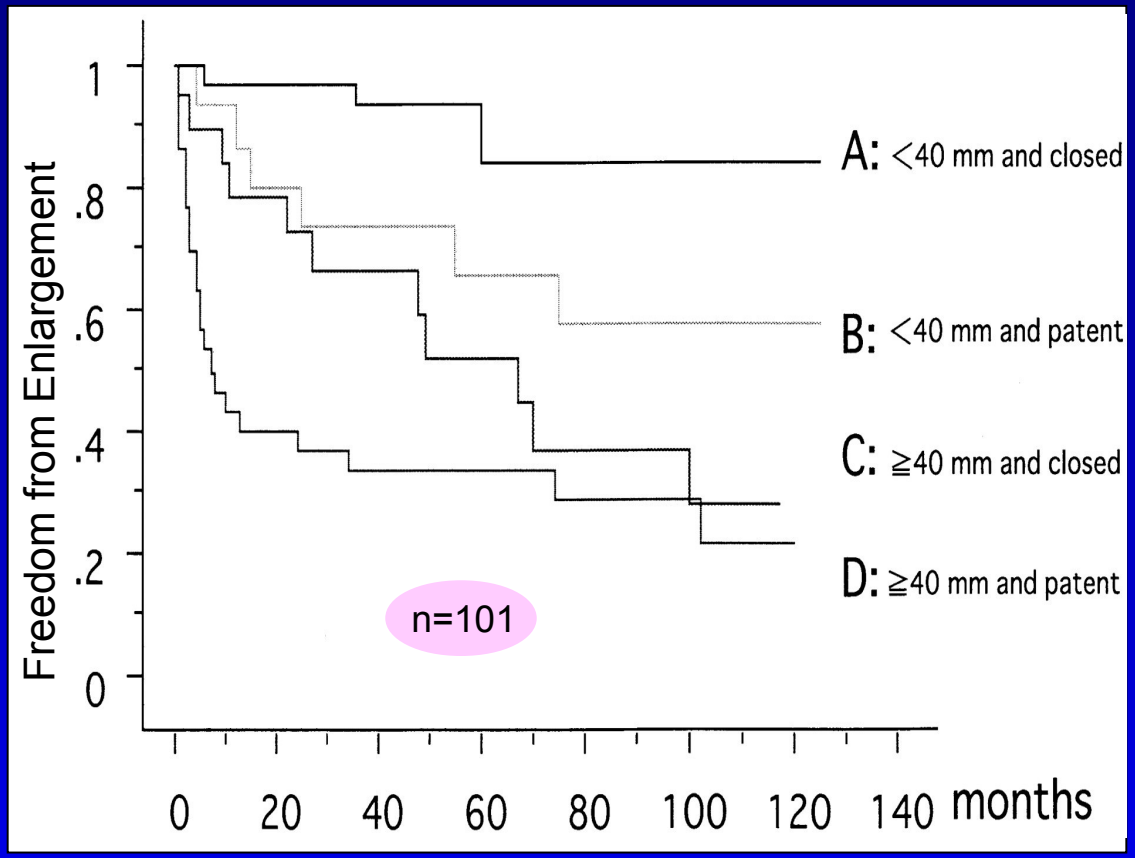
SG in emergency and elective setting of Aortic Dissection

	Outcomes analysis	Prognosis
Chabbert V et al.	JET 2003;10:494 n=11	+
Beregi JP et al.	JET 2003;10:486 n=46	+
Nienaber CA et al.	JCS 2003;18:464 n=11	+
EUROSTAR Registry	JVS 2004;40:670 n=131	+
Metaanalysis Review	EHJ 2005;ahead of print n=609	+
TTR (Talent thoracic Registry)	Finalized – 2005; n=180	+
INSTEAD	Awaiting FU 2006; n=136	?

Elective Indication in Type B Dissection ?



Prognostic Predictors during long-term F/U in Type B



Multivariate predictors:

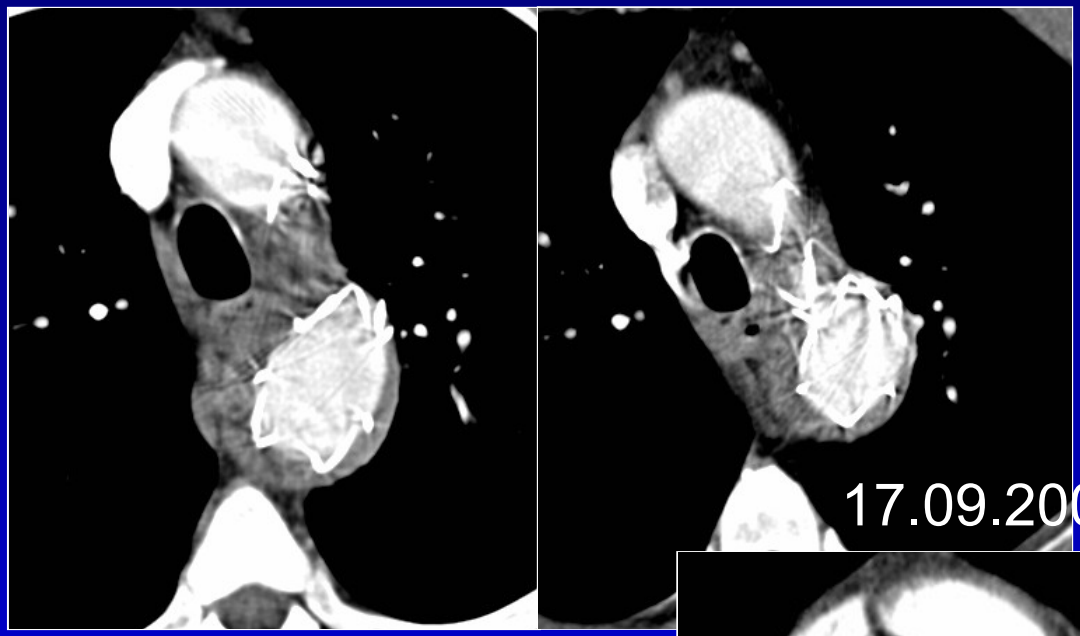
False lumen patency	p<0.02
Aortic diameter ≥ 40mm	p<0.001

