

11^{èmes} Rencontres Internationales de la SMSE

Lésions iliaques

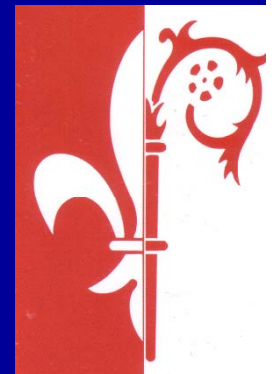
Techniques endovasculaires

Dr Jacques Busquet

Vascular & Endovascular Surgery

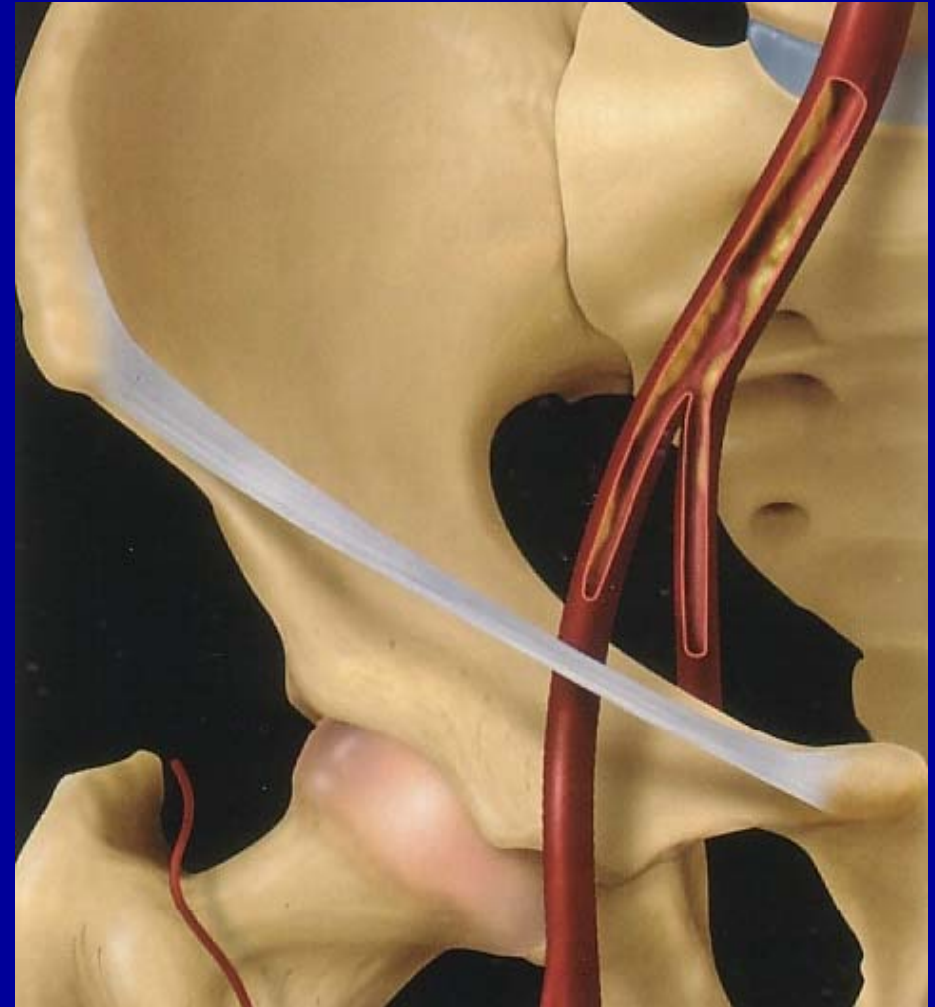
Clinique Chirurgicale Val d'Or - Saint Cloud

Paris, France



Iliac Artery Disease

- **Focal Iliac Stenosis**
- **Long Iliac Stenosis**
- **Iliac Occlusion**
- **Multifocal Iliac Disease**



TASC II aorto-iliac lesions

Type C and Type D

Type C lesions

- Bilateral CIA occlusions
- Bilateral EIA stenoses 3–10 cm long not extending into the CFA
- Unilateral EIA stenosis extending into the CFA
- Unilateral EIA occlusion that involves the origins of internal iliac and/or CFA
- Heavily calcified unilateral EIA occlusion with or without involvement of origins of internal iliac and/or CFA



Type D lesions

- Infra-renal aortoiliac occlusion
- Diffuse disease involving the aorta and both iliac arteries requiring treatment
- Diffuse multiple stenoses involving the unilateral CIA, EIA, and CFA
- Unilateral occlusions of both CIA and EIA
- Bilateral occlusions of EIA
- Iliac stenoses in patients with AAA requiring treatment and not amenable to endograft placement or other lesions requiring open aortic or iliac surgery



