Arteriopatía de Miembros inferiores y cardiopatía isquémica

MARCO FUENTES

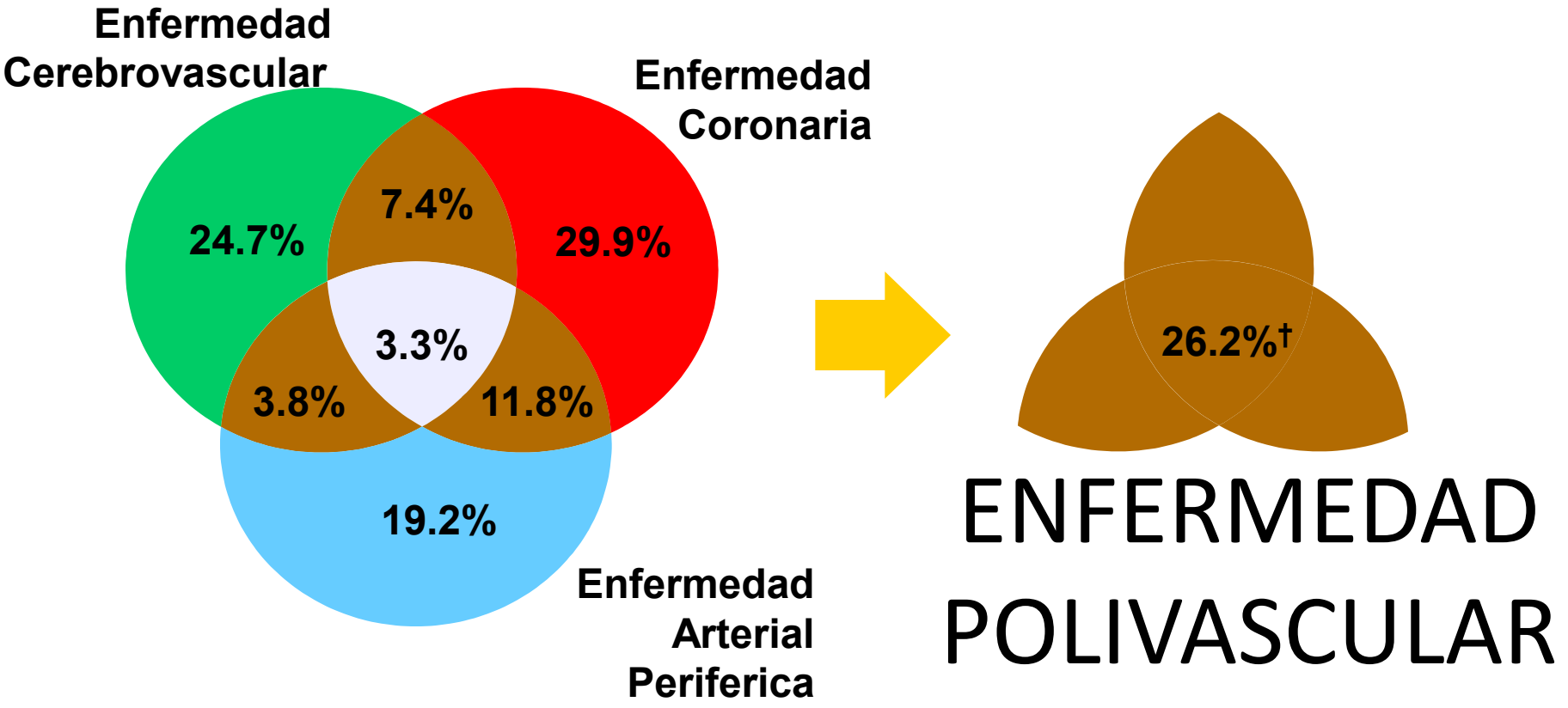
Cardiólogo Intervencionista

Aterotrombosis

Una sola

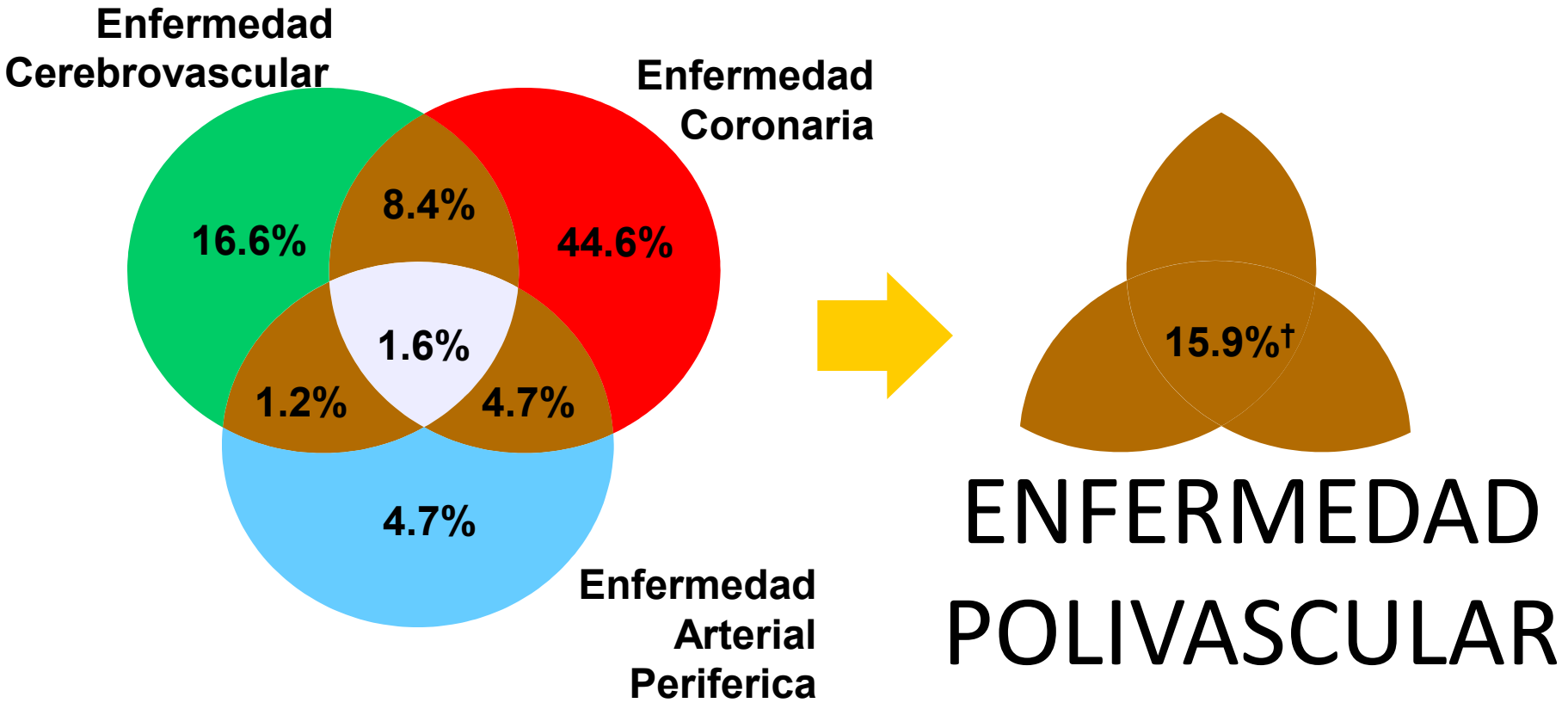

Cerebro
Enfermedad
Cerebrovascular
Corazón
Enfermedad
Coronaria
Miembros
Inferiores
Enfermedad
Arterial
Periférica

CAPRIE (Clopidogrel/ASA)



1. Coccheri S. *Eur Heart J* 1998; 19(Suppl): 227.

Registro REACH (2003-2008)



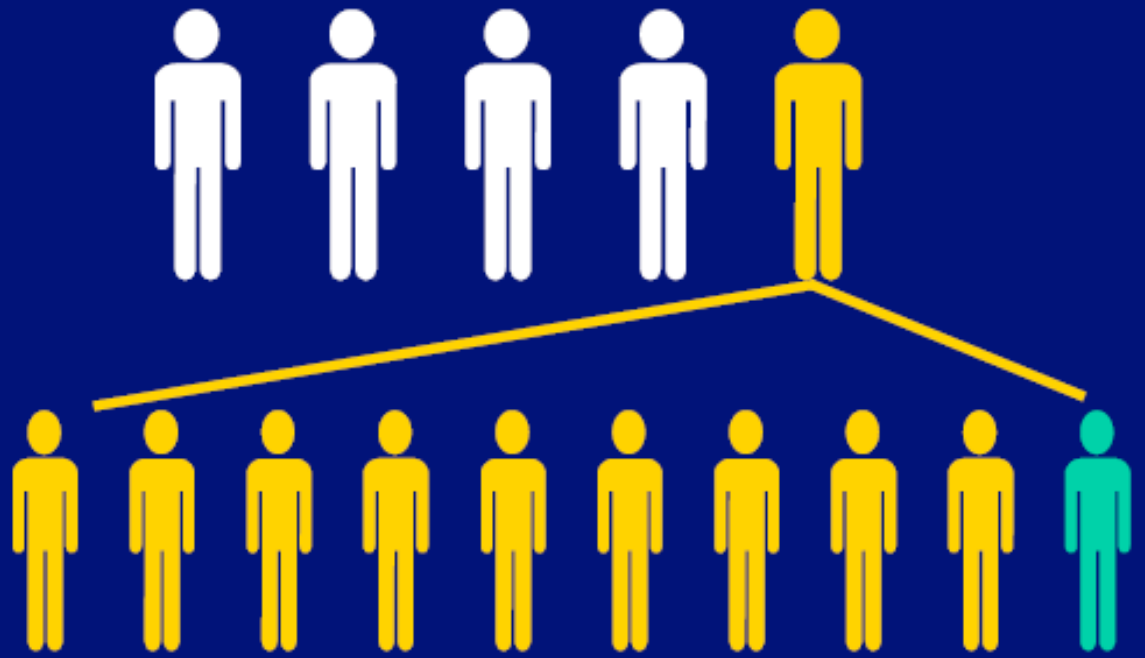
Bhatt DL *et al*, on behalf of the REACH Registry Investigators. *JAMA* 2006;295(2):180-189.

REduction of Atherothrombosis for Continued Health

Sólo 1 de cada 10 pacientes con EAP presenta los síntomas típicos de claudicación intermitente

1 de cada 5 personas de más de 65 años tiene EAP†

Sólo 1 de cada 10 de estos pacientes presenta los síntomas típicos de claudicación intermitente (CI)



† ITB < 0,9

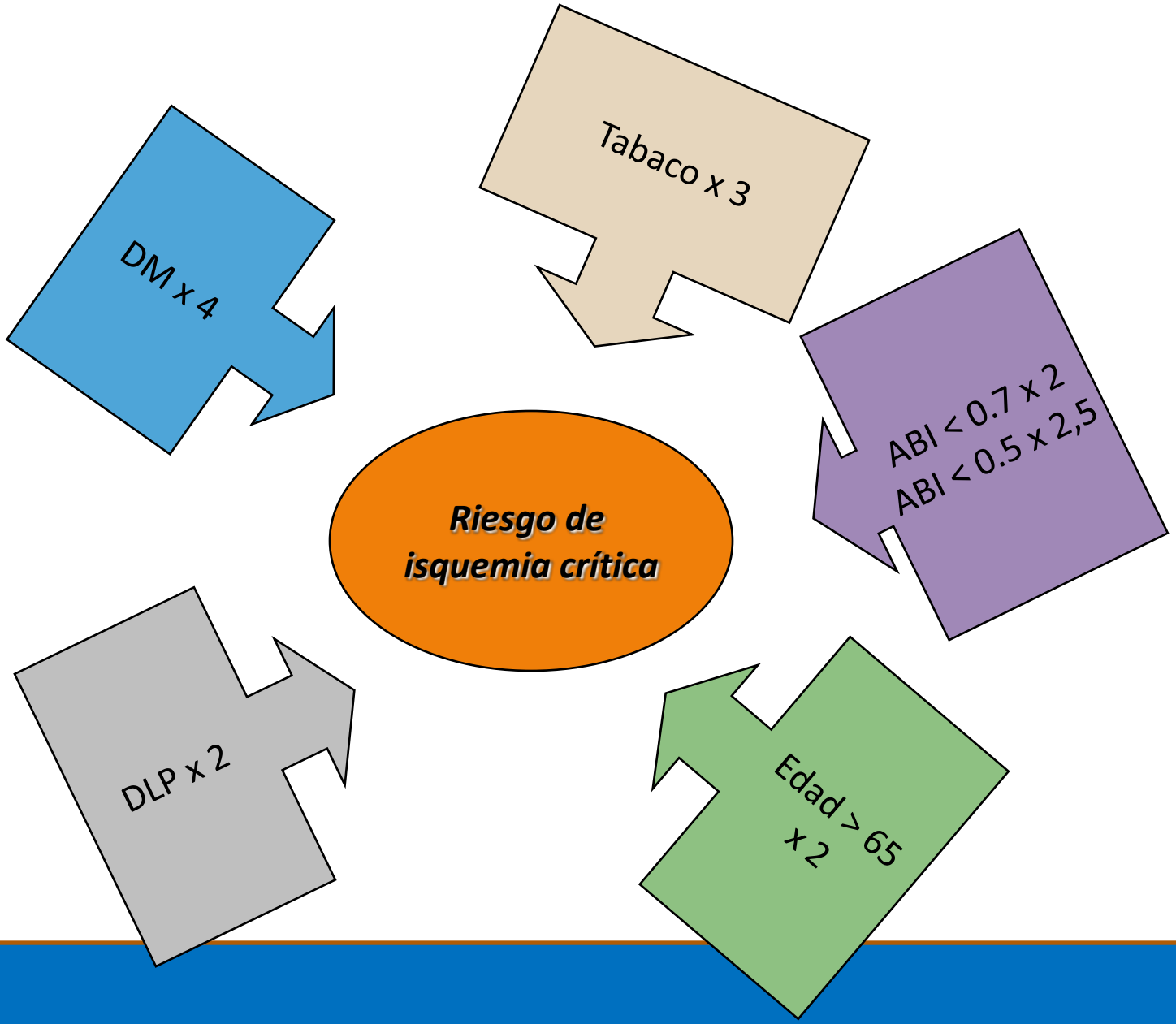
Diehm C *et al. Atherosclerosis* 2004; **172**; 95-105.