Enlargement = D ≥ 6.0cm; progression > 10mm/y;
ULP > 5mm/y

Marui, A. et al. Circulation 1999;100:275-280

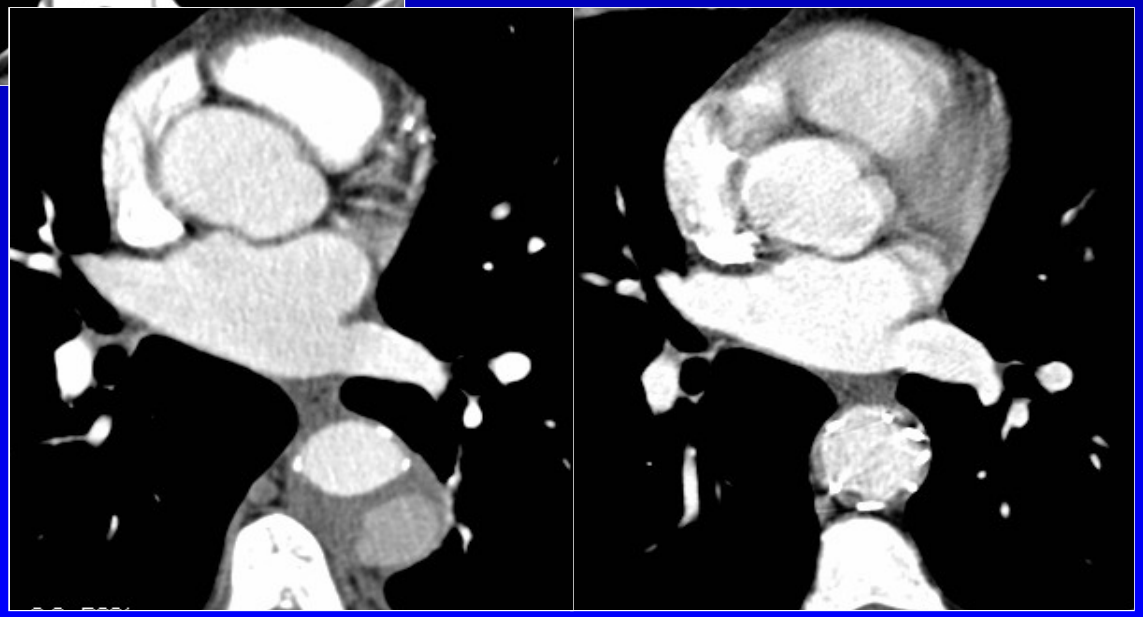
Subacute Aortic Dissection (> 14d)

17.09.2003 20.08.2004



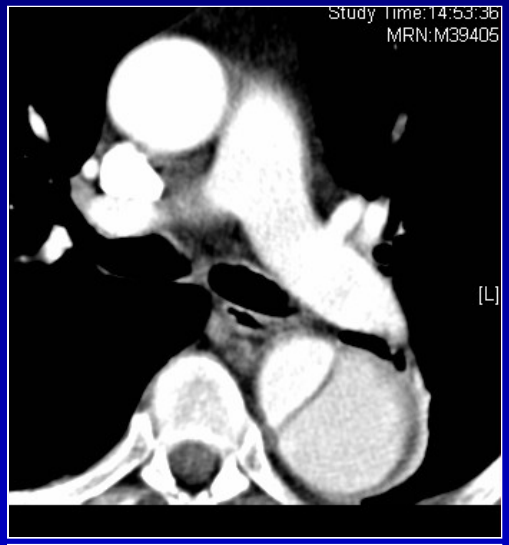
Early remodeling in the chronic phase of aortic dissection avoids expansion …

17.09.2003 20.08.2004



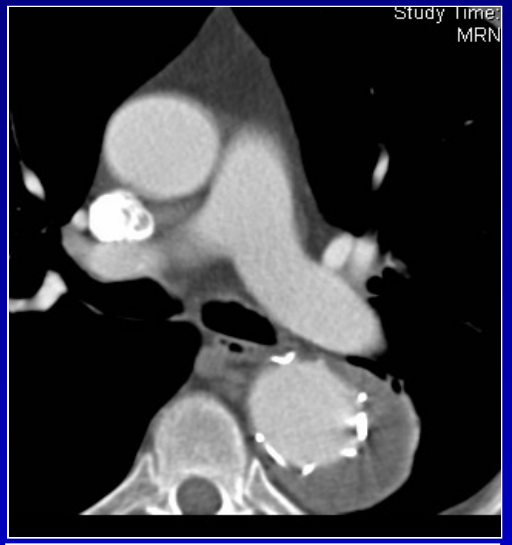
Chronic Aortic Dissection (> 3m)