Arterial Thrombosis



Leriche Syndrome



René Leriche

Bilateral Acute Ischemia

History of Claudication

Impotence

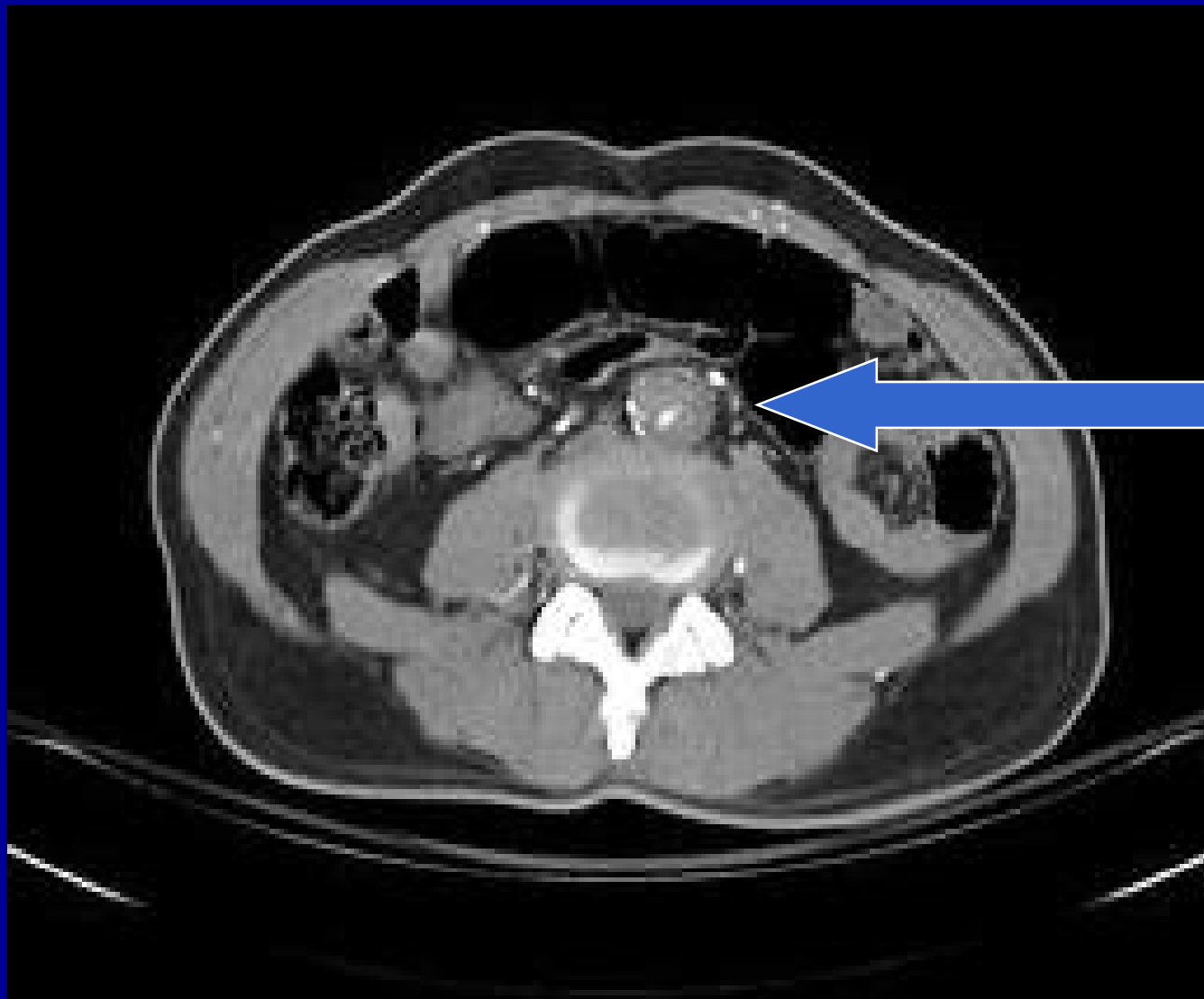
No Femoral Pulse

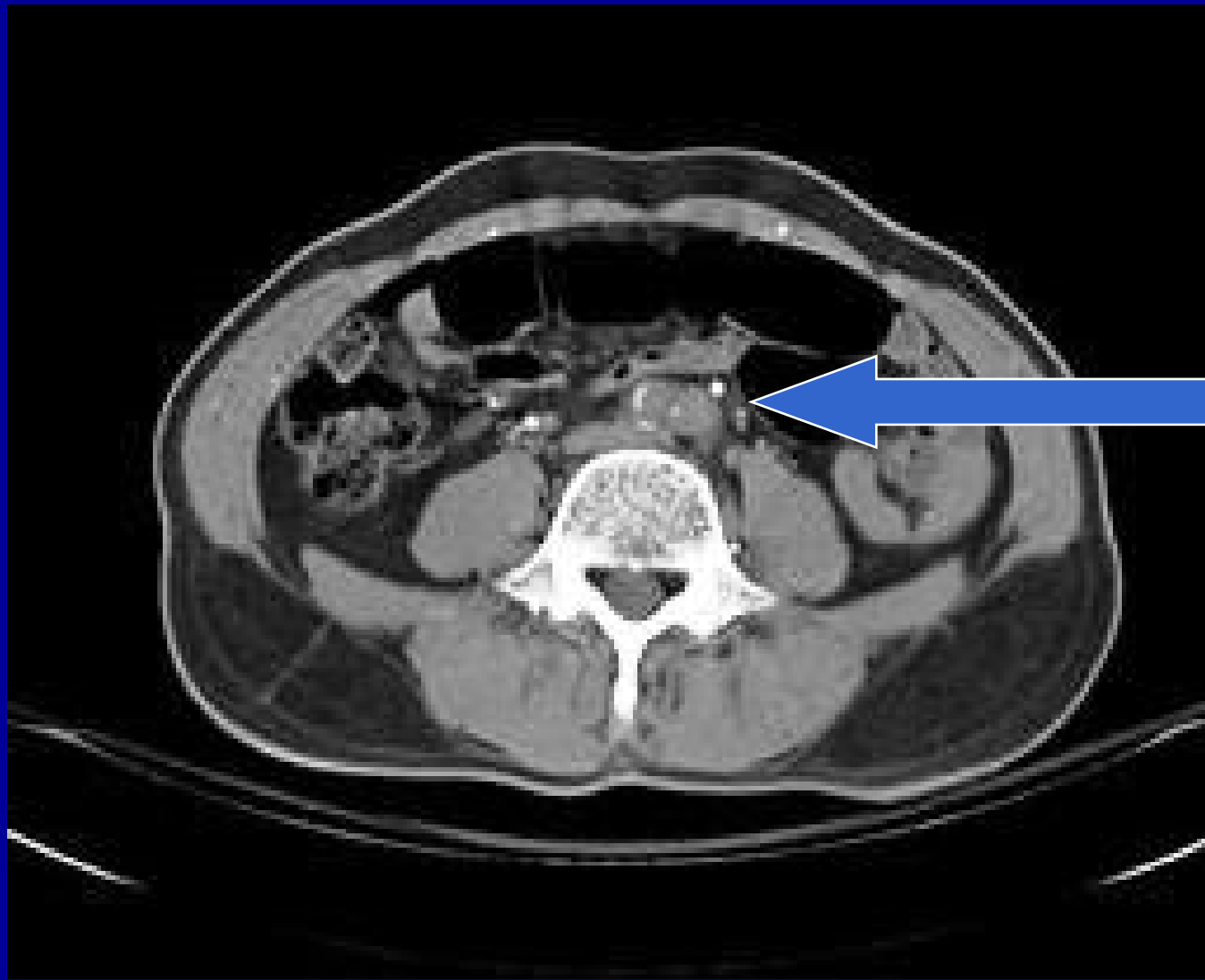
Bad Prognosis

Acute Occlusion of Aortic Bifurcation

Aortic Bifurcation Thrombosis

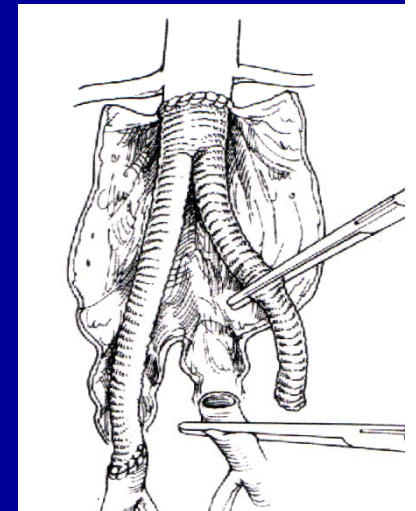
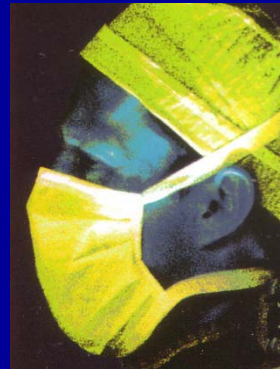
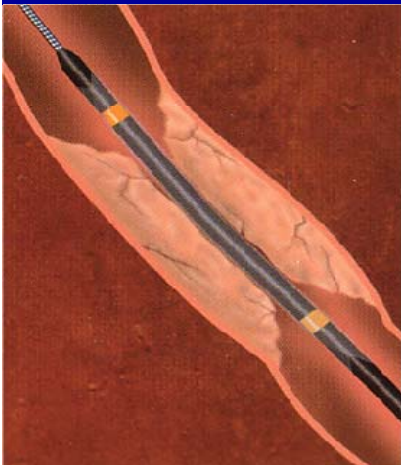






