ARTERIOPATIA PERIFERICA E PIEDE DIABETICO

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Responsabile SD Piede Diabetico

Azienda Ospedaliero-Universitaria Pisana

DM

Screening for peripheral arterial disease by means of the ankle-brachial index in newly diagnosed Type 2 diabetic patients

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Accepted 22 October 2004

Abstract

Aim To evaluate the prevalence of peripheral arterial disease (PAD) with the ankle-brachial index (ABI) in newly diagnosed Type 2 diabetic subjects.

Methods Between autumn 2002 and spring 2003, 2559 newly diagnosed Type 2 diabetic subjects (about 15% of the cases/year in Italy) were enrolled in 265 diabetology centres. Family history of diabetes, smoking, height, weight, waistline, fasting glycaemia, glycosylated haemoglobin, total and HDL-cholesterol and triglyceride values were collected. Claudication, cyanosis, cold foot, foot hair anomalies, skin thinning and femoral, popliteal, posterior tibial and dorsalis pedis pulses were assessed. The ABI was measured with a portable Doppler continuous-wave instrument.

Results An ABI < 0.9 was found in 539 (21.1%) patients. Claudication was present in 187 (7.3%). Femoral pulse was absent in 218 (8.5%), popliteal in 316 (12.3%), tibial in 563 (22.0%) and dorsalis pedis in 578 (22.6%). Foot cyanosis was observed in 88 (3.4%), cold foot in 359 (13.9%), skin thinning in 468 (18.3%) and hair anomalies in 857 (33.5%). Multivariate analysis of the variables associated with ABI < 0.9 in the univariate analysis confirmed the independent role of age [relative risk (RR) 1.02, $P < 0.001$, confidence interval (CI) 1.01, 1.04], claudication (RR 4.53, $P < 0.001$, CI 2.97, 6.93), absence of tibial pulse (RR 3.45, $P \leq 0.001$. CI 2.54, 4.68) and pedis pulse (RR 1.96, $P \leq 0.001$, CI 1.4, 2.68).

Conclusions PAD, as represented by ABI < 0.9, is common in newly diagnosed Type 2 diabetic patients.

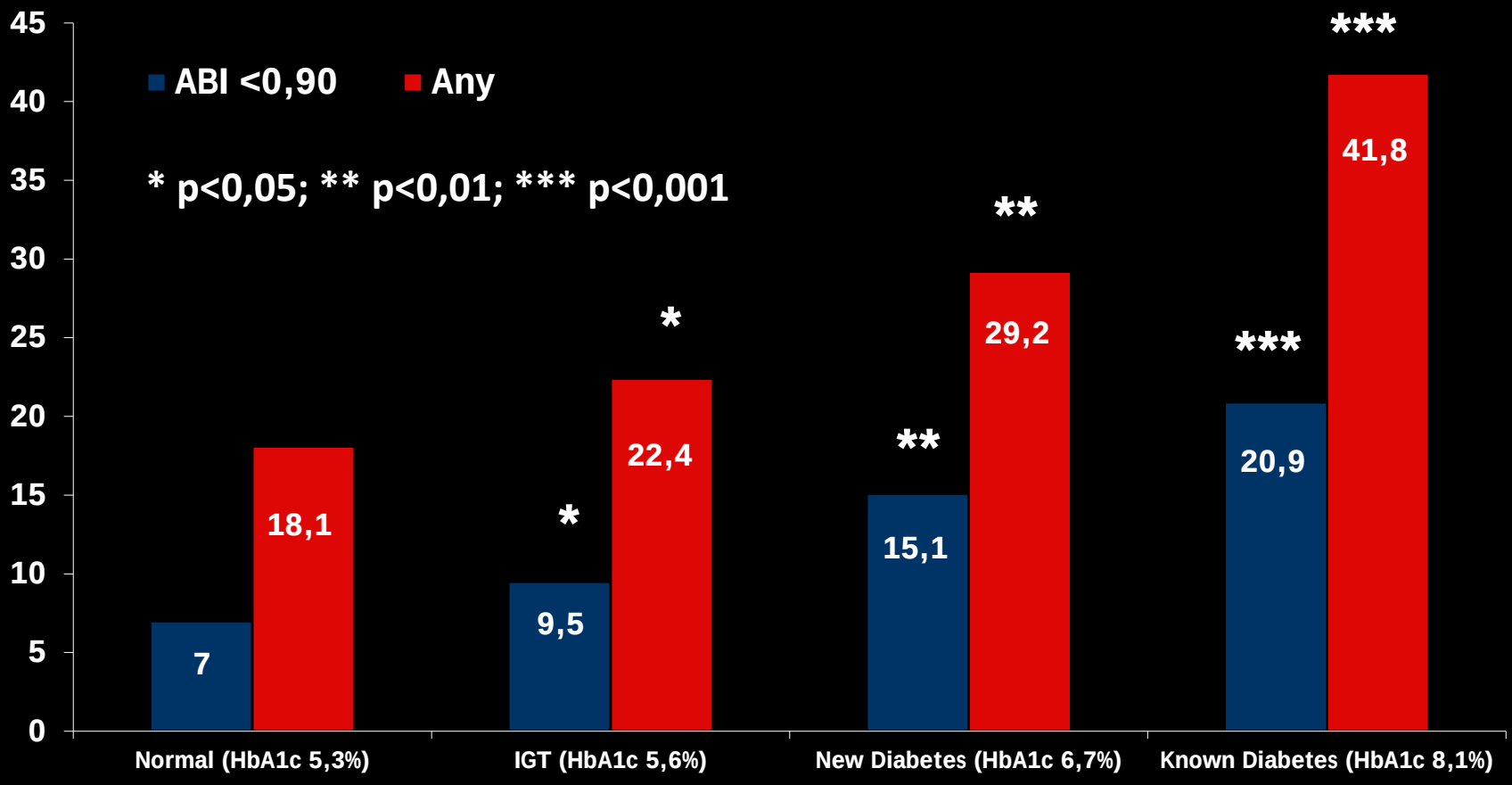
Diabet. Med. 22, 1310–1314 (2005)