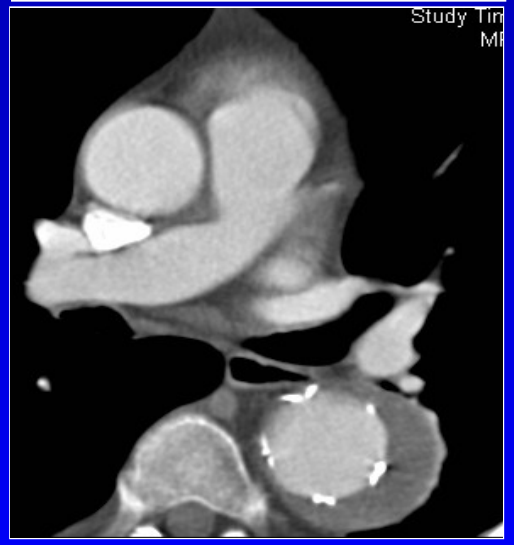
29.08.2003



05.09.2003

06.09.2004



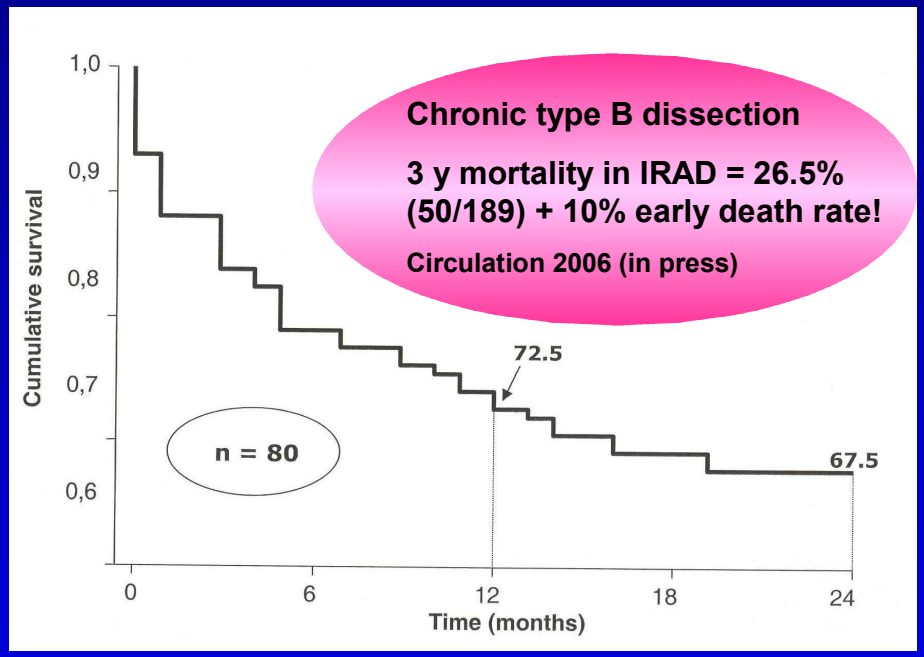


Long-term Follow-Up in chronic Type B Dissection

… even over
7.5 year of follow-up!

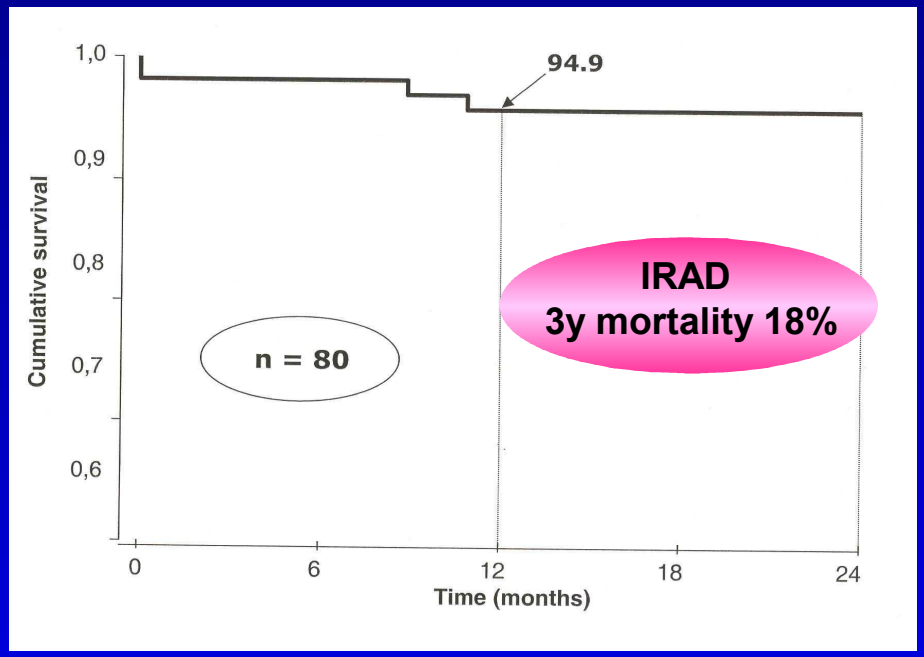
Cumulative survival of (initially) uncomplicated type B dissection: Stentgraft vs. historical group with medical therapy