Competition

Endovascular Therapy vs Open Bypass Surgery



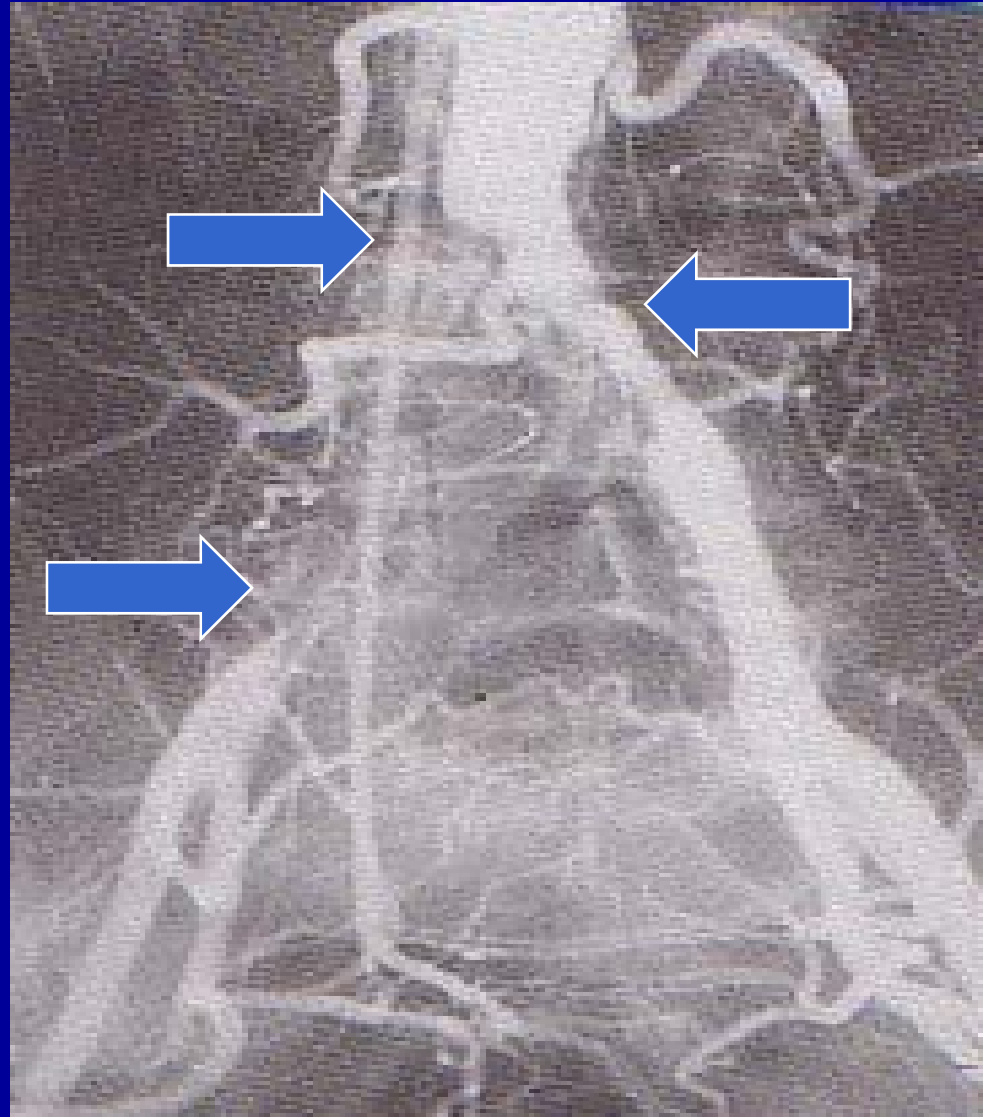
Iliac Artery Occlusive Disease

Current options

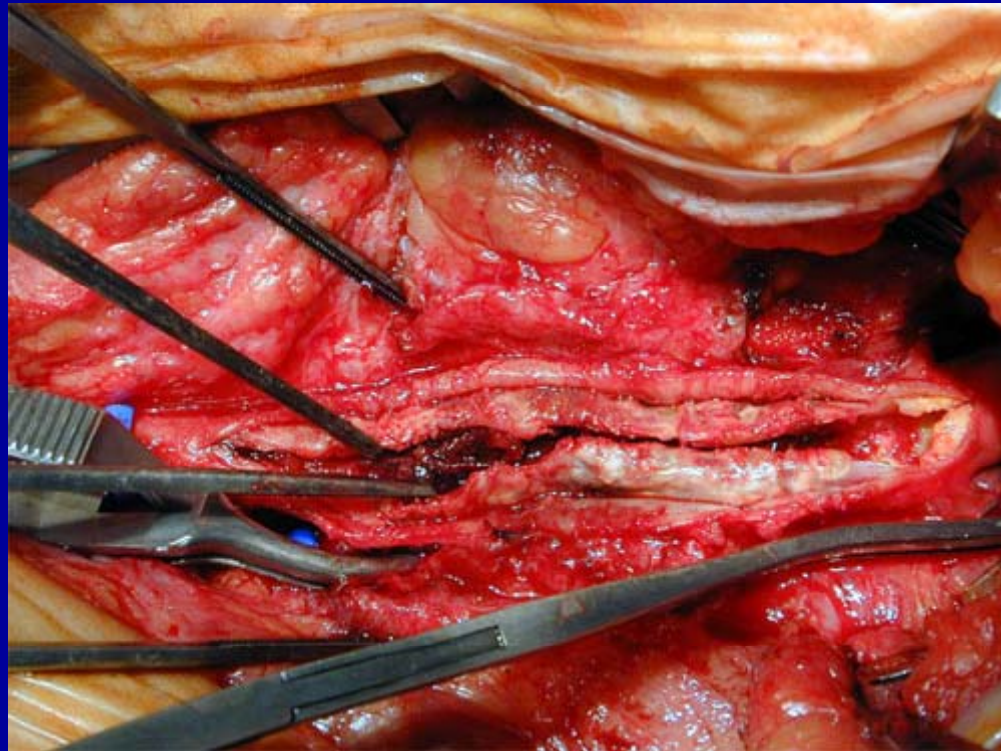
- **Open Revascularization:**
 - Bypass**
 - Endarterectomy**
- **Endovascular Revascularization:**
 - Balloons**
 - Stents**
 - Stent-Grafts**

Complex Case Iliac Case

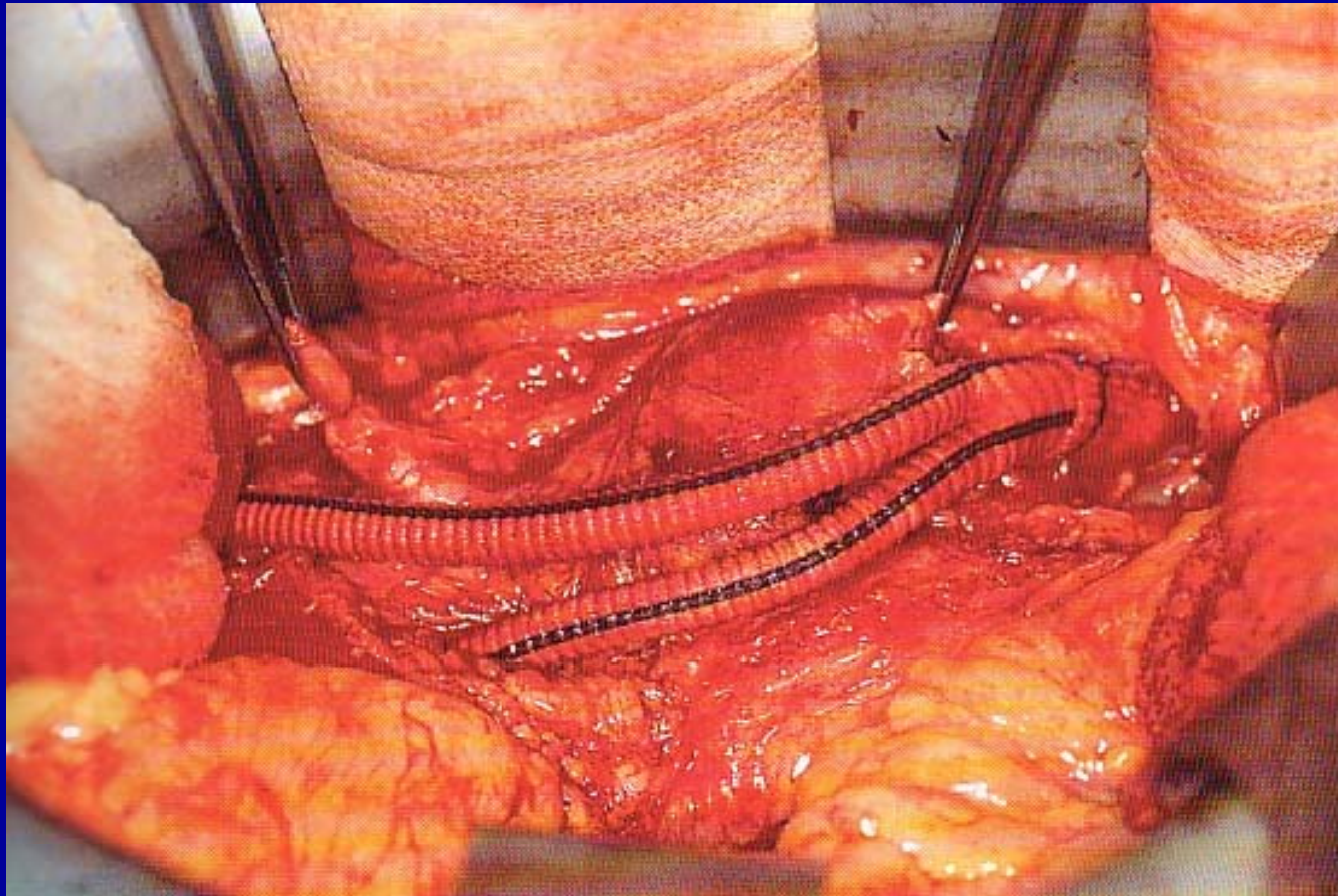
Can We Avoid Open Surgery ?