Cada 20 segundos

es amputado un pie

en el mundo por EAP

Enfrentar el enemigo cara a cara


Tabaco x 3
DM x 4
ABI < 0.7 x 2
ABI < 0.5 x 2,5
Riesgo de isquemia crítica
DLP x 2
Edad > 65 x 2

EVALUACION VASCULAR

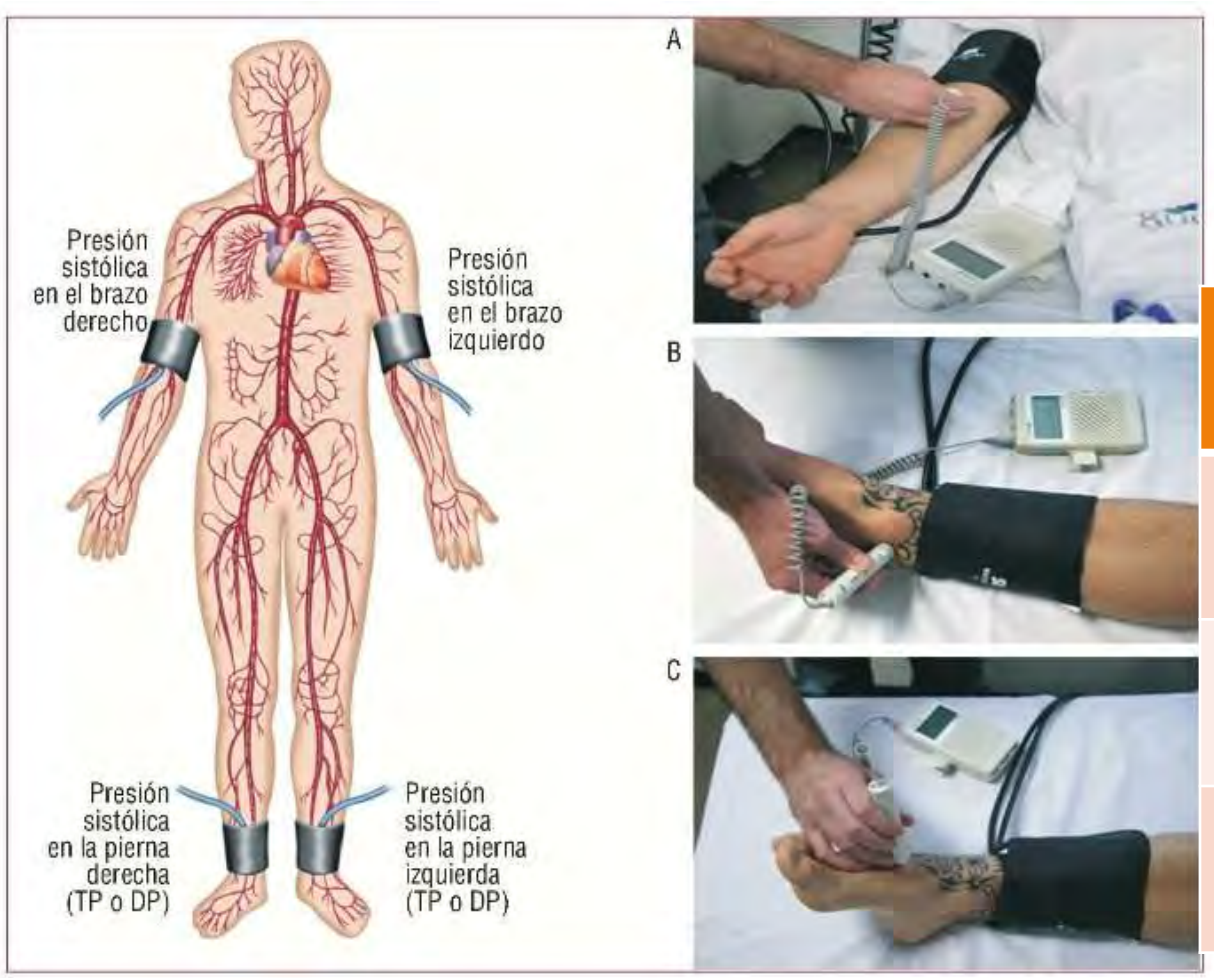
NO INVASIVA

INVASIVA

ESTUDIOS NO INVASIVOS

- *Índice- Tobillo Brazo (ITB) o IDB*
- *Presión Segmentaria*
- *Plestimografía*
- *Doppler – Color*
- *Angio TAC o RM*
- *Presión de oxigeno transcutaneo*

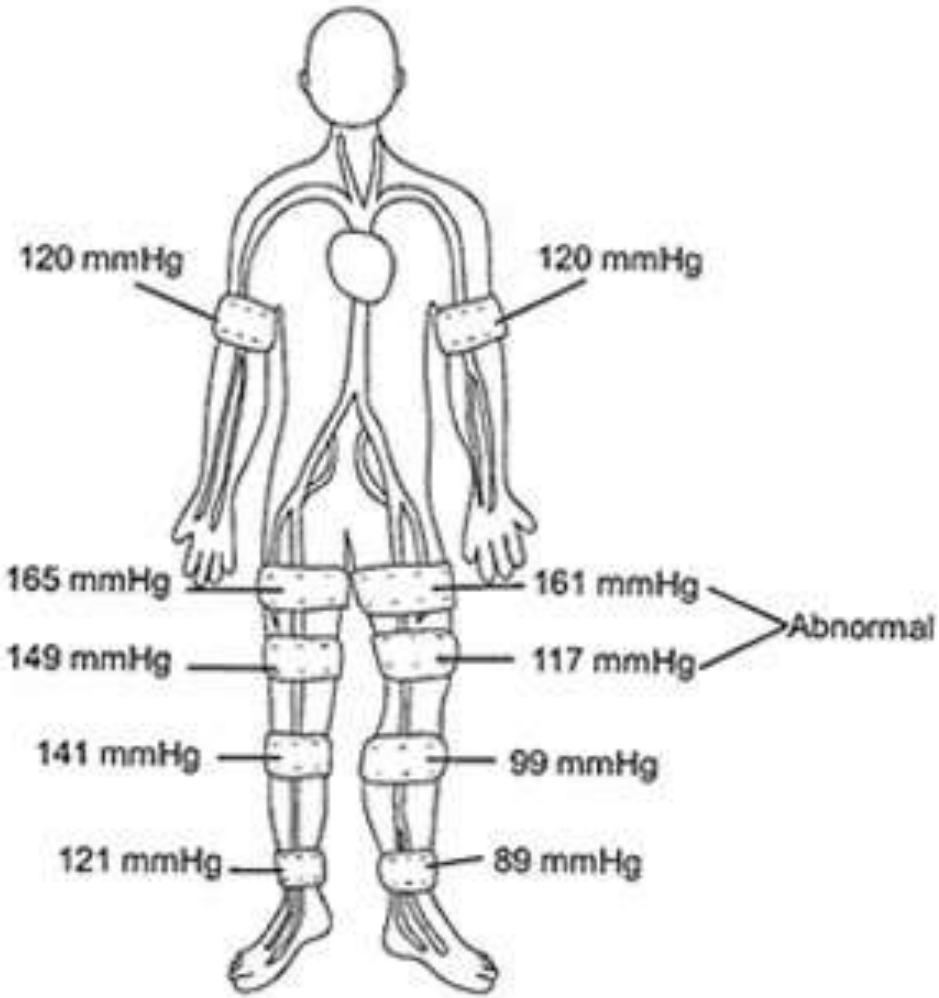
Índice tobillo-brazo ITB



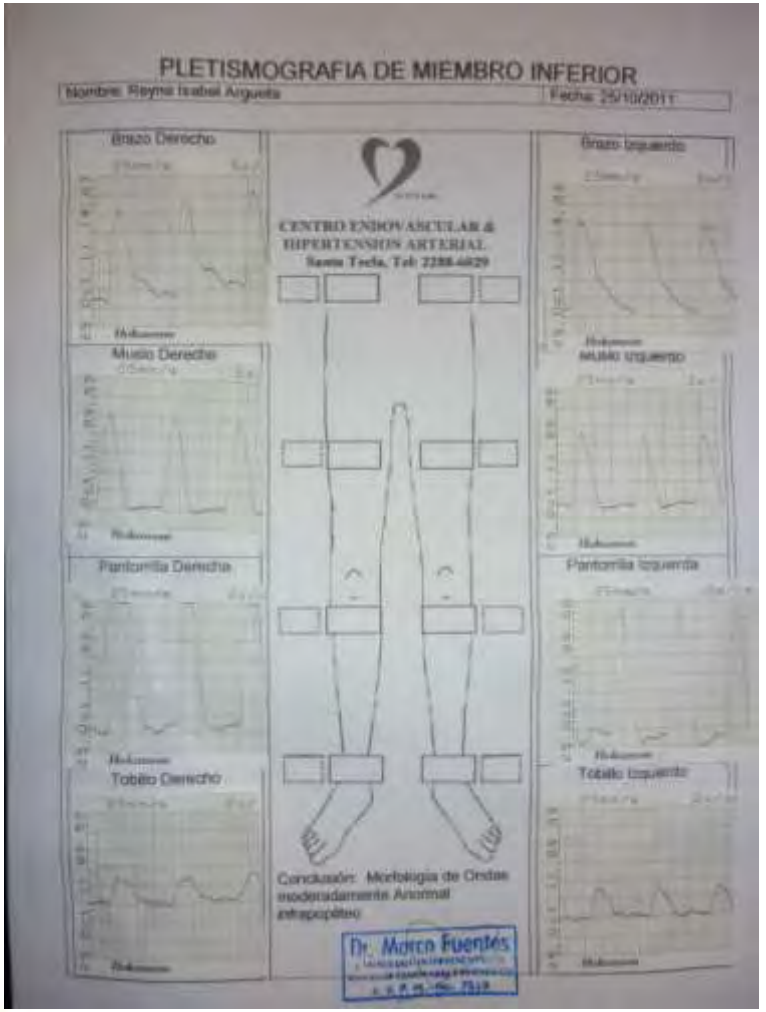
Presión sistólica Tobillo/ Brazo

Índice	Resultado
Menor 0.9	Anormal
0.91-1.2	Normal
Mayor 1.21	Dudoso

Índice dedo-Brazo


120 mmHg
120 mmHg
165 mmHg
161 mmHg
Abnormal
149 mmHg
117 mmHg
141 mmHg
99 mmHg
121 mmHg
89 mmHg