Medical therapy



Natural History - medical therapy only

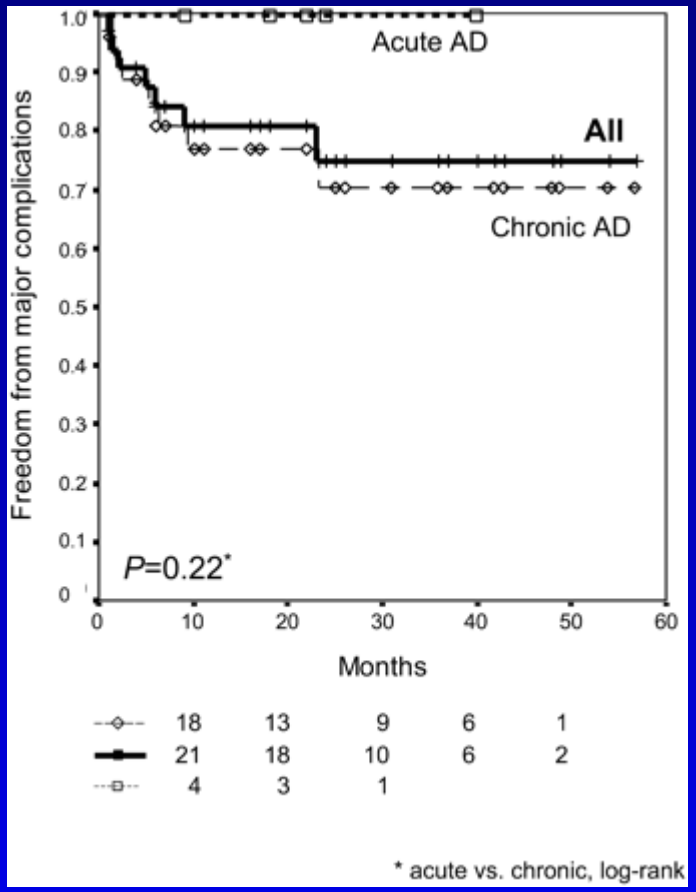
Elective stentgraft

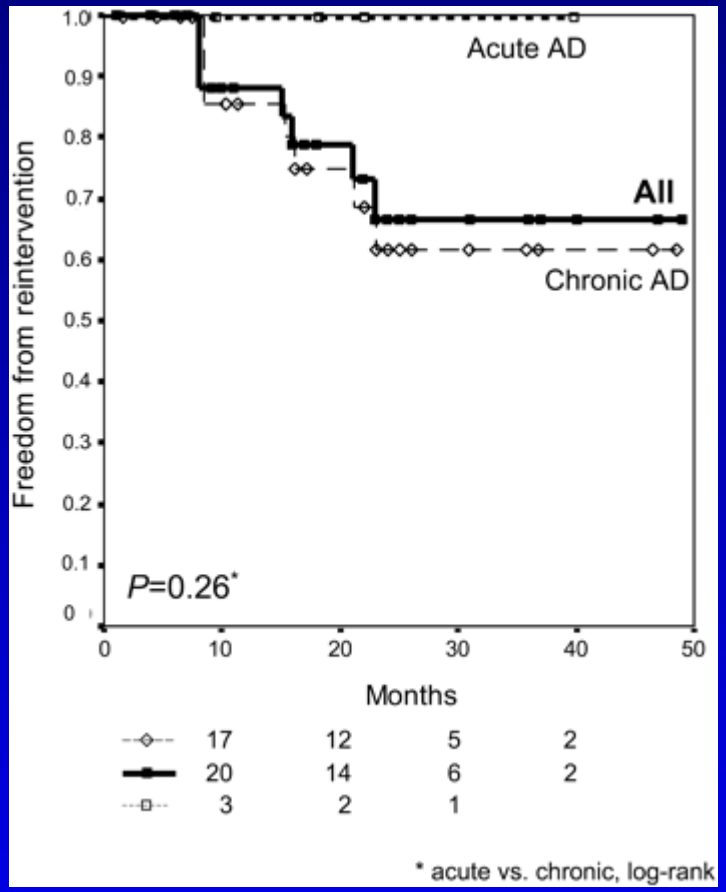


Cumulative survival after elective stentgraft-placement

Nienaber, Zanetti et al., Am Heart J. 2005 Apr;149(4):592-9

Freedom from major complications and reinterventions





Eggebrecht et al. Eur Heart J. 2005 Mar;26(5):431-2.

Complications with SG in type B dissection
Importants of high volume expertise

- 39 studies (>3 pat. with AD)
- total 1007 pats, of which 609 had AD (60,5%)
- 61 yrs, 76% male, 58% acute dissection

Single Center		Metaanalysis
8.4 %	Overall complications	13.6 ± 1.5 %
2.4 %	Major complications	11.2 ± 1.4 %
0.9 %	Minor complications	2.4 ± 0.7 %
2.0 %	Procedure-related complications	6.8 ± 1.2 %
0.5 %	- Retrograde type A- aortic dissection	1.9 ± 0.6 %
1.0 %	- Access complications	2.3 ± 0.7 %
1.5 %	Neurologic complications	2.9 ± 0.7 %
1.0 %	- Stroke	1.9 ± 0.6 %
0.5 %	- Paraplegia	0.8 ± 0.4 %

Eggebrecht H, Nienaber CA, et al, EJH 2005

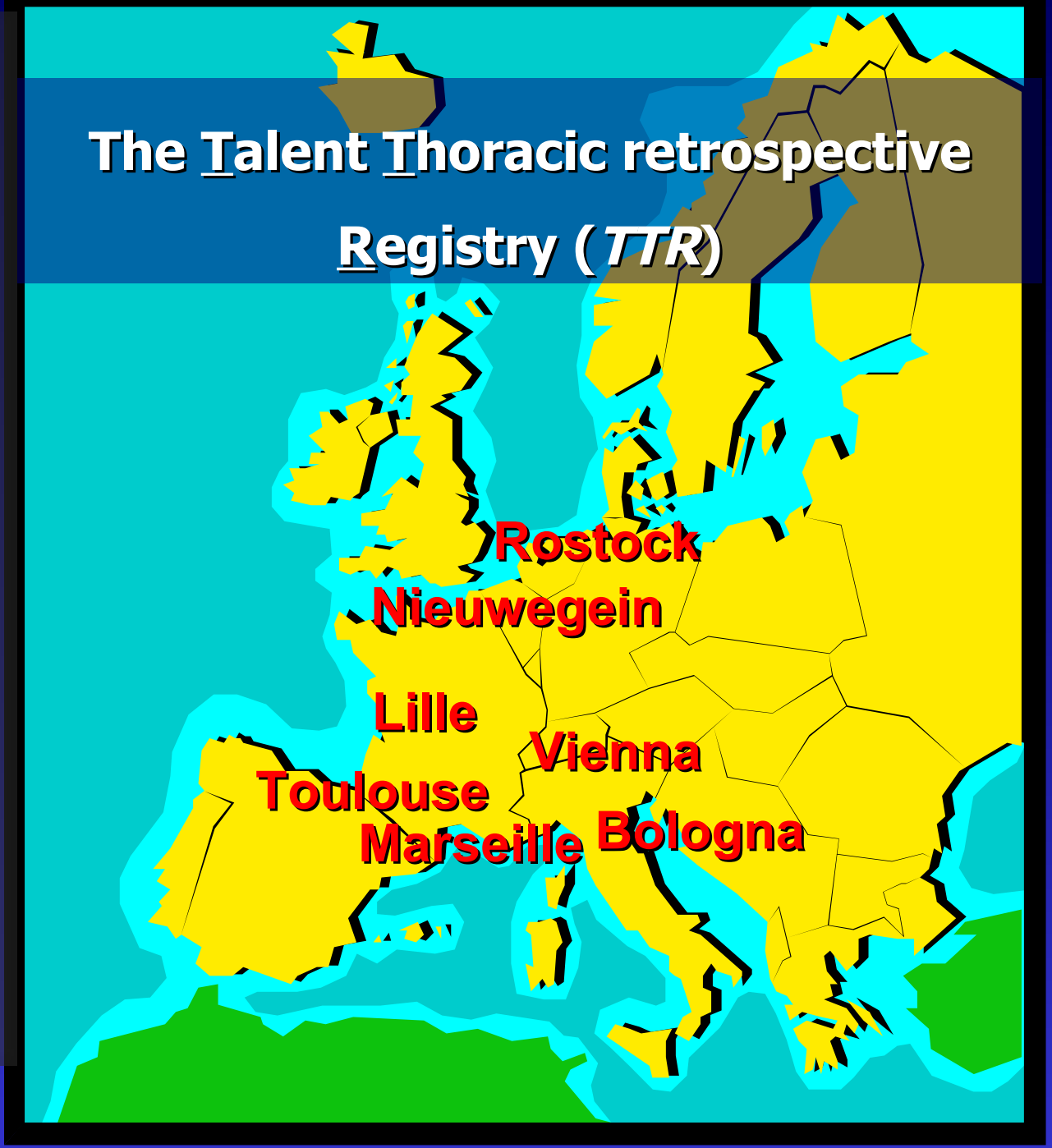
457 consecutive pts collected in 7 European referral centers