Endarterectomy



Aorto-Bifemoral Bypass Grafting



Aorto-Bifemoral Bypass

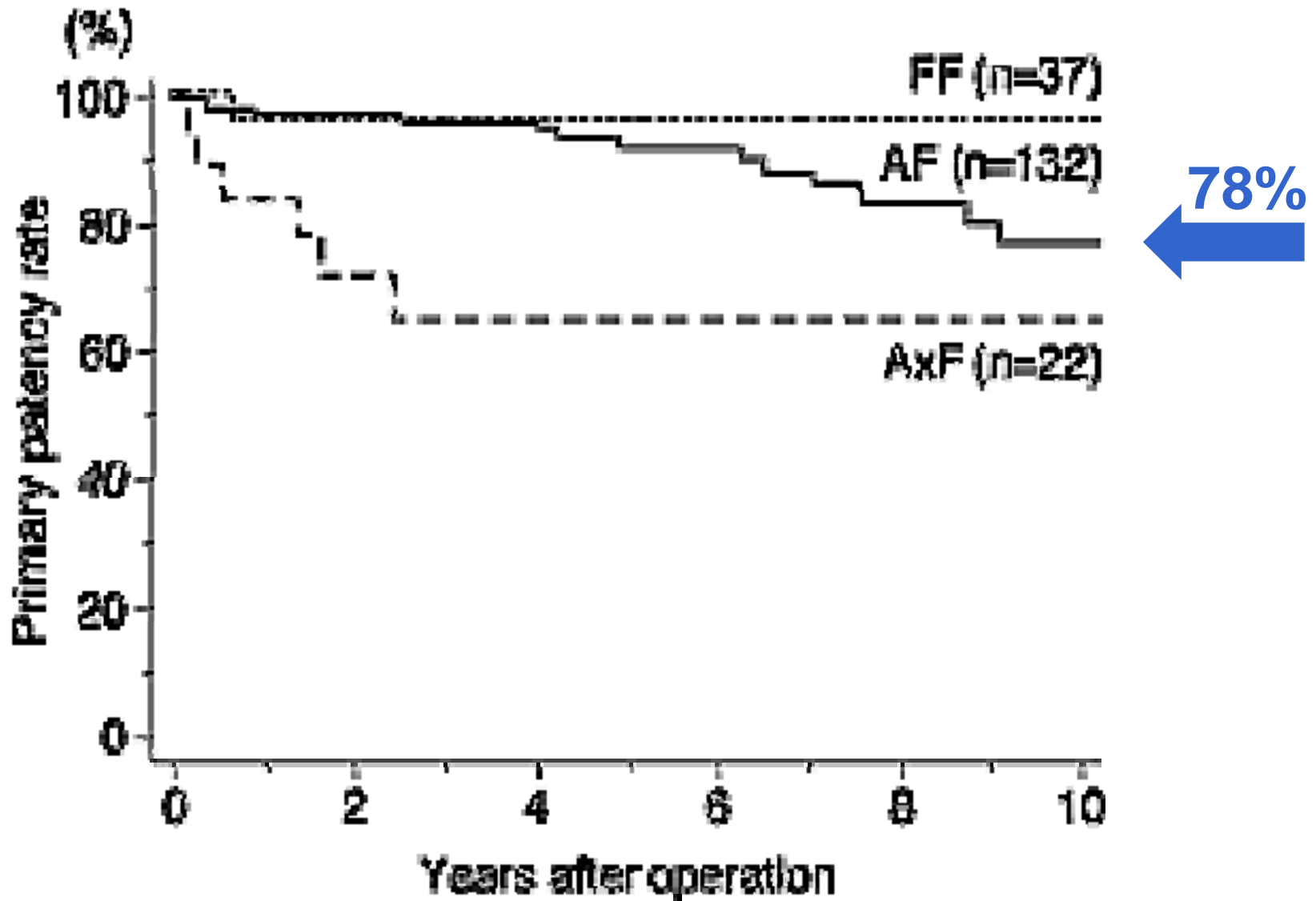
Operative Mortality Rate

2-3%

Long Term Patency @ 5 years

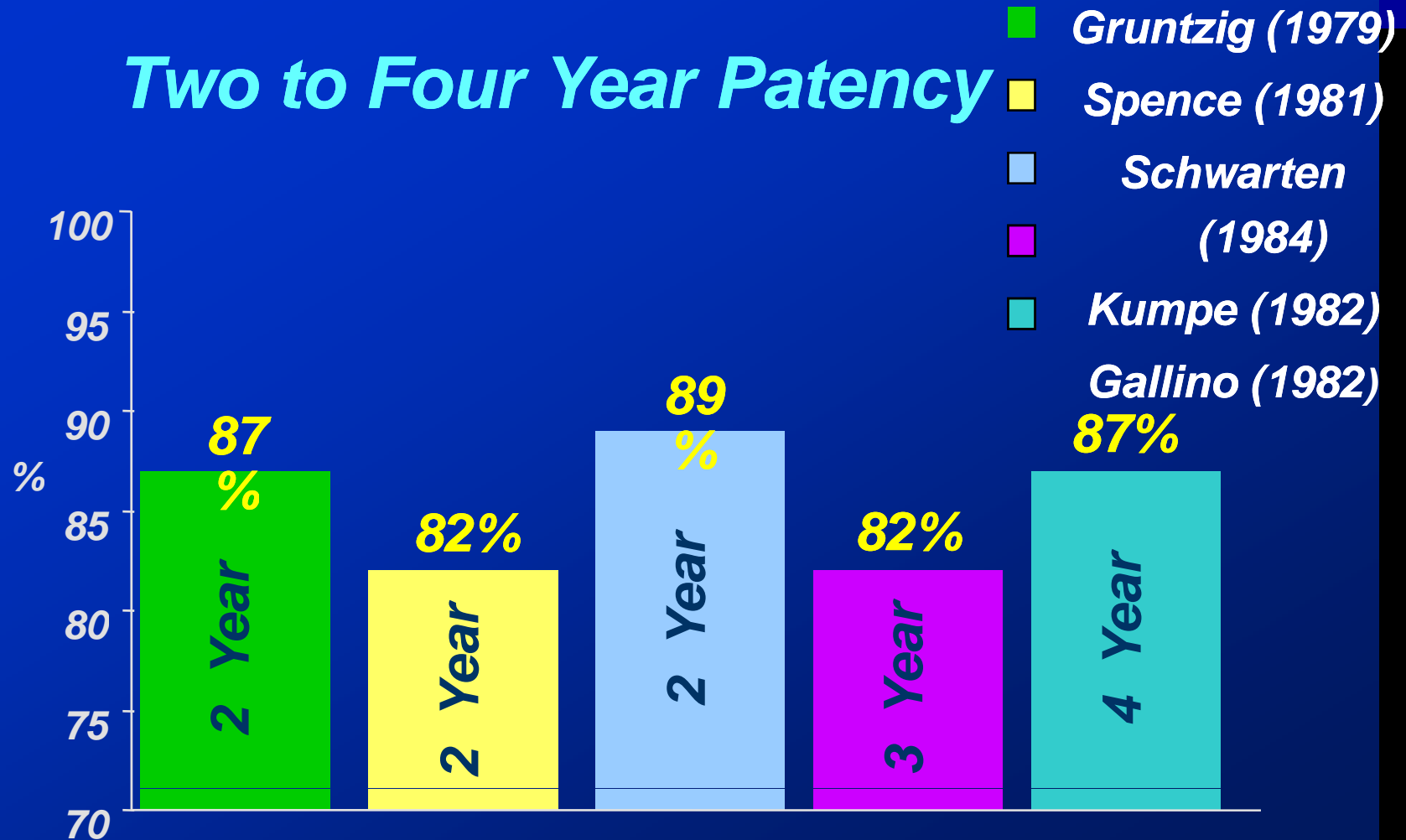
85-90%

Aorto-Femoral Bypass *Long Term Patency*