Plestimografía


PLETISMOGRAFIA DE MIEMBRO INFERIOR

Nombre: Reyna Isabel Argueta

Fecha: 25/10/2011

Brazo Derecho

Brazo Izquierdo

CENTRO ENDOVASCULAR & HIPERTENSION ARTERIAL

Santa Tecla, Tel: 2288-6629

Muslo Derecho

Muslo Izquierdo

Pantorrilla Derecha

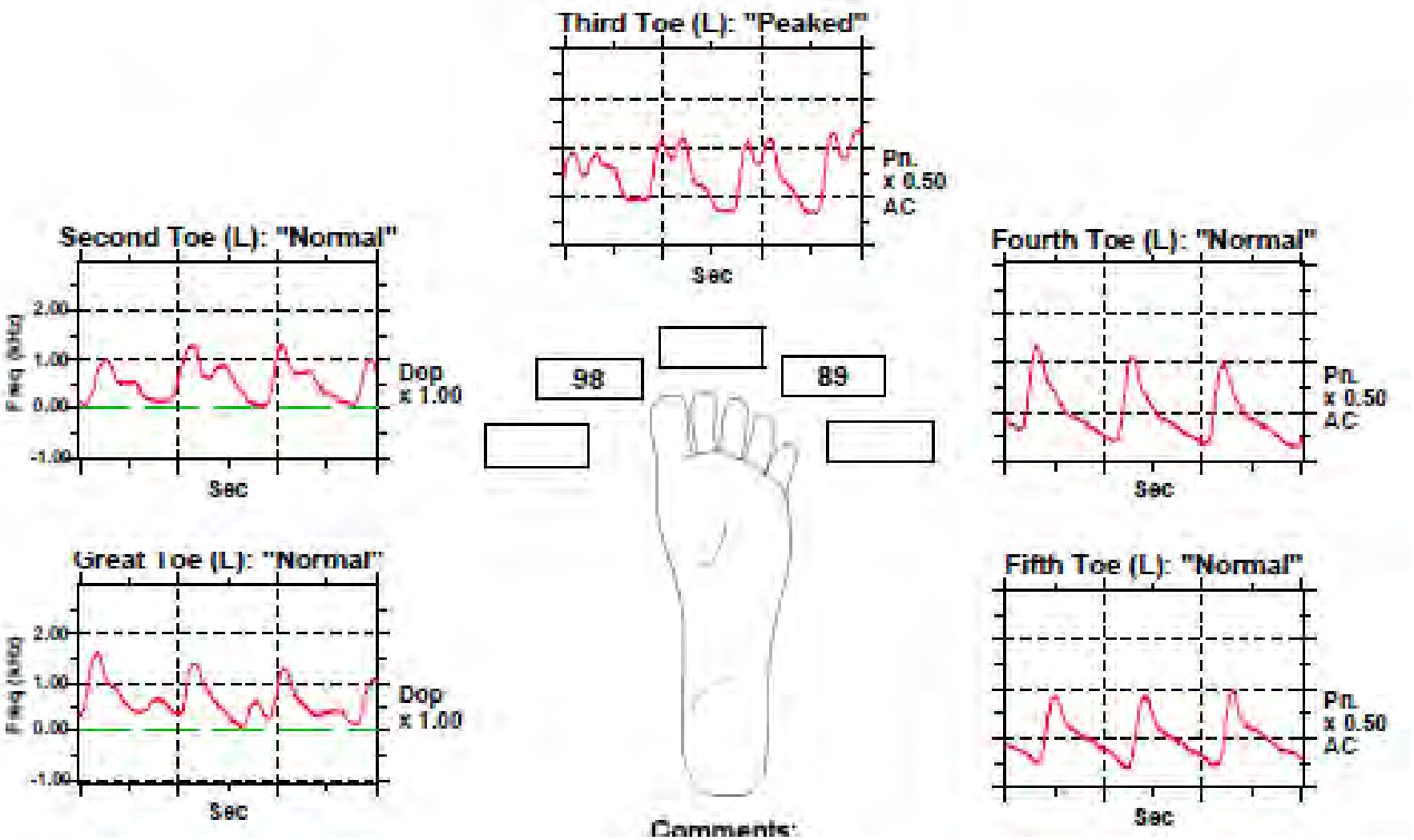
Pantorrilla Izquierda

Tobillo Derecho

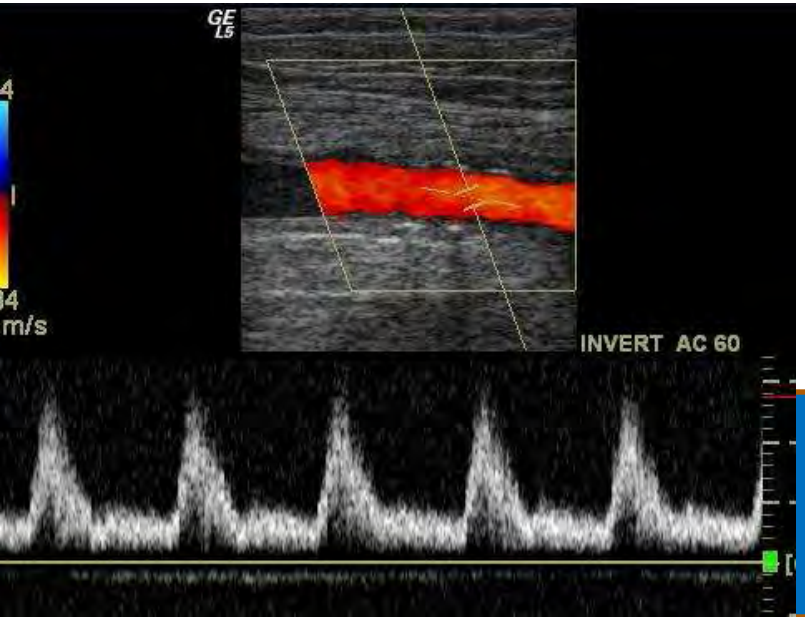
Tobillo Izquierdo

Conclusión: Morfología de Ondas moderadamente Anormal entrecortado

Dr. Marco Fuentes

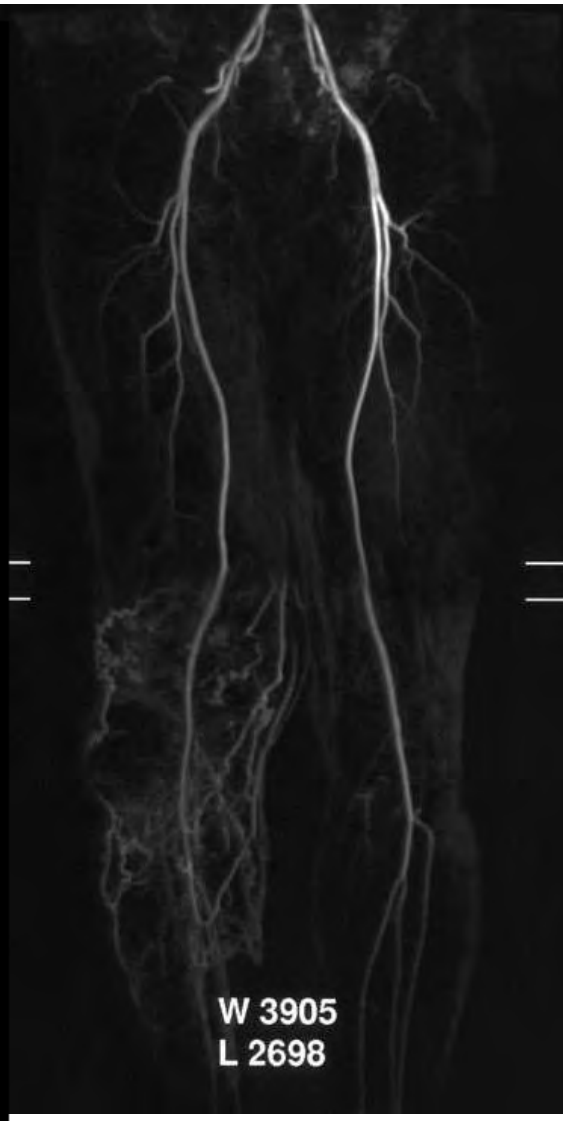

Third Toe (L): "Peaked"
Pn.
x 0.50
AC
Sec
Second Toe (L): "Normal"
Freq (kHz)
2.00
1.00
0.00
-1.00
Dop
x 1.00
Sec
98
89
Fourth Toe (L): "Normal"
Pn.
x 0.50
AC
Sec
Great Toe (L): "Normal"
Freq (kHz)
2.00
1.00
0.00
-1.00
Dop
x 1.00
Sec
Fifth Toe (L): "Normal"
Pn.
x 0.50
AC
Sec
Comments:


LifeDop
Summit Doppler

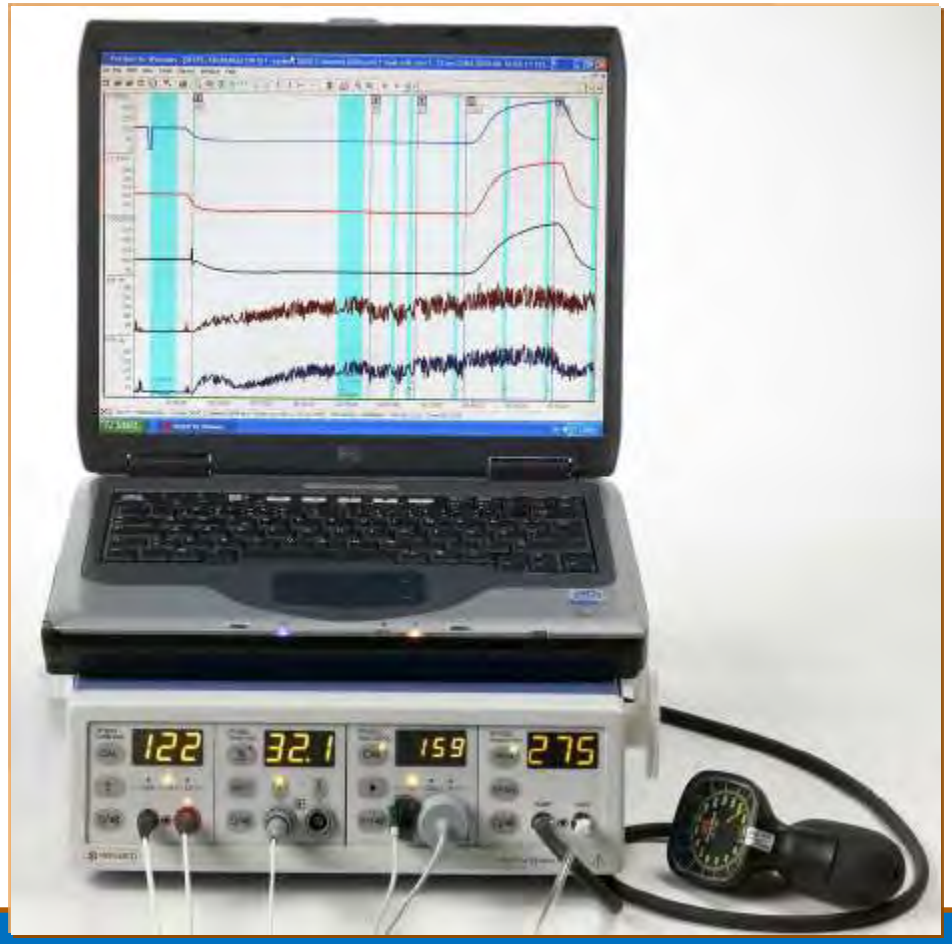

GE
L5
INVERT AC 60

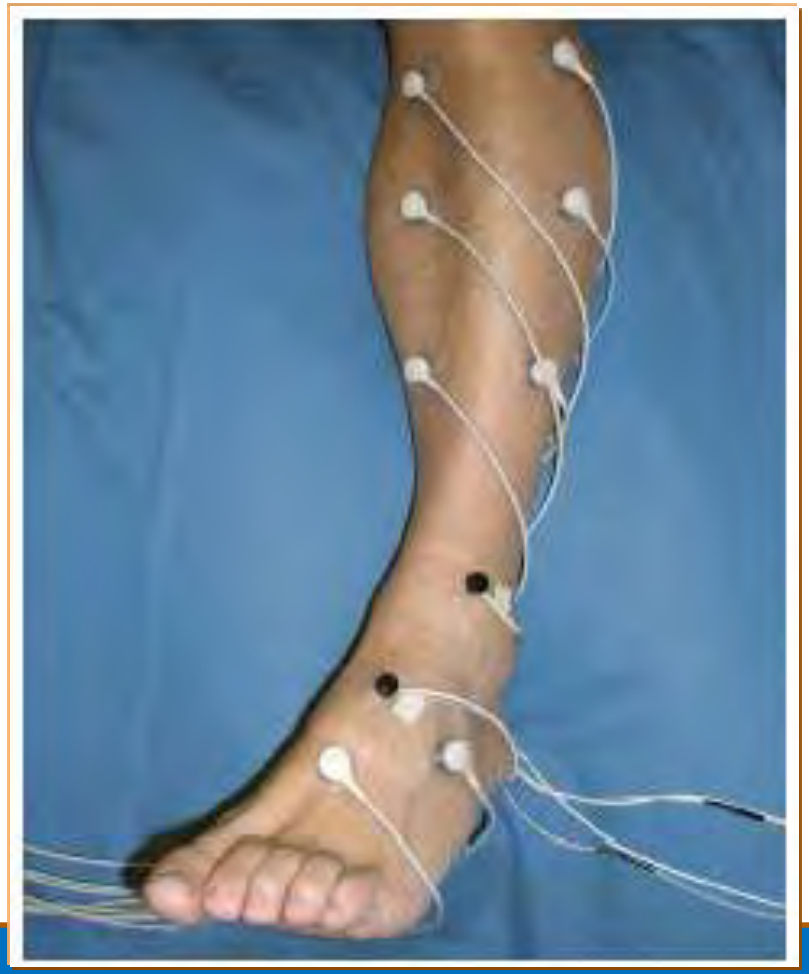

LOGIQ 500
COMMON CAROTID ARTERY


AROCHA 65a.
Somaris/5


W 3905
L 2698

Presión de Oxigeno Transcutaneo





Arteriografía

Tratamiento

- Medicamentos

- Intervención vascular

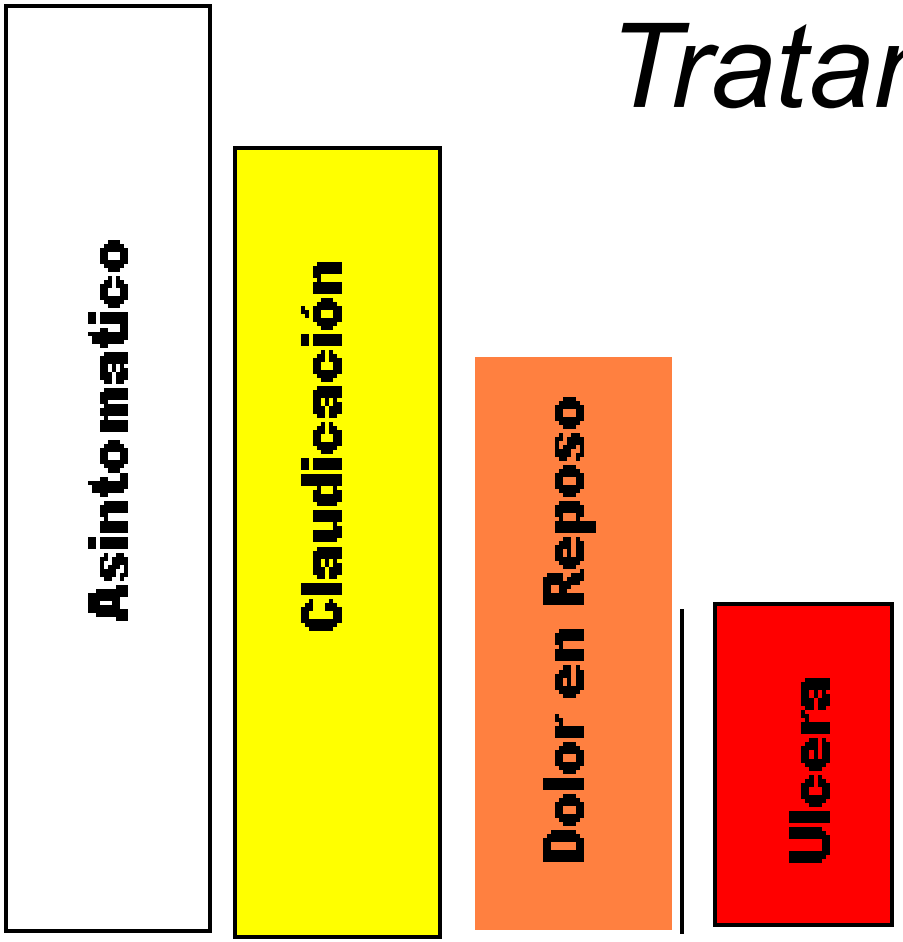
Intervencionismo endovascular en MMII

Tratamiento medico

- Aspirina
- Clopidogrel
- Cilostazol
- Estatinas

Clasificación de Leriche y Fontaine

Tratamiento:



- **Manejar Factores de Riesgo**
- **Cilostazol /Aspirina/Estatinas**
- **Clopidogrel**
- **Revascularización**
- **Curaciones /Antibióticos**

Isquemia crítica

- Dolor en reposo o ulcera de mas de 14 días
- Controlar el dolor y la infección (Ab ciplinar)
- Objetivo: salvar el pie!!!

REVASCULARIZACIÓN SIEMPRE

Pie Diabético

Revascularización

CIRUGIA

ENDOVASCULAR

TASC II

Inter-Society Consensus
for the Management of PAD

TASC	RECOMENDACIÓN
A	Endovascular
B	Endovascular probablemente
C	Cirugía probablemente
D	Cirugía

Lesiones A
Estenosis unilateral o bilateral de la AIC
Estenosis unilateral o bilateral ≥ 3 cm de la AIE

Lesiones B
Estonosis ≥ 3 cm de la aorta infrarrenal
Oclusión ilíaca unilateral
Estenosis única o múltiple 3-10 cm que incluye la AIE y no la AFC
Oclusión unilateral de la AIE que no afecta a la AFC ni hipogástrica

Lesiones C
Oclusión de AIC bilateral
Estenosis bilateral de la AIE 3-10 cm que afecta a AIE pero no a AFC
Estenosis unilateral de la AIE que engloba la AFC
Oclusión unilateral de la AIE que engloba la AFC o hipogástr
Oclusión unilateral severam
calcificada de la AIE

Lesiones D
Oclusión de la aorta infrarrenal
Enfermedad difusa de la aorta infrarrenal y ambas ilíacas
Estenosis difusa unilateral que afecta a AFC, AIE y AIC
Oclusión unilateral de AIC y AIE
Oclusión bilateral de AIE
Estenosis ilíaca en paciente con AAA que requiere tratamiento quirúrgico no endovascular

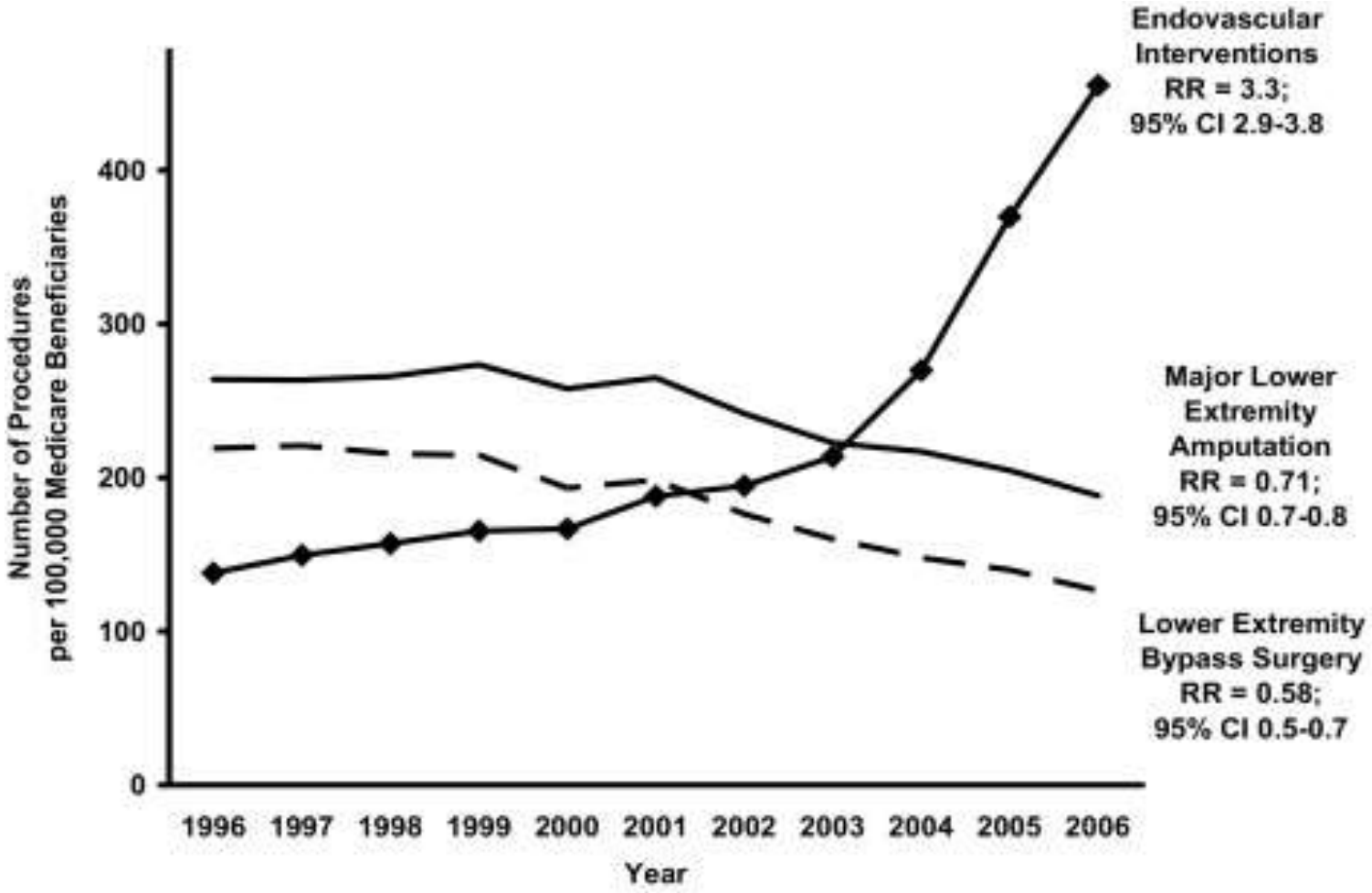
Lesiones tipo A
Estenosis única ≤ 10 cm de longitud
Oclusión única ≤ 5 cm de longitud

Lesiones tipo B
Múltiples lesi
Estenó

a AFS o AFC > 20 cm que
la poplítea
clusión crónica de la poplítea que incluye la trifurcación de los vasos distales

TASC II b
Actualización Junio 2011

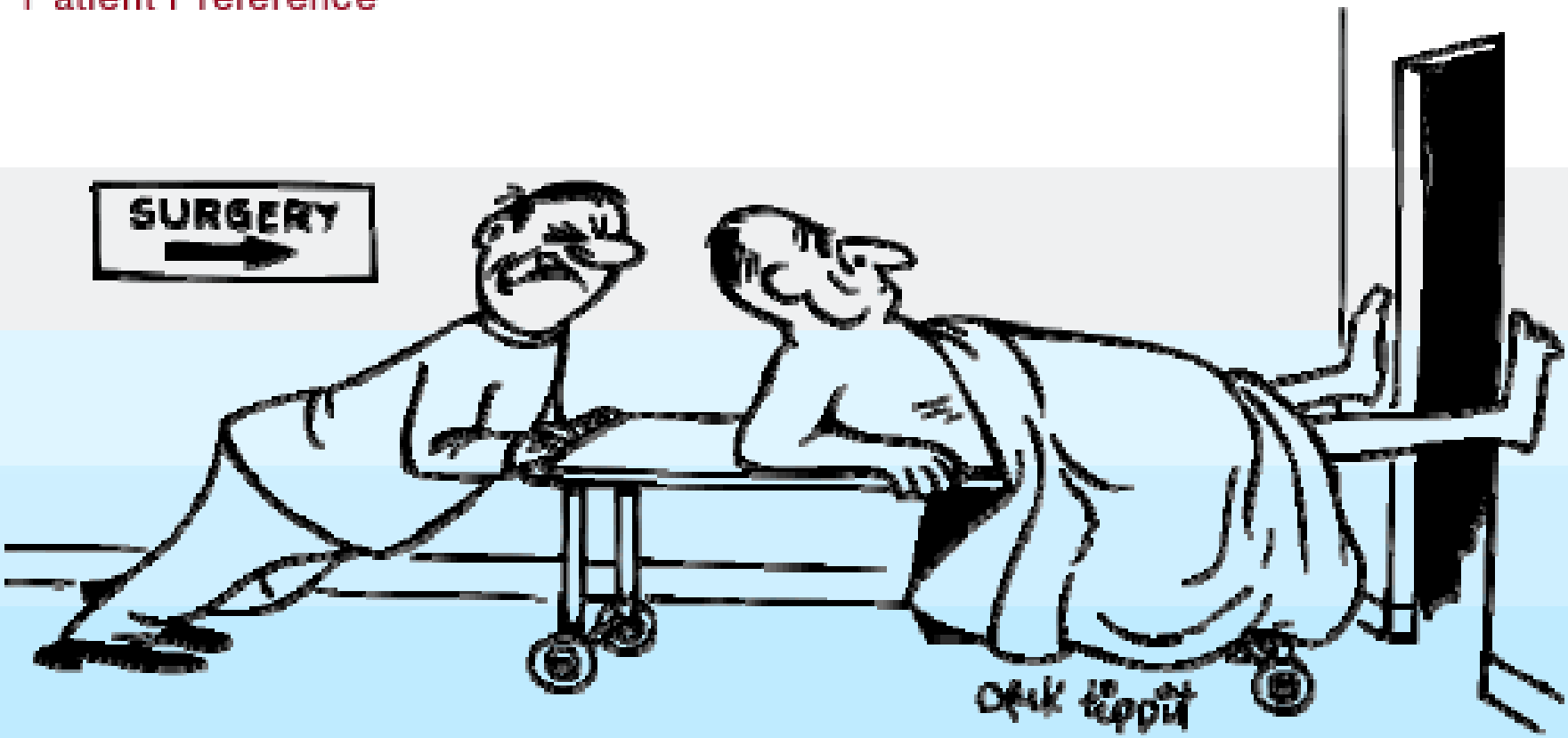
Incremento en procedimiento Endovascular



Journal of Vascular Surgery Volume 50, Issue 1 2009 54 - 60

Rise of Endovascular Intervention

Patient Preference



Eur J Vasc Endovasc Surg (2009) xx, 1–7

Long-term Outcomes after Angioplasty of Isolated, Below-the-knee Arteries in Diabetic Patients with Critical Limb Ischaemia

R. Ferraresi [a], M. Centola [a], M. Ferlini [a], R. Da Ros [b], C. Caravaggi [b], R. Assaloni [b], A. Sganzaroli [b], G. Pomidossi [a], C. Bonanomi [a], G.B. Danzi [a,*]

[a] Division of Cardiology, IRCCS Fondazione, Ospedale Maggiore Policlinico, Mangiagalli e Regina Elena, Via F. Sforza 35, Milan 20122, Italy
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Submitted 15 August 2008; accepted 2 December 2008

KEYWORDS
Below the knee arteries;
Diabetic foot;
Peripheral angioplasty;
Peripheral vascular disease;
Tibial arteries

Abstract *Background:* It has been shown that concomitant percutaneous transluminal angioplasty (PTA) of above-the-knee (ATK) and below-the-knee (BTK) arteries is highly beneficial for limb salvage in patients with critical limb ischaemia (CLI), but few published studies have specifically investigated outcomes in diabetic patients with CLI associated with isolated small BTK-vessel disease. This study aimed to evaluate the long-term results of successful PTA for limb salvage in such patients.