Inclusion criteria

Patients submitted to thoracic EVT with Talent stent-graft with a minimum FU of 3 months

Endpoints

Early-mid- and long-term outcome (mortality, graft-related mortality, endoleak, aortic rupture, re-intervention, stent fracture, migration)



Early results of largest registry (TTR, JTCS 2006)

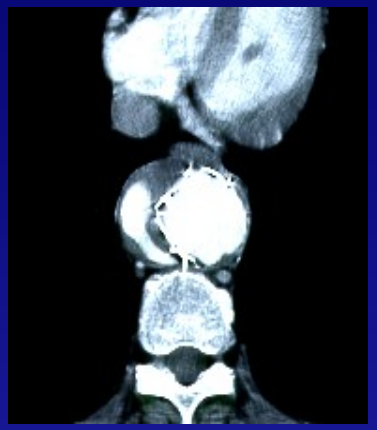
- Procedure technical failure (insertion or deployment) 2.2% (10 pts)
- Immediate conversion to open repair 0.7% (3 pts)

In-hospital complications 5.0 % (23 pts)		
(2 acute AoD during the procedure, 0.4%)		
- acute cases	7.9% (9 pts.)	p=0.16
- chronic cases	4.0% (14 pts.)	

In-hospital complications 12.6 % (58 pts)		
- Paraplegia/paraparesis	1.7 %	(8 pts)
- CVA (Stroke, TIA)	3.7 %	(17 pts)
- Local vascular	3.2 %	(15 pts)
- Extension of dissection	1.1 %	(5 pts)
- Others (pulmonary,renal,cardiac)	3.0%	(13 pts)

Fattori R, Nienaber Cet al, J Thorac Cardiovasc Surg 2006

TTR: Primary endoleak in 457 cases



Early post-operative:
98 pts (20%)

Spontaneous resolution
26 pts

Conversion to surgery
10 pts

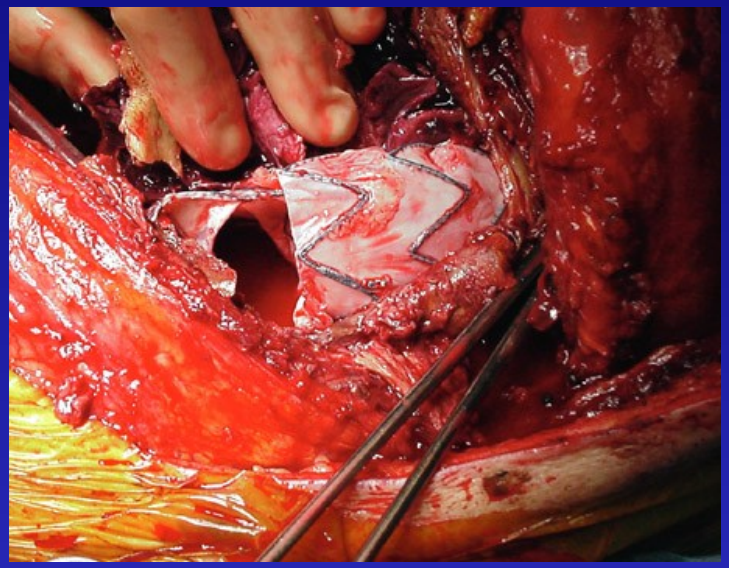
Adjunctive treatment
15 pts

Persistent primary endoleak: 44 pts (9.6%)

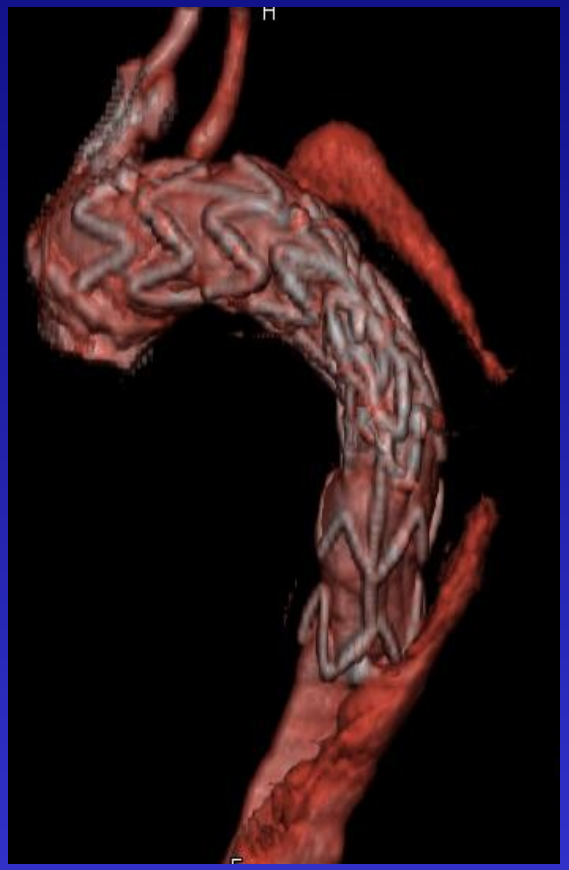
TTR: Early results in 457 cases

Persistent primary endoleak: 44 pts (9.6%)