Results of Iliac Angioplasty

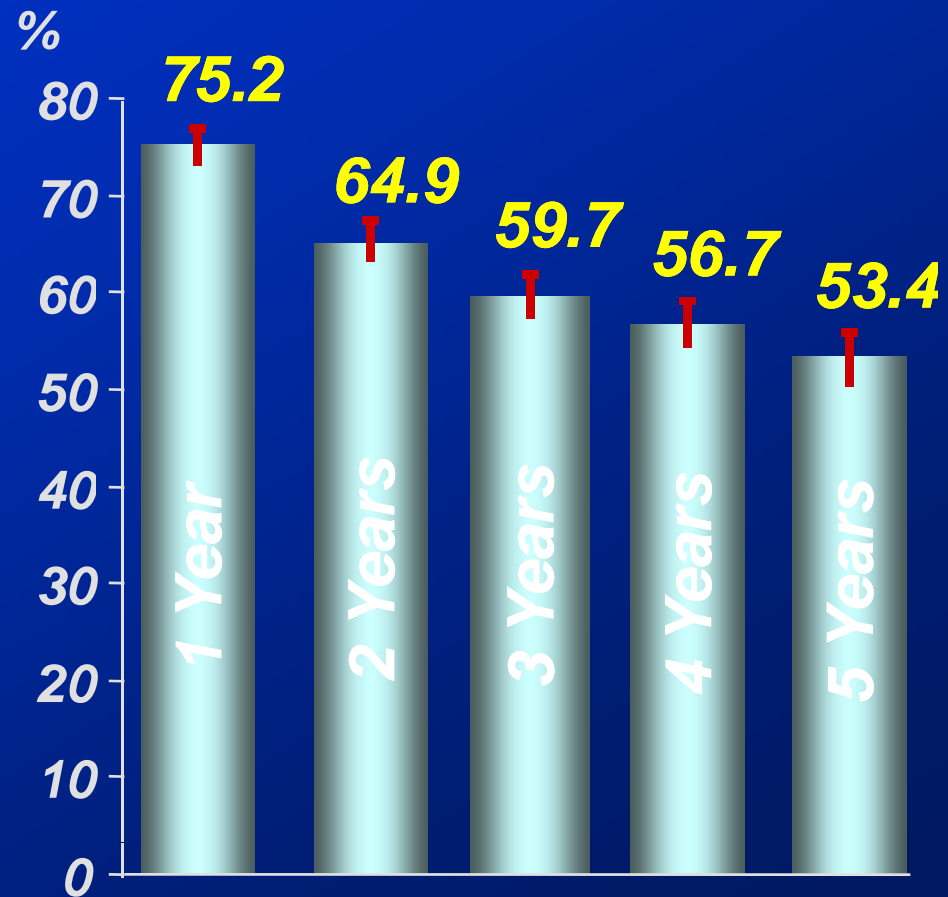
Two to Four Year Patency



Results of Iliac Angioplasty

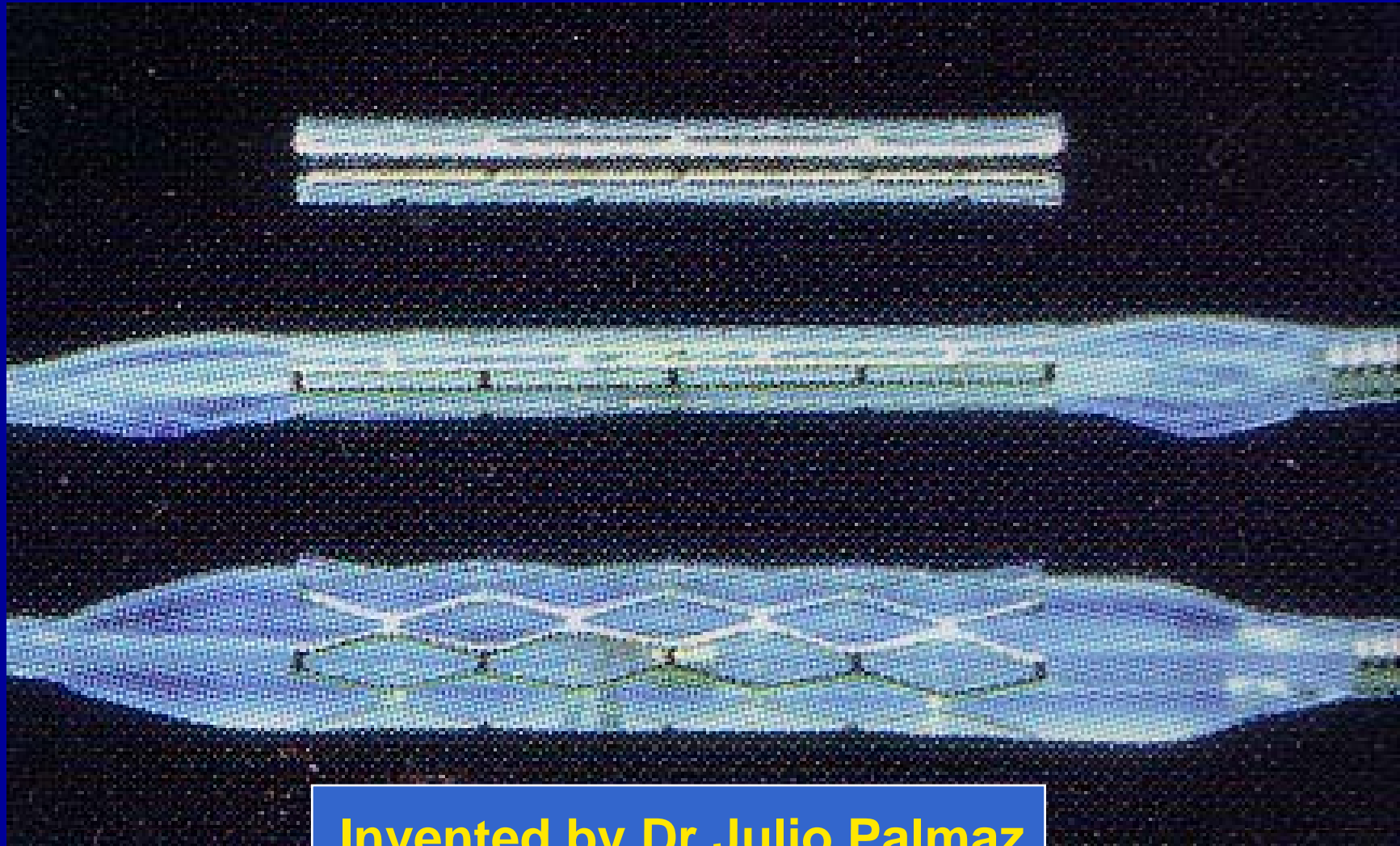
- 667 iliac procedures analyzed
- One month clinical success 90.2%