Materials and methods: From among the 634 patients with CLI in our database, we retrospectively selected a consecutive series of 101 diabetics (16%) with 107 critically ischaemic limbs (33 Rutherford 5 and 74 Rutherford 6) and no critical ATK lesion, who underwent PTA on isolated BTK lesions.

Results: The limb salvage rate was 93% after a mean follow-up of 1048 ± 525 days (2.9 ± 1.4 years). Transcutaneous oxygen tension significantly increased after 1 month (18.1 ± 11.2 vs. 39.6 ± 15.1; $p < 0.05$). After 1 year, target-vessel re-stenosis had occurred in 42% of the non-amputated limbs, nine patients (9%) had died because of medical conditions unrelated to PTA and three patients had undergone repeat PTA for recurrent CLI.

Conclusions: In our selected patient population with ischaemic diabetic foot and isolated BTK lesions, a successful endovascular procedure led to a high percentage of limb salvage at long-term follow-up.

Retrospective analysis of 634 pts.

Results:

- The limb salvage rate was 93% after a mean follow-up of 1048 days.
- Transcutaneous oxygen tension significantly increased after 1 month (18.1 11.2 vs. 39.6 15.1; $p < 0.05$).
- After 1 year, target-vessel re-stenosis had occurred in 42% of the non-amputated limbs.

Dr. Ferraresi

Eur J Vasc Endovasc Surg 28, 620–627 (2004)
doi:10.1016/j.ejvs.2004.08.030, available online at http://www.sciencedirect.com on SCIENCE DIRECT®

Peripheral Angioplasty as the First-choice Revascularization Procedure in Diabetic Patients with Critical Limb Ischemia: Prospective Study of 993 Consecutive Patients Hospitalized and Followed Between 1999 and 2003

E. Faglia,[1*] L. Dalla Paola,[2] G. Clerici,[1] J. Clerissi,[3] L. Graziani,[4] M. Fusaro,[4] L. Gabrielli,[5] S. Losa,[5] A. Stella,[6] M. Gargiulo,[6] M. Mantero,[1] M. Caminiti,[1] S. Ninkovic,[1] V. Curci[1] and A. Morabito[7]

[1]Diabetology Centre, Diabetic Foot Centre, Policlinico Multimedica, Sesto S. Giovanni, Milano, [2]Diabetic Foot Unit, Abano Terme Hospital, Abano Terme, Padova, [3]Interventional Radiology Laboratory, Policlinico Multimedica, Sesto S. Giovanni, Milano, [4]Cardiovascular Catheterization Laboratory, Civili di Brescia Hospital, Brescia, [5]Vascular Surgery, University of Milan, Milano, [6]Vascular Surgery, University of Bologna, Bologna, and [7]Medical Statistics Unit, University of Milan, Milano, Italy

Objective. To evaluate the effectiveness of peripheral angioplasty (PTA) as the first-choice revascularisation procedure in diabetic patients with critical limb ischemia (CLI).
Design. Prospective study.
Methods. PTA was employed as first choice revascularisation in a consecutive series of diabetic patients hospitalized for CLI between January 1999 and December 2003.
Results. PTA was successful performed in 993 patients. Seventeen (1.7%) major amputations were carried out. One death and 33 non-fatal complications were observed. Mean follow-up was 26 ± 15 months. Clinical restenosis was observed in 67 patients. The 5 years primary patency was 85%, 95% CI 86–91%. During follow-up 119 (12.0%) patients died at a rate of 6.7% per year.
Conclusions. PTA as the first choice revascularisation procedure is feasible, safe and effective for limb salvage in a high percentage of diabetic patients. Clinical restenosis was an infrequent event and PTA could successfully be repeated in most cases.

Keywords: Diabetic foot; Critical limb ischemia; Peripheral occlusive disease; Peripheral angioplasty; Clinical restenosis; Limb salvage; Survival

Results

- PTA was successful performed in 993 patients.
- Seventeen (1.7%) major amputations were carried out.
- One death and 33 non-fatal complications were observed.

Dr. Faglia

Cardiovasc Intervent Radiol (2008) 31:49–55
DOI 10.1007/s00270-007-9214-3

CLINICAL INVESTIGATION

Transluminal Angioplasty of Peroneal Artery Branches in Diabetics: Initial Technical Experience

Lanfroi Graziani · Antonio Silvestro · Luca Monge · Gian Mario Boffano · Francesco Kokaly · Ilaria Casadidio · Francesco Giannini

Received: 15 March 2007 / Accepted: 27 June 2007 / Published online: 25 October 2007

Abstract The present study aimed to report the technical feasibility of percutaneous transluminal angioplasty (PTA) of obstructed or insufficient collateral branches (anterior and posterior perforating branches) from distal peroneal to foot arteries in diabetic patients with chronic critical limb ischemia (CLI) and chronic noncrossable occlusion of the anterior and posterior tibial arteries. Twenty-four diabetic CLI patients (age, 67 ± 8 years; 87% males) undergoing collateral PTA were included. Baseline clinical angiographic and follow-up data were retrospectively reviewed. Collateral PTA was associated with a concomitant PTA of other sites in 21 (88%) cases. In 15 cases the treated collateral linked the peroneal with the plantaris communis; in 9 cases, the peroneal with the dorsalis pedis. Angiographic results of collateral PTA were good in 13 cases (<30% residual stenosis), whereas the result was considered moderate (30%–49% residual stenosis) in the remaining cases. Neither perforation nor acute occlusion of the treated collaterals or other relevant complications were observed. Mean follow-up was 32 ± 17 months. Major amputation was necessary for two (8.3%) patients. Cumulative limb salvage rates at 2 and 4 years were 96% and 87%, respectively. In conclusion, this initial experience shows that PTA of the collateral branches from distal peroneal to foot arteries is a feasible technique. Future studies are required to define the clinical role of this novel approach.

Keywords Percutaneous transluminal angioplasty · Critical limb ischemia · Diabetes mellitus · Diabetic foot · Collateral circulation

Introduction

Percutaneous transluminal angioplasty (PTA) has emerged as a valid alternative to bypass surgery for the treatment of critical limb ischemia (CLI) [1, 2]. This is particularly true in CLI patients with diabetes mellitus [3, 4], as well as in those in chronic dialysis [5], in whom PTA has proven to be safe and effective in avoiding major amputation. Nevertheless, it must be considered that PTA may be technically challenging in diabetic subjects with CLI, as they mostly have infrapopliteal disease, usually characterized by long chronic occlusions of anterior and posterior tibial arteries [6].

The importance of providing direct straight-line flow to the foot for thus obtaining limb salvage in diabetic patients with CLI has already been emphasized by vascular surgeons who reported better results with distal bypass compared to femoropopliteal graft or profundoplasty [7]. However, improvement of collateral circulation by surgical or endovascular procedures has also been reported. In the cases of nonrevascularizable superficial femoral artery (SFA) occlusion, an alternative to increasing the blood supply to the foot is to improve the collateral circulation by the

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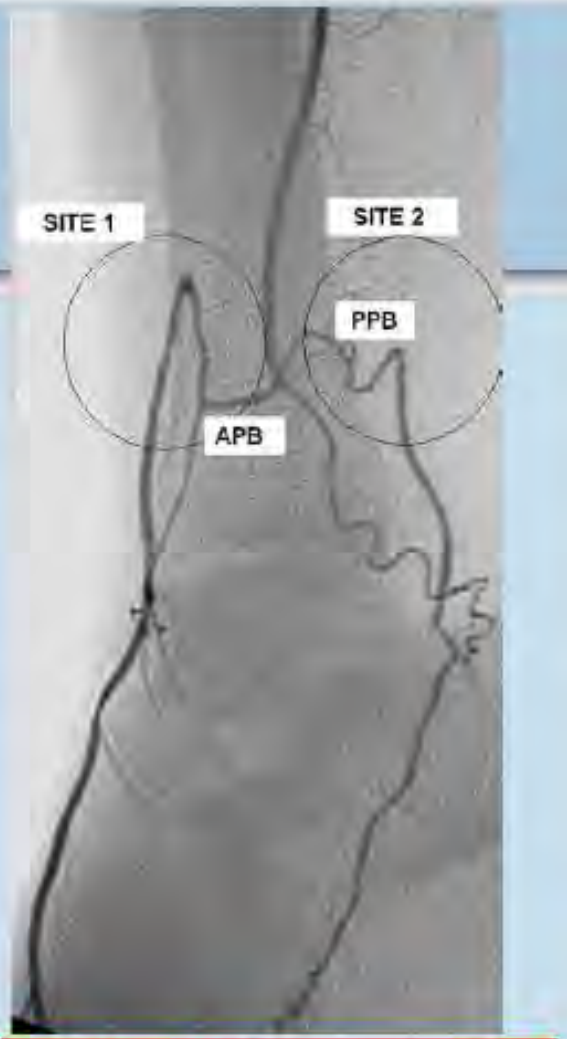
L. Monge · G. M. Boffano
SC Malattie Metaboliche e Diabetologia, Centro Traumatologico Ortopedico CTO, Torino, Italy



Dr. Graziani

COVER STORY

Pedal-Plantar Loop Technique

A new method for revascularization of foot vessels.

BY MARCO MANZI, MD

Chronic critical limb ischemia (CLI) is due to extensive atherosclerotic occlusive disease of the lower limb arteries. This condition, typical of diabetic patients, is often associated with ulceration and/or gangrene of the foot and represents the main cause of nontraumatic lower limb amputation.[1] Restoring adequate blood flow to the foot is essential to promote healing of trophic changes and to provide relief

In our institution between January 2007 and September 2008, the pedal-plantar loop technique was performed in 114 patients among a total of 1,331 CLI diabetic patients with BTK disease undergoing PTA (Rutherford category 4–6). CLI was documented on the basis of nonhealing gangrene and/or ulceration of the foot associated with a critically low level of oxygen tension (TcPO2). After exclusion of aortoiliac disease by non-

Dr. Manzi, Endovascular Today

J ENDOVASC THER
2008;15:580–593

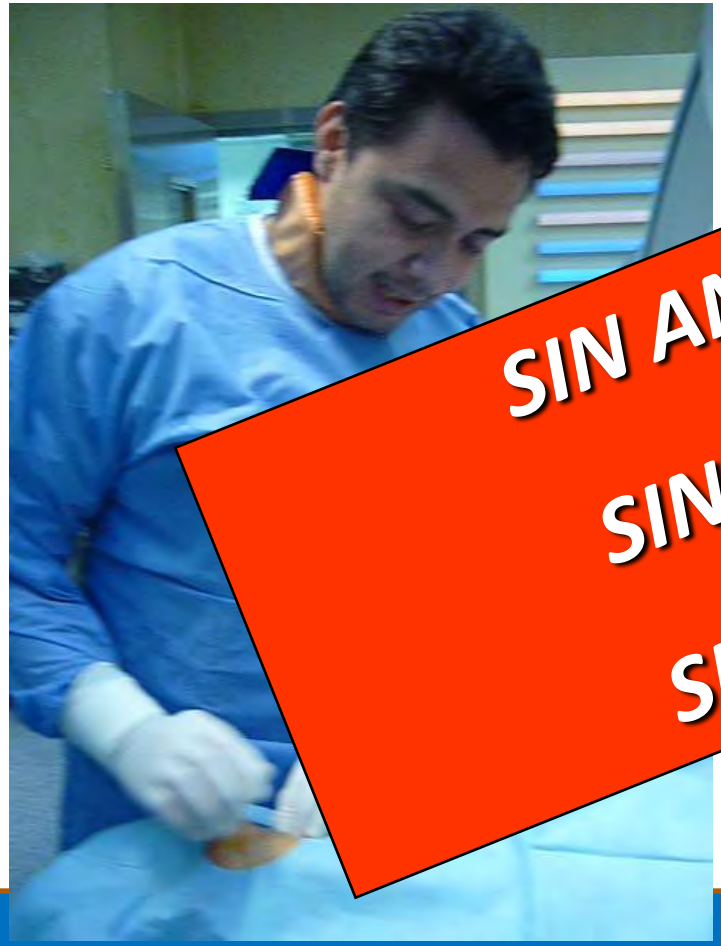
◆ CLINICAL INVESTIGATION ◆

Selective Primary Angioplasty Following an Angiosome Model of Reperfusion in the Treatment of Wagner 1–4 Diabetic Foot Lesions: Practice in a Multidisciplinary Diabetic Limb Service

Vlad-Adrian Alexandrescu, MD[1]; Gerard Hubermont, MD[2]; Yvan Philips, MD[2]; Benoit Guillaumie, MD[1]; Christian Ngongang, MD[1]; Pierre Vandenbossche, MD[3]; Khalid Azdad, MD[4]; Gilles Ledent, MD[4]; and Jacques Horion, MD[5]

Departments of [1]Surgery, [2]Diabetology, [3]Emergency Care, [4]Radiology, and [5]Anesthesiology, Princesse Paola Hospital, Marche-en-Famenne, Belgium.
Departments of [1]Surgery, [2]Diabetology, and [3]Emergency Care, Sainte-Thérèse Hospital, Bastogne, Belgium.