Type of endoleak



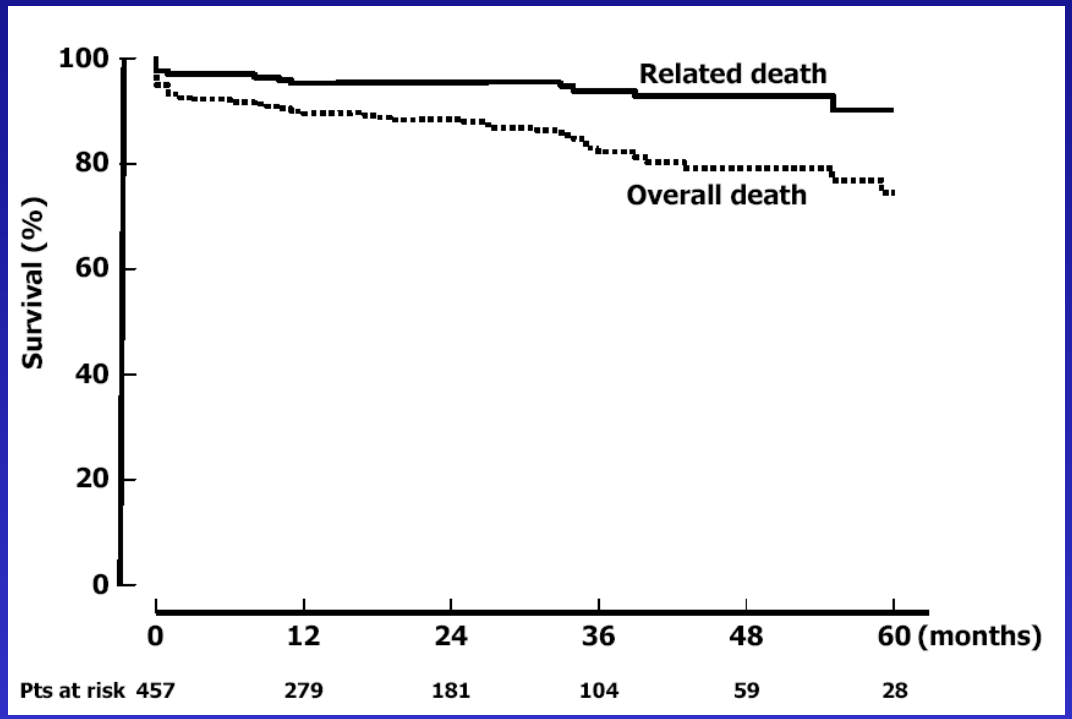
- Type I 7.2%
- Type II 0.8%
- Type III 1.2%
- Type IV 0.5%



TTR: Late results in consecutive cases

422 pts; mean F/U 24 months (range 3 – 85)

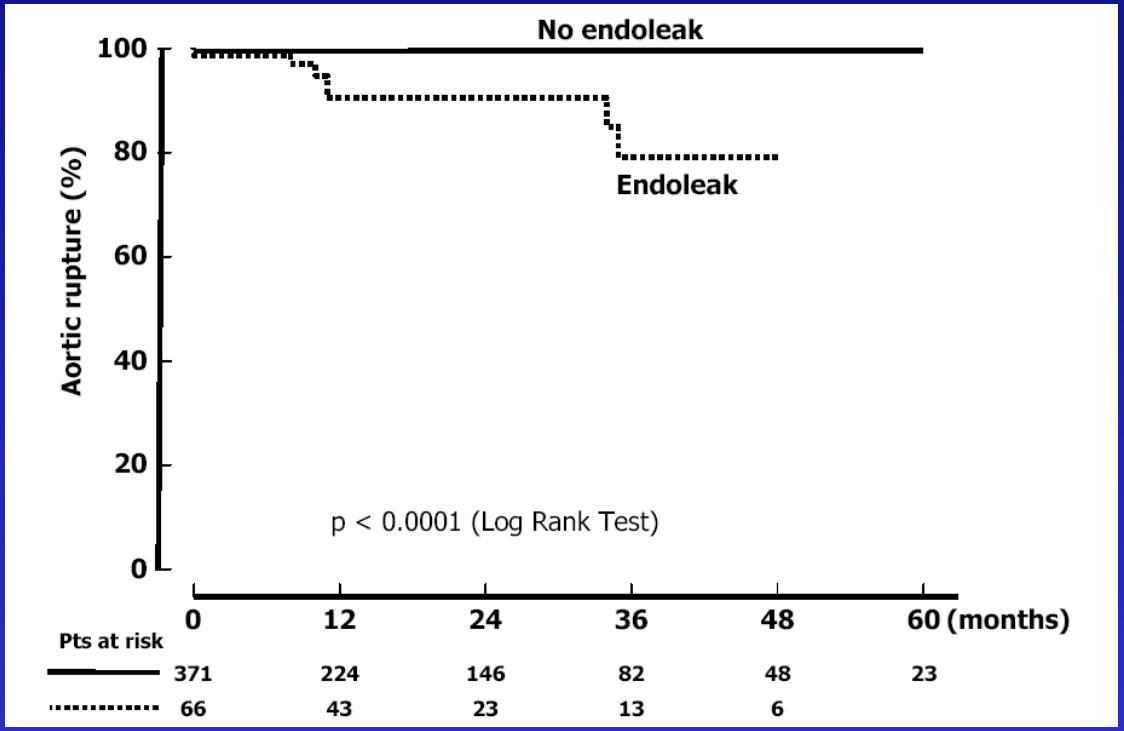
- Death during follow-up 8.5 % (36 pts)
  - Death aneurysm/dissection related 2.6 % (11 pts)
- Rupture during follow-up 1.6 % (7 pts)
- Late conversion to surgery 0.7 % (3 pts)