Late Clinical Success



Ann Surg 1987;206:403-13

Balloon Expandable Stent



**Invented by Dr Julio Palmaz
1986**

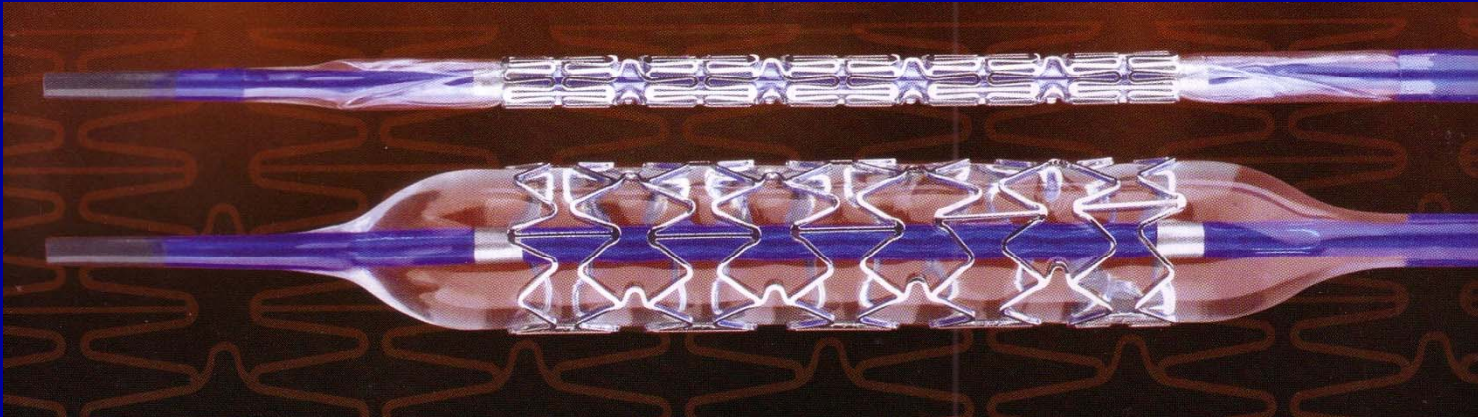
Evolution of Bare Metal Stent

Stainless steel



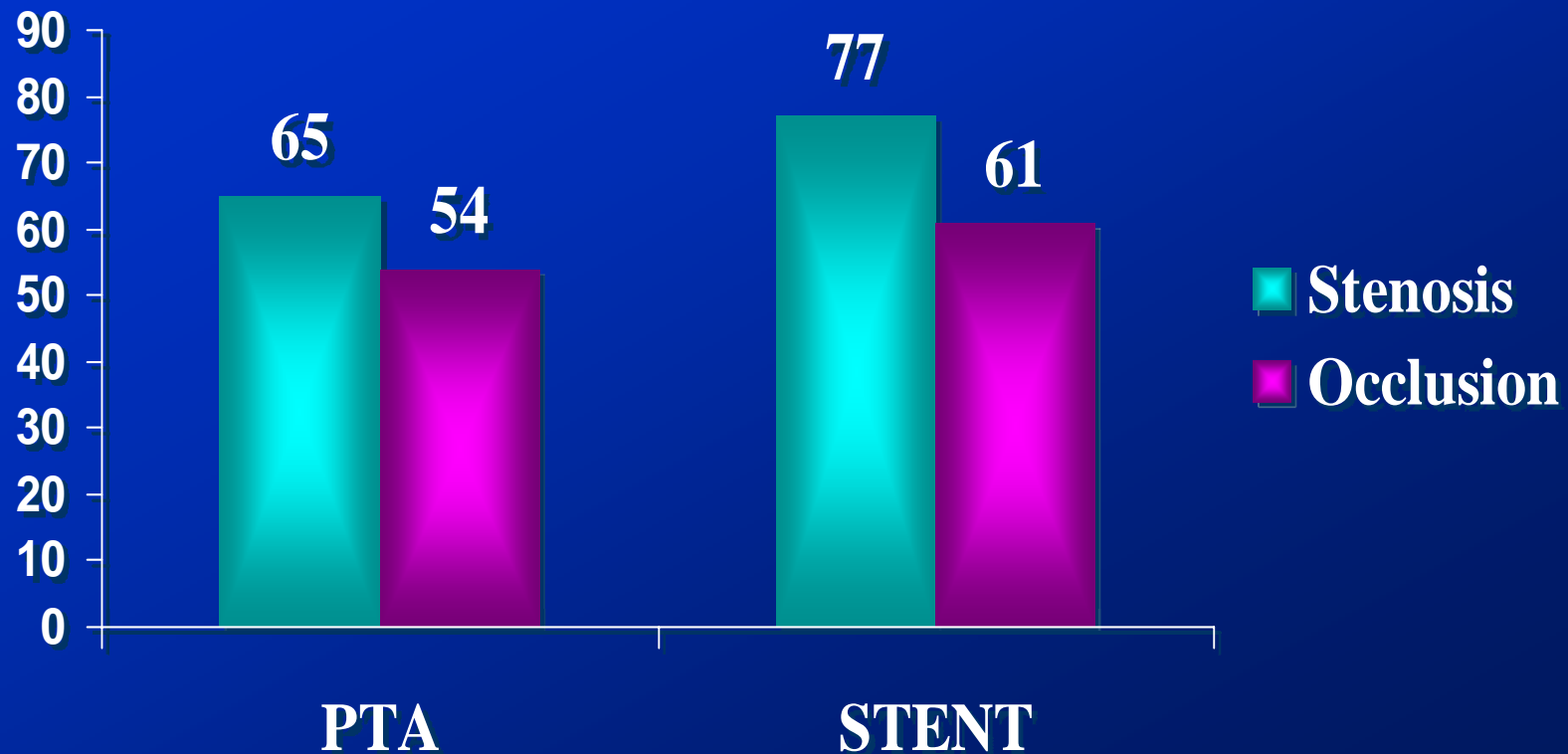
Chrome - Cobalt

New Low-Profile Balloon-Expandable Stent



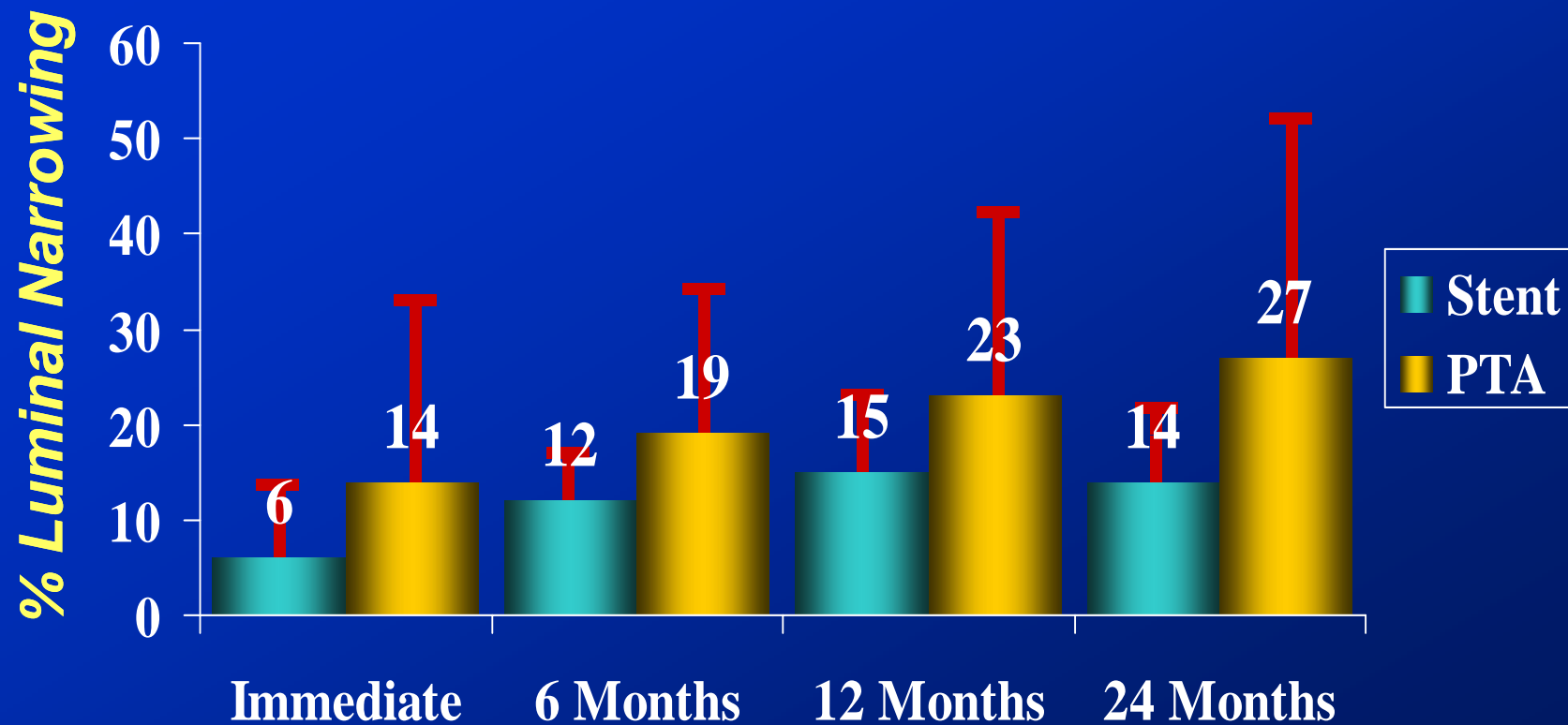
Sophisticated Cell Design

Four Year Patency



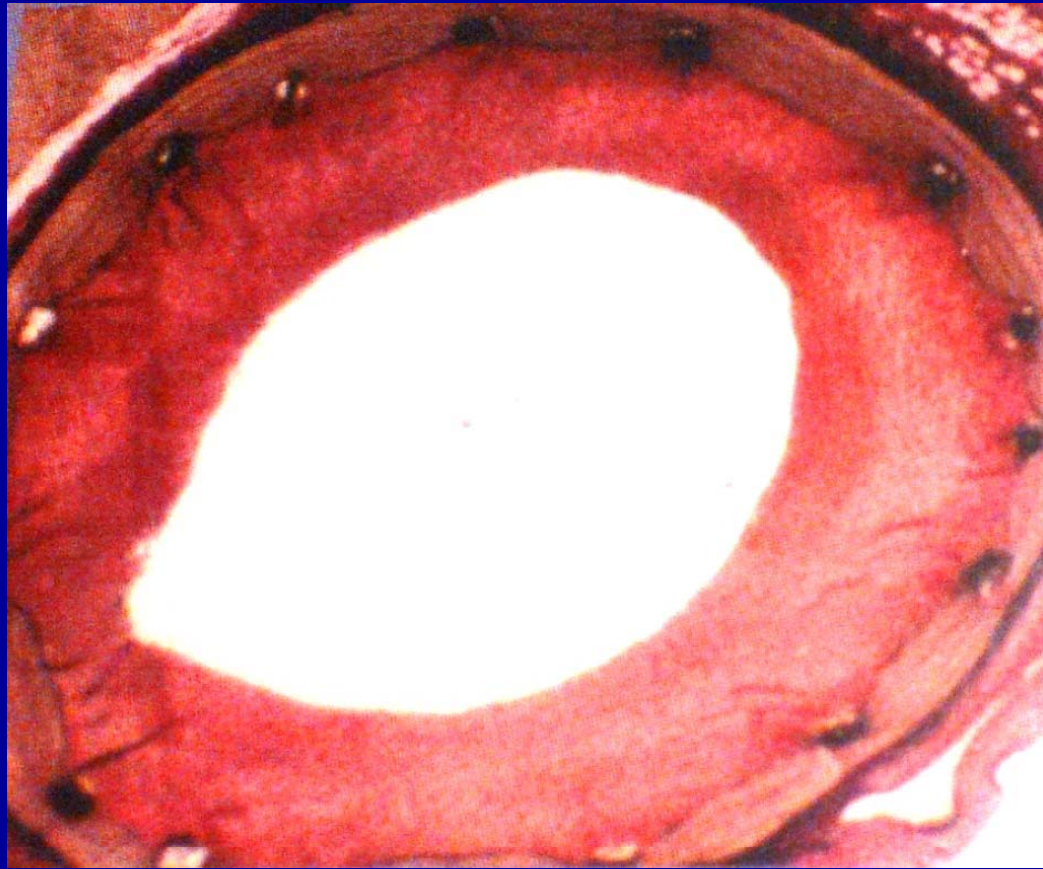
Radiology 1997;204:87-9

Randomized Trial: Mean Restenosis



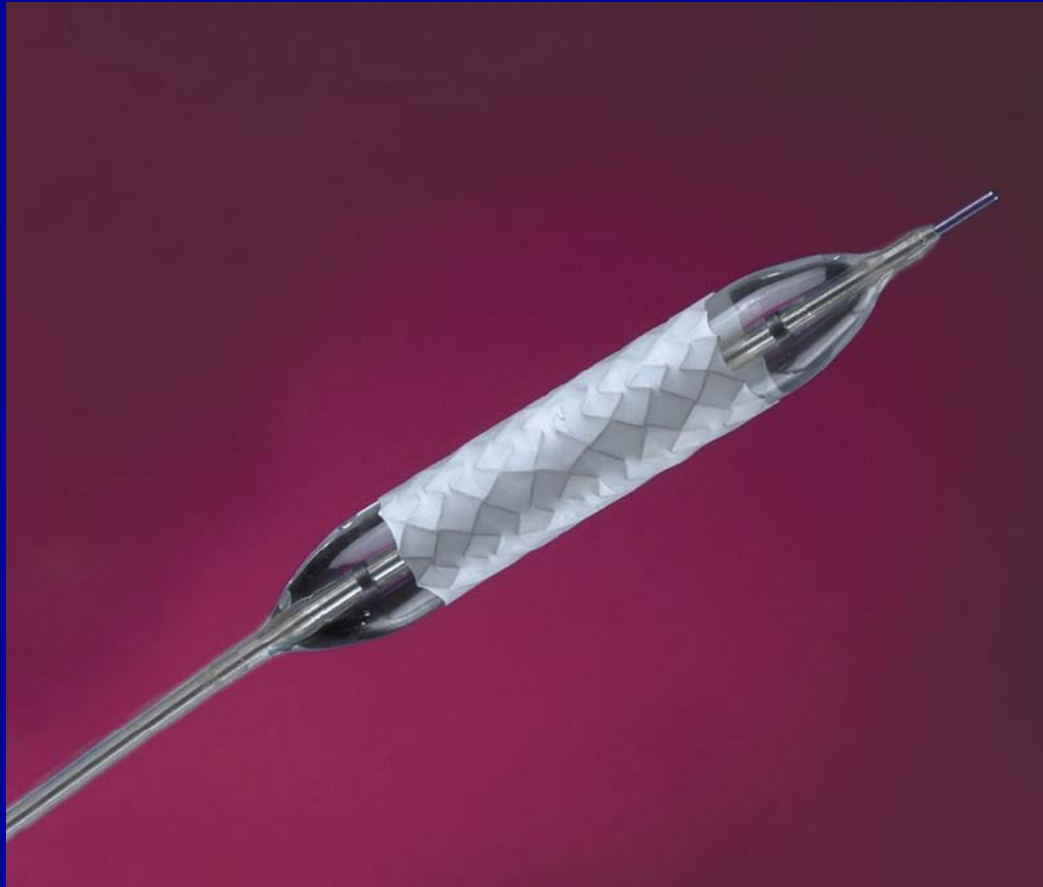
G. Richter et al, 1992

Instant Restenosis



Atrium's Bx Covered Stents

Advanta™ V12 and iCAST™



COBEST Trial

What is COBEST: (Covered Balloon Expandable Stent Trial)

- A prospective, randomized, controlled, multi-center (12 sites) clinical trial comparing Atrium's balloon expandable covered stent to bare metal stents for use in iliac occlusive disease.

Inclusion criteria:

- Type B, C, or D lesions.
- Dissection after angioplasty.
- Recurrent stenosis after angioplasty.

Follow up:

- Patients were followed clinically (with ABI and symptom relief) and by duplex US scan at 6, 12, and 18 months.

Primary Objective:

- Binary restenosis (<50% stenosis on DU/Angiogram)=primary patency at 6, 12 and 18 months.