REVASCULARIZACION ENDOVASCULAR

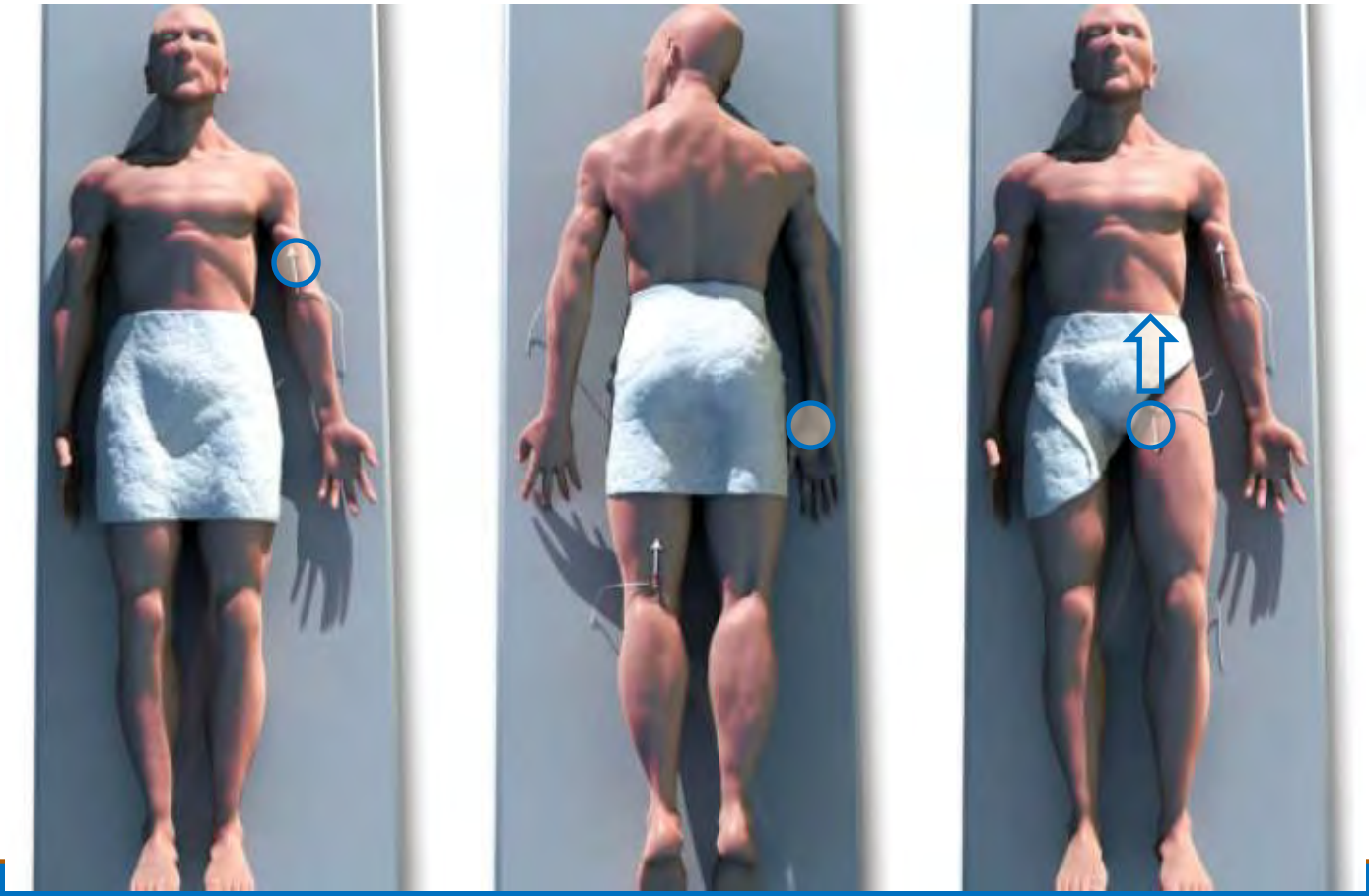


SIN ANESTESIA

SIN CIRUGIA

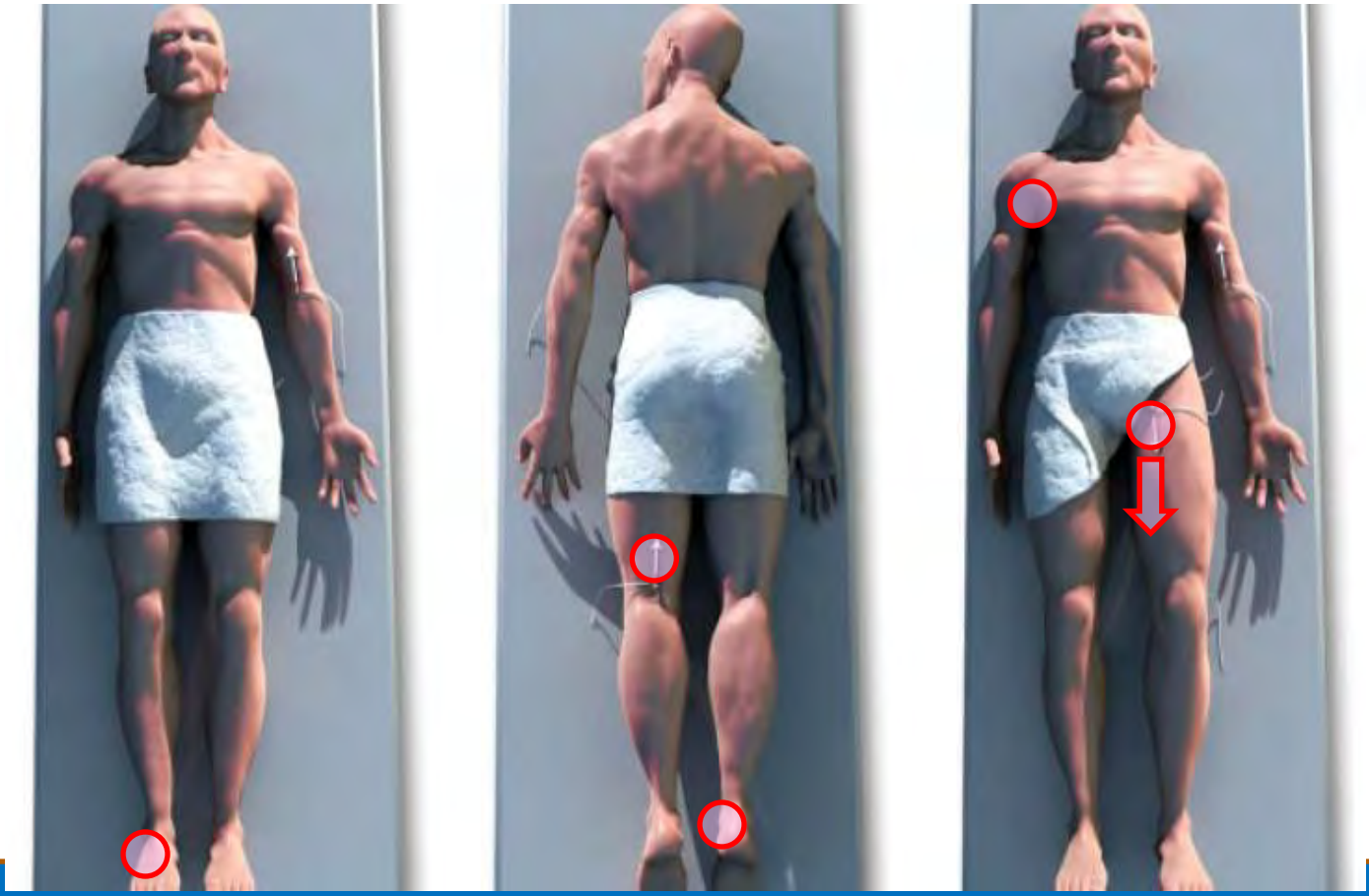
SIN CICATRIZ

COMMON ACCESS SITES FOR PERIPHERAL=FOR CORONARY

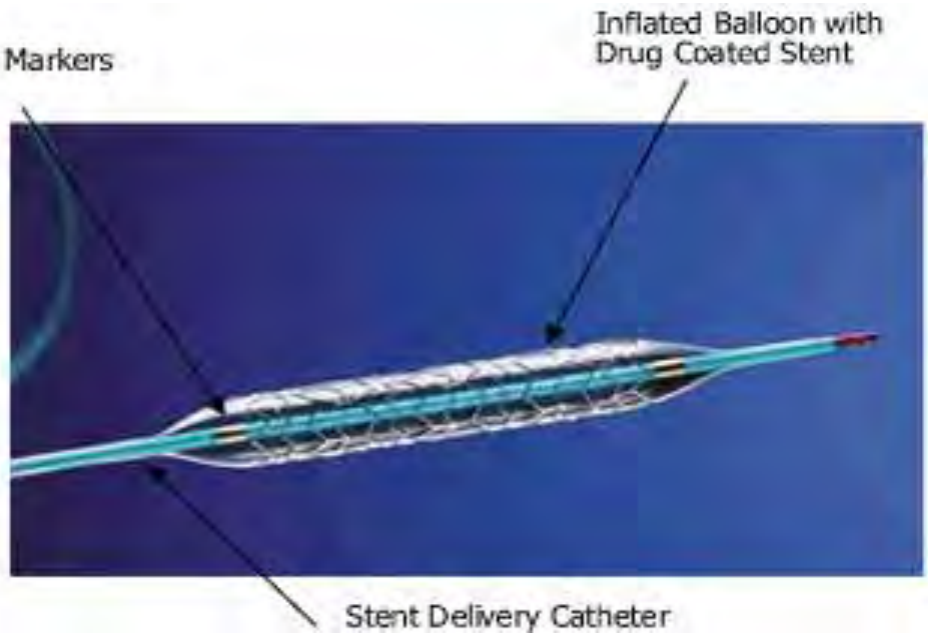


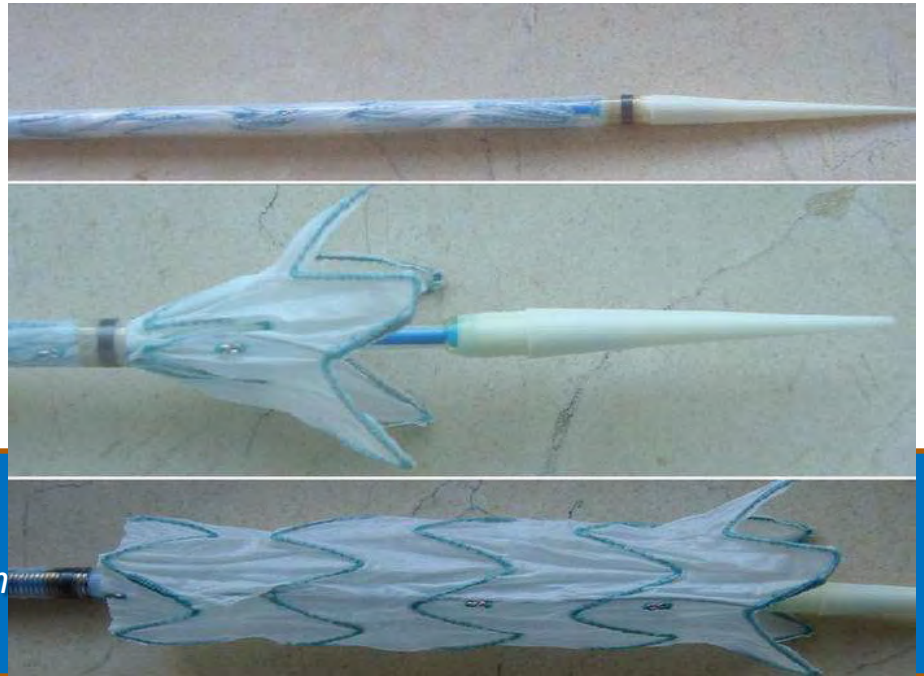
Garcia et al, Catheter Cardiovasc Interv 2009;74:27-36