Fattori R, Nienaber C, et al, J Thorac Cardiovasc Surg 2006

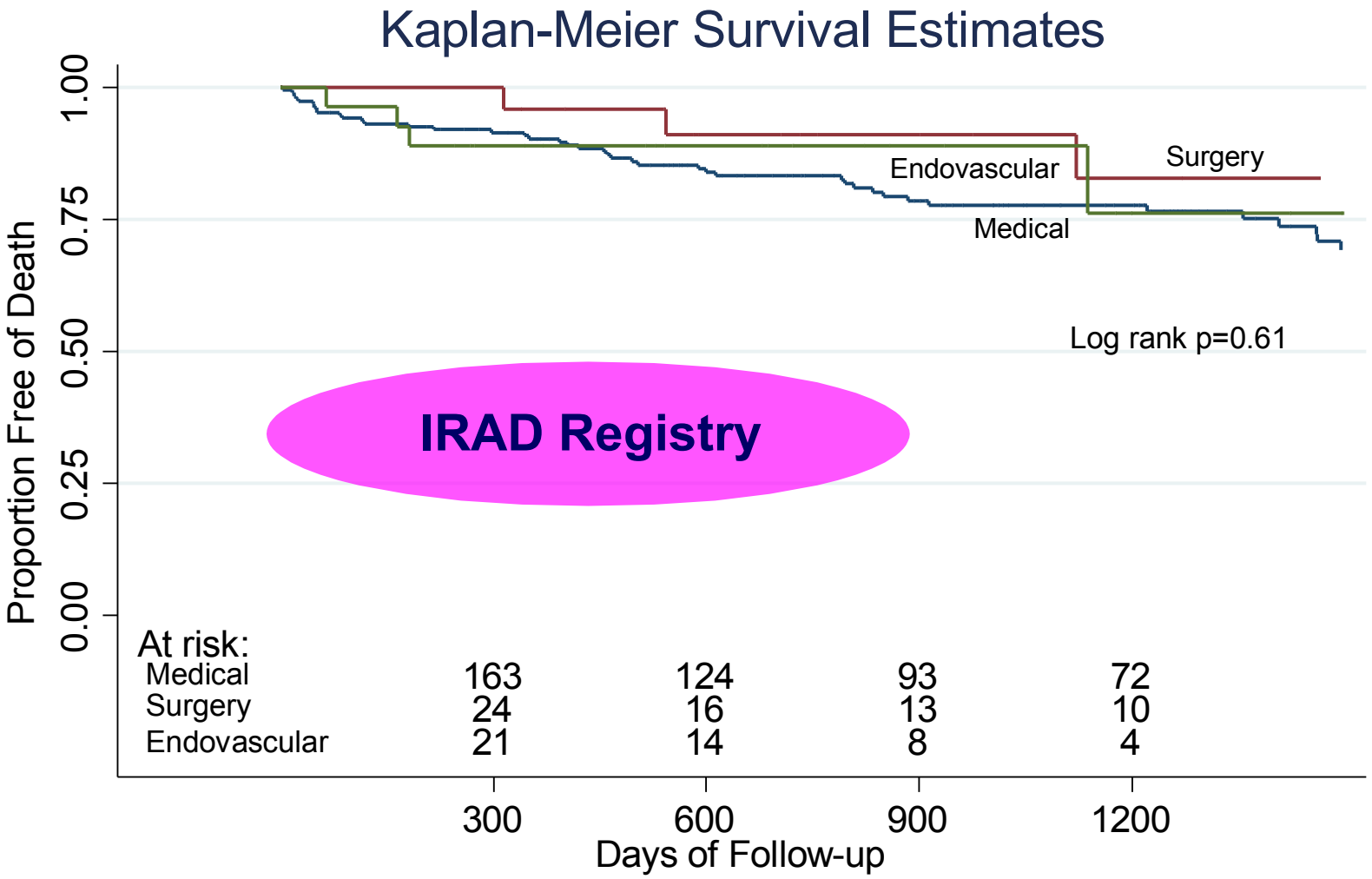
TTR: Late results of 422 cases

- Follow-up data (mean 24.3 months) showed aortic rupture in 7 patients (1.6%), all subsequently died
- Six of 7 patients with aortic rupture had dissection as the primary disease (2 Marfan) and all 7 had a type I endoleak



Fattori R, Nienaber C et al, J Thorac Cardiovasc Surg 2006

IRAD: Survival of type B dissection by treatment strategy



IRAD Investigators 2006; Circulation (in press)