Outcomes of Kissing Covered Stents Compared to Non-Covered Stents for Aortic Bifurcation Lesions

Results Continued:

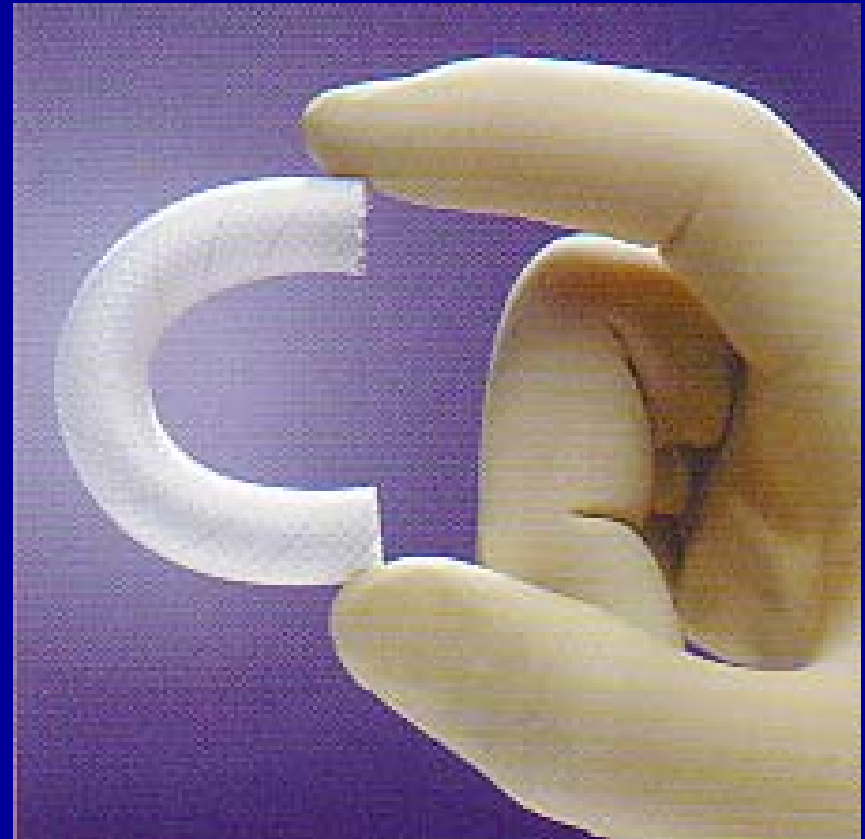
- Sustained clinical improvement at follow up:
 - 85% of Atrium covered stent patients had sustained clinical symptom improvement during follow up period.
 - 54% of BMS patients had sustained clinical symptom improvement
- TVR at 2 years:
 - Atrium Covered Stent = 8%
 - BMS = 38 %

Conclusion:

There is a clinically and statistically significant difference in the patency rates of balloon expandable covered versus bare metal balloon expandable stents employed in the treatment of atherosclerotic occlusive disease of the aortic bifurcation and proximal CIA's.

PERIPHERAL STENT-GRAFTS

- ***Aneurysm Exclusion***
- ***Restenosis***
- ***Vascular Trauma***
- ***A-V Fistula***
- ***Occlusion***



WALLGRAFT[®] Endoprosthesis

- End to end PET covering with Halo[™] technology
- Reconstrainable and repositionable
- 6-14 mm diameters
- 20, 30, 50, 70 mm lengths
- 90 cm catheter working length
- Anywhere from 9 Fr to 12 Fr sheath required

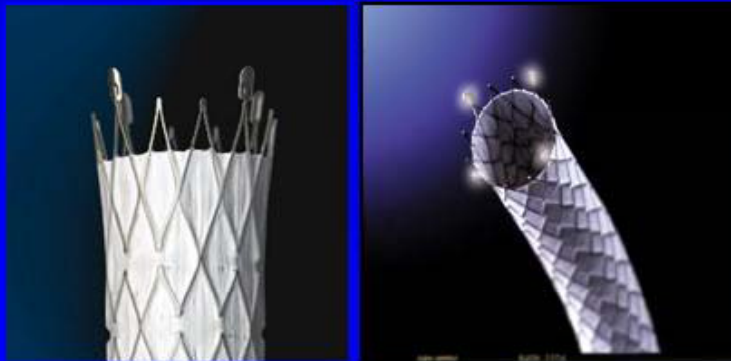


VIABAHN™ Endoprosthesis

- ePTFE lining with an external nitinol support
- No foreshortening
- Easy deployment
- 5 – 13 mm diameters
- 2.5 – 15 cm lengths
- 75 cm and 110 cm working lengths
- 8 Fr to 12 Fr sheaths required



FLUENCY™



- Luminexx™ nitinol stent
- ePTFE encapsulated
- 2 ultra-thin layers
- 2mm bare ends
- Low Profile 8F-9F
- Carbon impregnated
- Tracheobronchial indicated
- 6mm-10mm/40mm-80mm

Stent-Grafts

- **Advantages**

Ideal concept of endoluminal bypass

Potential limitation of restenosis

Commercial availability

- **Disadvantages**

Longer re-endothelialization time

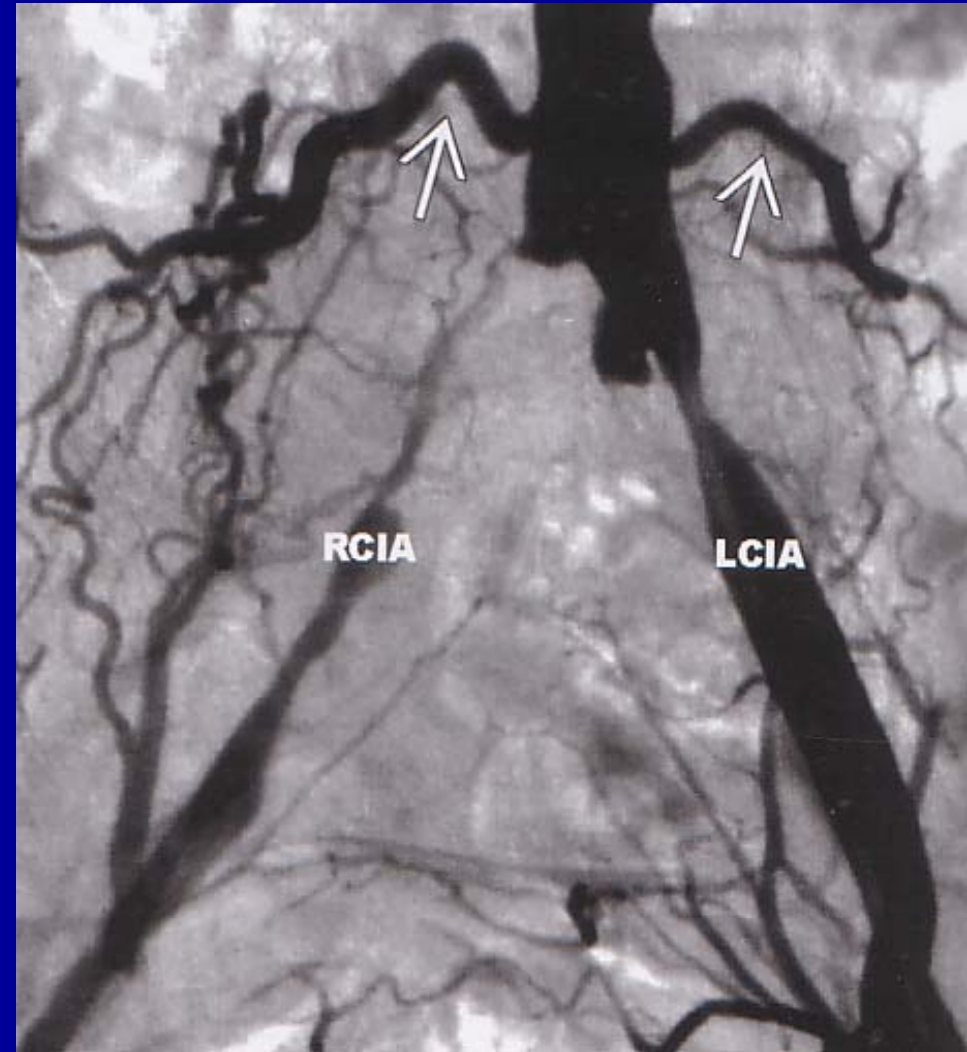
Higher introducing profile

Collaterals sudden obstruction

Risk of early / midterm thrombosis

Bilateral Atherosclerotic Iliac Disease

**Kissing Balloons
Angioplasty
Technique**





Iliac Occlusive Disease: *Our Current Policy*

- . Interventional Technique
as a First-Choice Option Policy***
- . No Evidence of a Major Contra-Indication
to Endovascular Techniques***
- . Immediate Availability of Stents and
Stent-Grafts during the Procedure***

Conclusion

Stents and stent-grafts represent fundamental options in the iliac obstructive disease current endovascular strategy

However indications for systematic use of stent-grafts have to be selective only in specific situations