LESS COMMON ACCESS SITES FOR PERIPHERAL≠FOR CORONARY

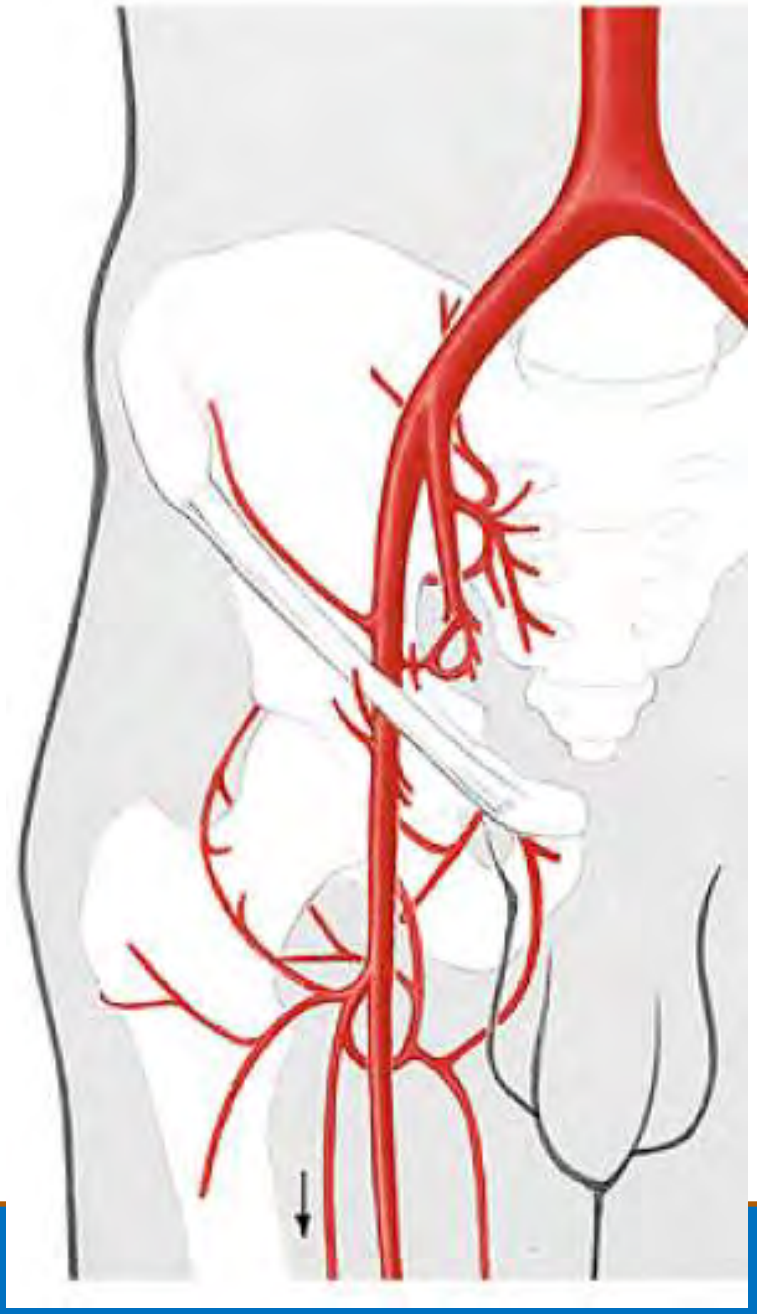


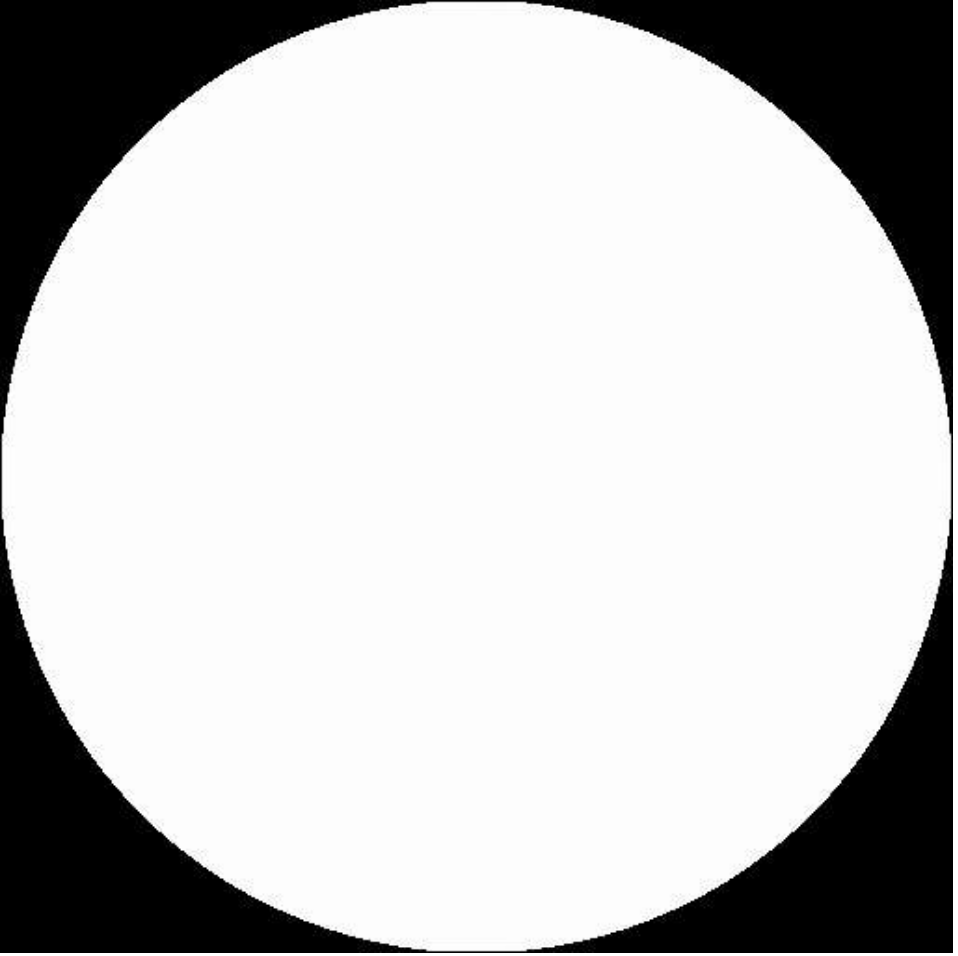
Garcia et al, Catheter Cardiovasc Interv 2009;74:27-36

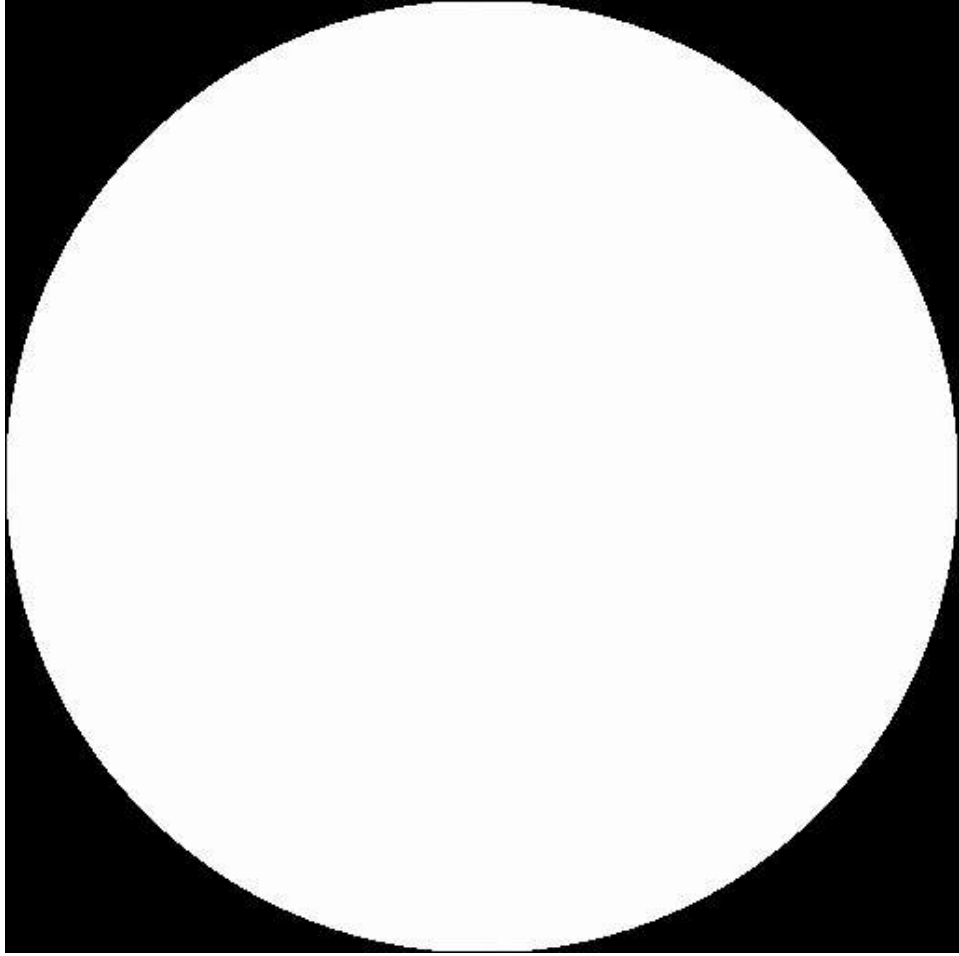

Location Markers
Inflated Balloon with
Drug Coated Stent
Stent Delivery Catheter



CASOS CLINICOS SUPRAINGUINAL



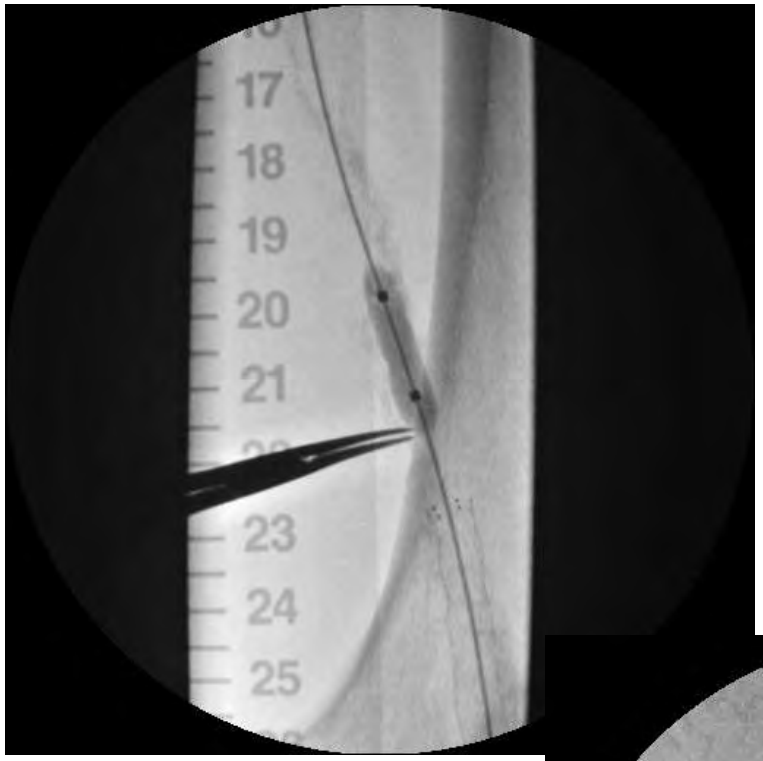




Acceso humeral: Introductor largo 90 cm 7F
Guia Amplatz hidrófila 0.035
Stent expandible con balón Vascular Express 9.0/ 37 mm