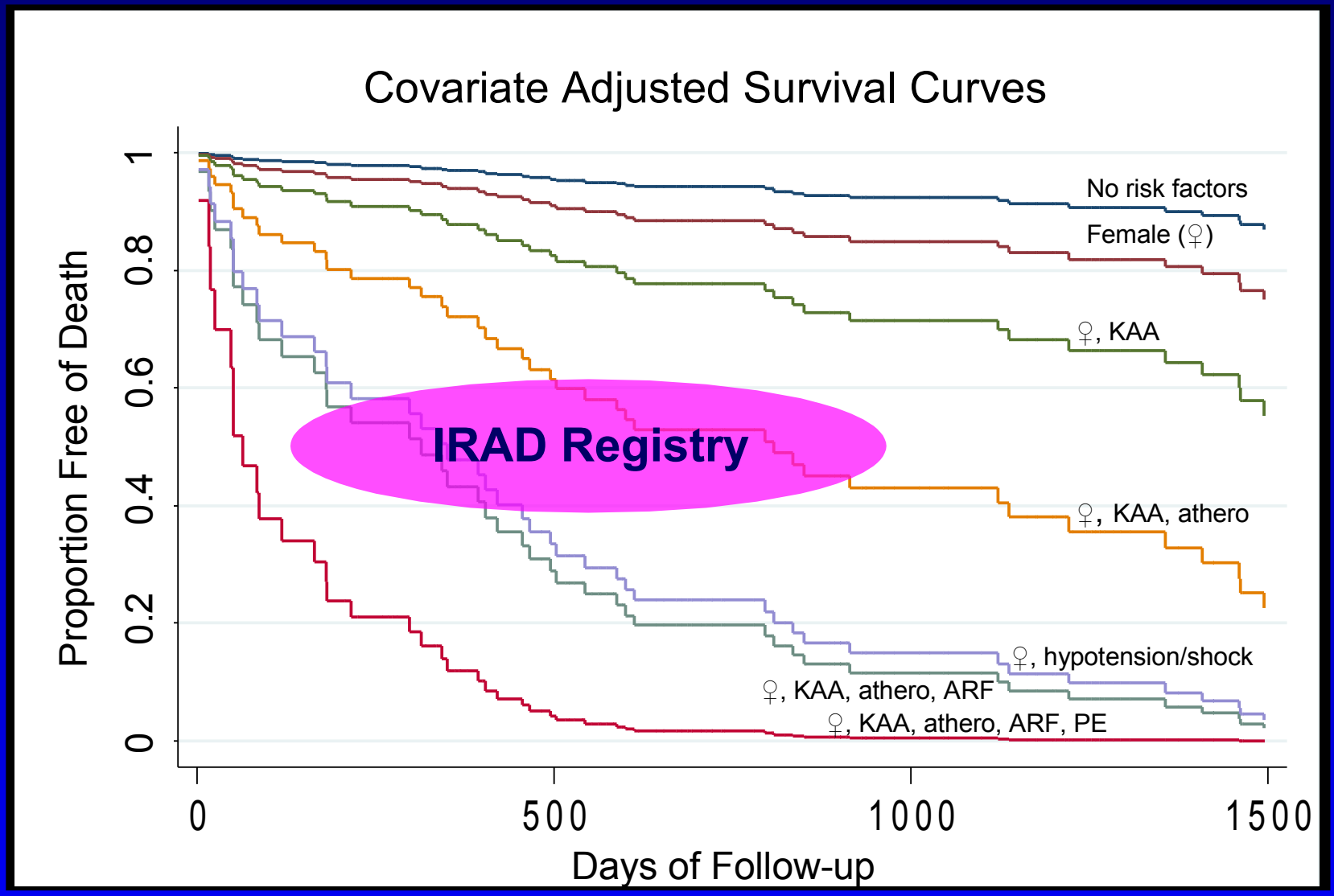
Thoracic Endografts: The New Standard of Care?

- Emerging TEVAR has a relatively low associated morbidity and mortality.
- F/U studies indicate stable morphological results or regression (in absence of endoleak !).
- Technical perfection! Strong learning curve phenomenon!
- New standard of care may still be too euphemistic today considering the need for careful and proper patient selection.

Consideration of comorbidities and peculiarities of the individual patients …

- Nomenclature not settled
  - Does “aortic root” mean ascending aorta?
  - Is the “aortic arch” the proximal descending?
  - Is “ectatic” or “tortuous” sceme?
- Can you rely on sizing of the aorta?
  - Inter-observer variabiltiy in CT is ± 4mm
  - Use of various modalities increases uncertainly while the dimension of the pathology may be unchanged
    - Slow progression may not be recognized
    - True progression may be dispuised

IRAD: Survival of type B dissection by Comorbidities



IRAD Investigators 2006; Circulation (in press)

First endovascular repair of an aortic aneurysm ... ever !

УДК 616.132-007.64-001.5-089.819.5

Н. Л. Володось, И. П. Карпович, В. Е. Шеханин, В. И. Троян, Л. Ф. Яковенко, Л. С. Керемет, А. С. Неонета, В. И. Кулеба, А. И. Саньков, Г. И. Гавриков

СЛУЧАЙ ДИСТАНЦИОННОГО ЧРЕЗБЕДРЕННОГО ЭНДОПРОТЕЗИРОВАНИЯ ГРУДНОЙ АОРТЫ САМОФИКСИРУЮЩИМСЯ СИНТЕТИЧЕСКИМ ПРОТЕЗОМ ПРИ ТРАВМАТИЧЕСКОЙ АНЕВРИЗМЕ

Харьковский НИИ общей и неотложной хирургии (дир. — проф. В. Т. Зайцев)

Операции протезирования грудной аорты относятся к одним из травматичных в сердечно-сосудистой хирургии. В настоящее время с точки зрения снижения травматичности этого типа операций оптимальным методом, оправдавшим себя в клинической практике, является интраоперационное применение эндопротезов с двойными кольцами (Durcau G. и соавт., 1978). Для осуществления фиксации необходимо выполнение торакотомии, выделение аорты выше и ниже аневризмы, пережатие ее на время введения эндопротеза. Вследствие этого указанный метод не может считаться хорошо решенной альтернативой классическим методам протезирования грудной аорты с применением ИК, временных шунтов или гипотермии, так как сохраняется большая травматичность операции.

Принципально новым подходом к снижению травматичности при протезировании грудной аорты является дистанционное эндопротезирование, при котором не осуществляются доступ к пораженному сосуду, его выделение и пережатие. И хотя блестящая идея такого протезирования была выдвинута Ch. T. Dotter в 1969 г., в клинике она не была реализована в последующие 15 лет.

Описания случаев выполнения в клинике дистанционного эндопротезирования грудной аорты синтетическим протезом в доступной литературе мы не нашли. В связи с этим считаем целесообразным сообщить о первом клиническом наблюдении дистанционного эндопротезирования грудной аорты при ее травматичной аневризме с помощью самофиксирующегося синтетического протеза.

Больной Б., 53 лет, поступил в сосудистое отделение с жалобами на боли в грудной клетке, общую слабость, одышку при физической нагрузке. Из анамнеза известно, что в 1959 г. больной получил компрессионный перелом XII грудного позвонка вследствие сдавления между автомашинами. Имели место нижняя параплегия, нарушение функции тазовых органов. В 1966 г. во время флюорографического диспансерного обследования у больного выявлена опухоль заднего средостения. 15 апреля 1986 г. больному произведена левосторонняя торакотомия в торакальном отделении областной больницы. При ревизии