INTERVENCIONISMO DE ILIACA COMUN IZQUIERDA

CASOS CLINICOS INFRAINGUINAL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18
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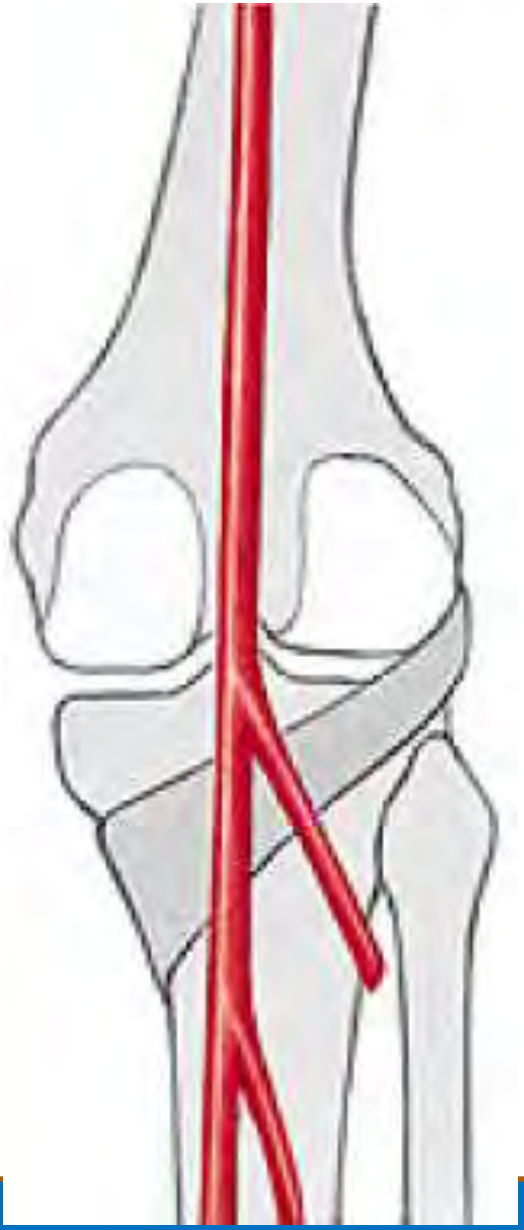
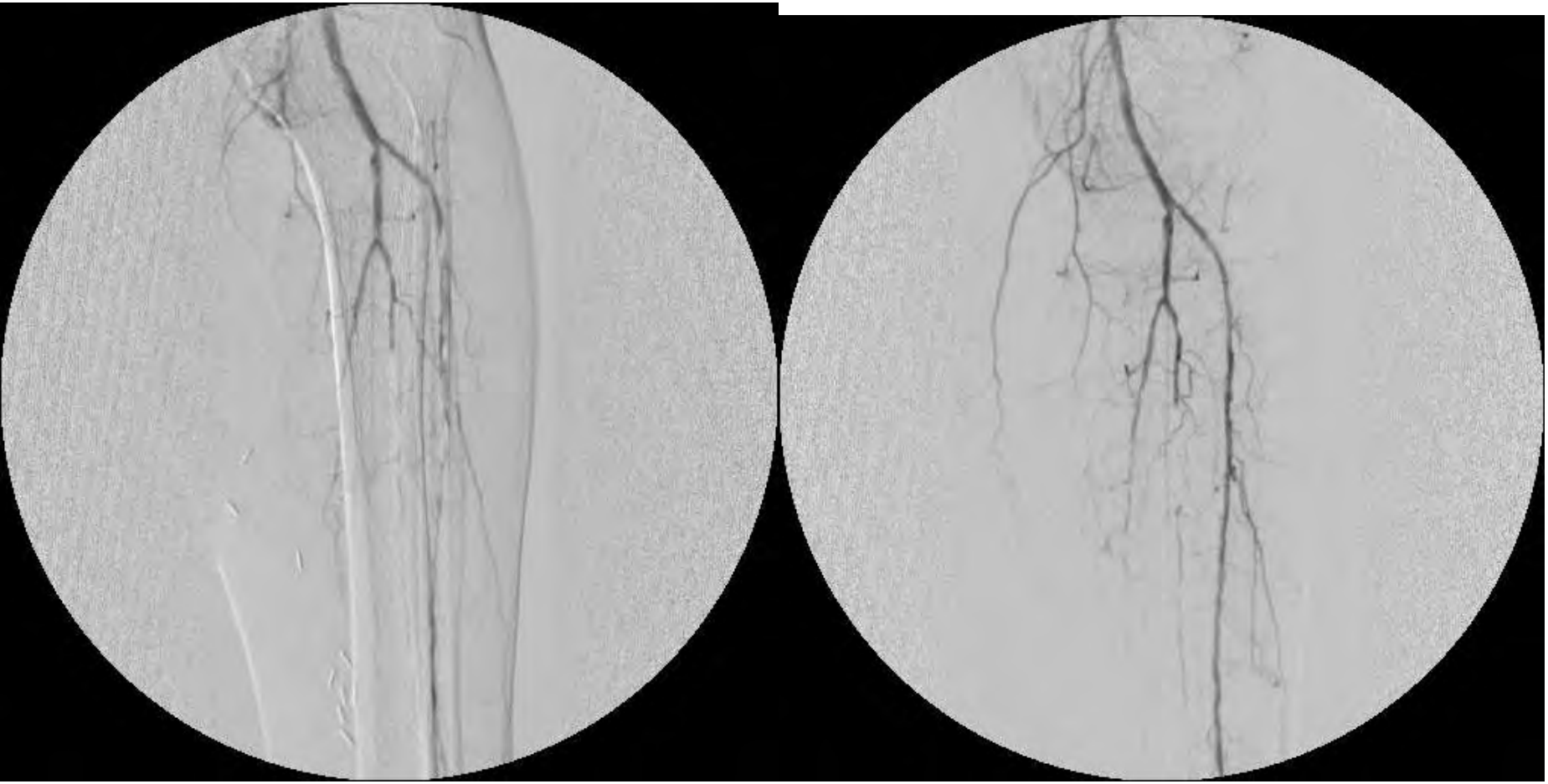
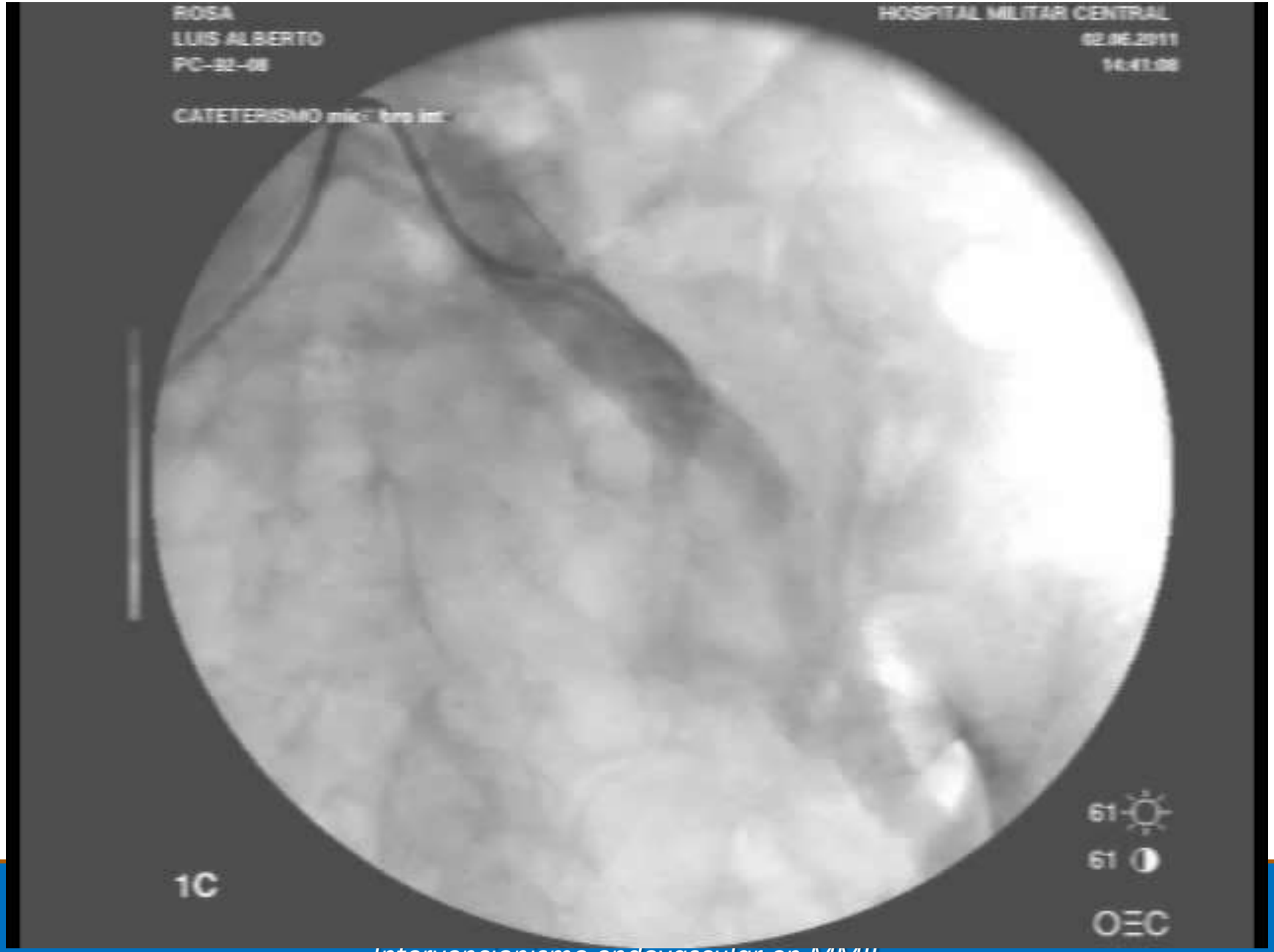
CASOS CLINICOS INFRAPOPLITEOS



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HOSPITAL MILITAR CENTRAL
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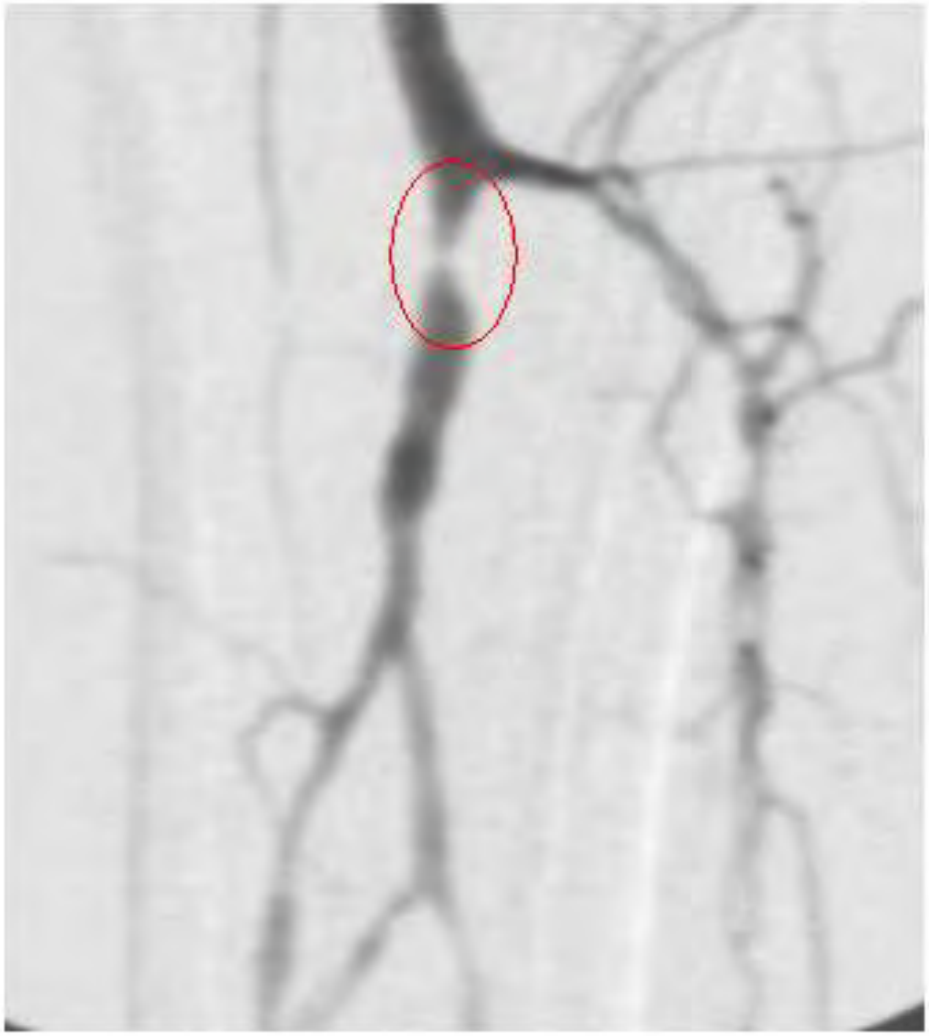

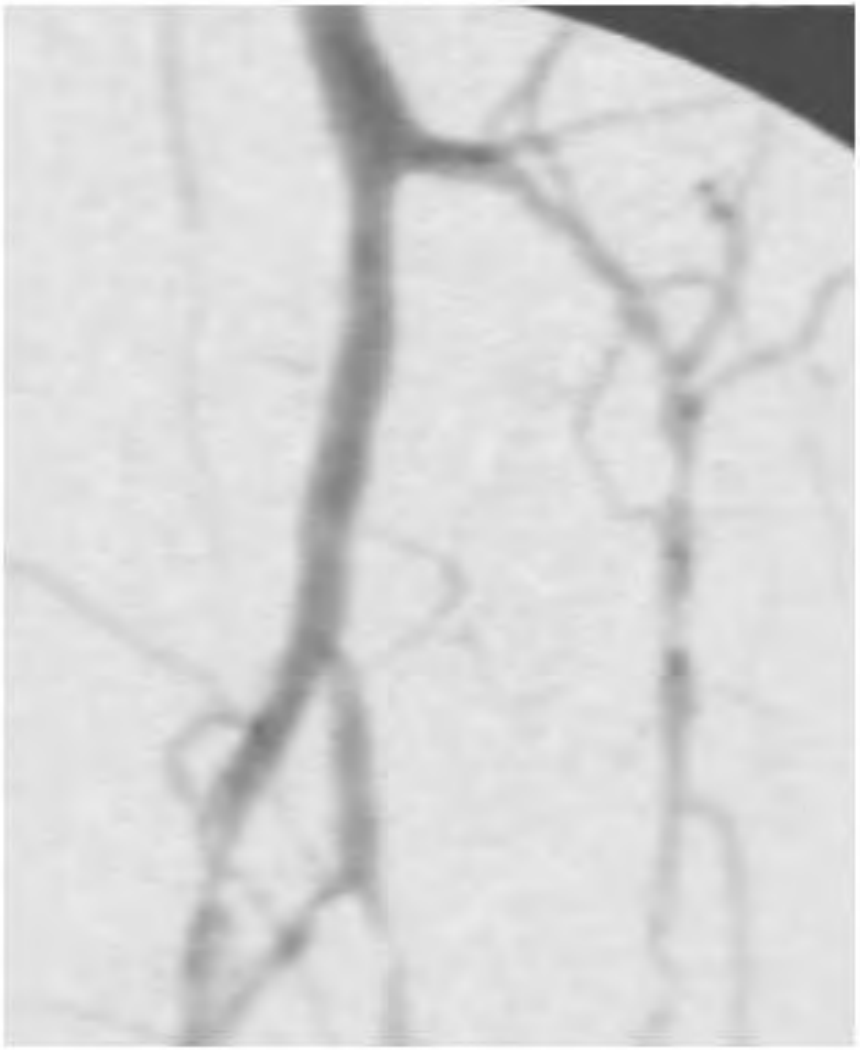

Conclusiones

- La Ateroesclerosis es una SOLA
- La EAP es mas frecuente de lo que pensamos
- La diabetes es el mayor factor de riesgo para EAP
- En la isquemia critica (dolor en reposo o ulcera) la revascularización es el primer objetivo
- Tanto los dispositivos utilizados, como el acceso es un poco diferente al coronario
- La vía endovascular se esta convirtiendo en la actualidad en la primera línea de abordaje tanto por la comorbilidad asociada y la elección del paciente.

Gracias

CIRCULACION

LABORATORIO VASCULAR