Keywords ankle-brachial index, claudication, clinical foot examination, newly diagnosed type 2 diabetes, peripheral arterial disease, peripheral pulses

Abbreviations ABI, ankle-brachial index; BMI, body mass index; PAD, peripheral arterial disease; ROC, receiver–operating characteristic

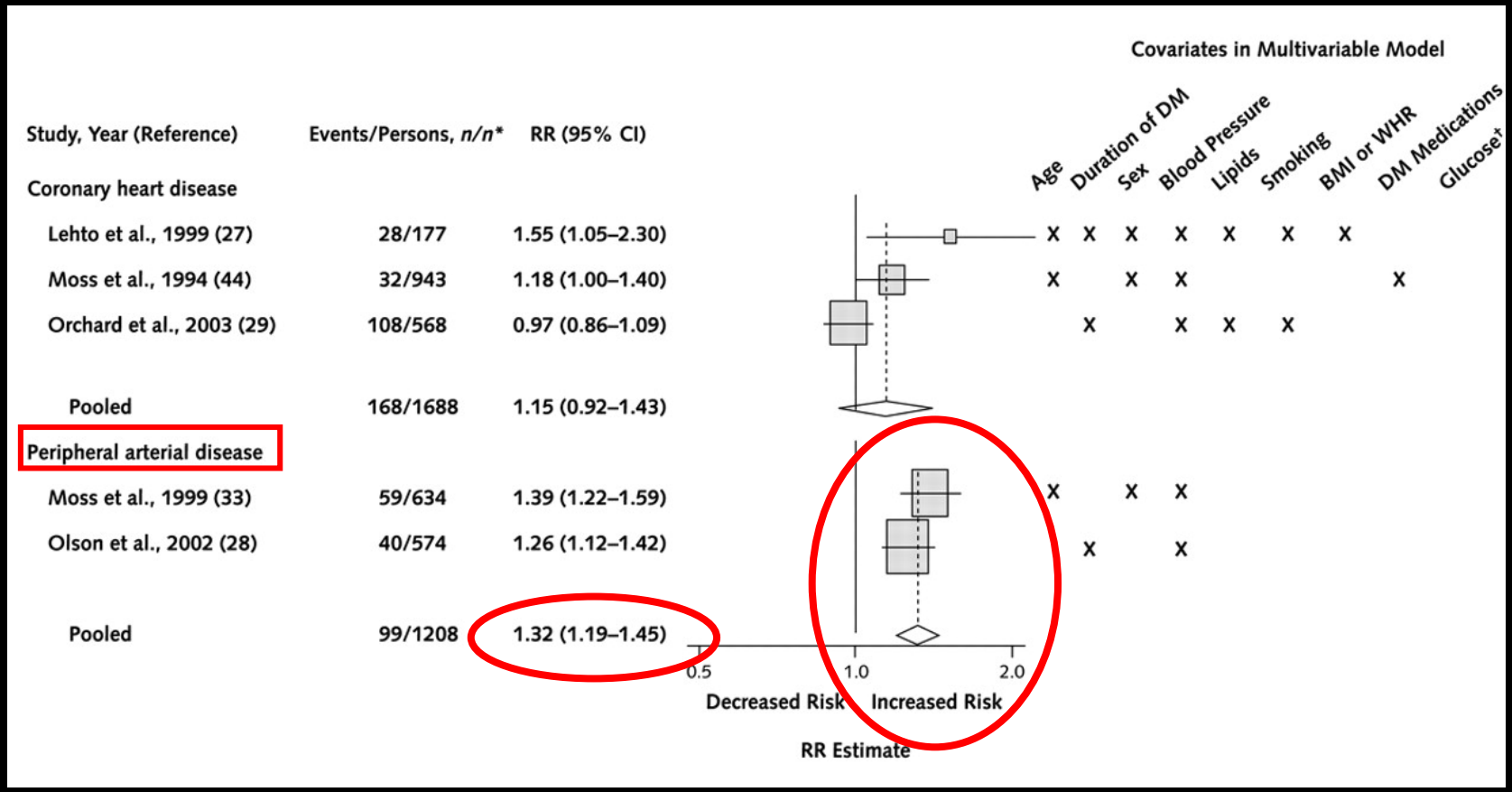


PREVALENCE OF PAD



[Beks PJ.The Hoorn Study. Diabetologia 1995]

Relative risk (RR) estimates and 95% CIs for HbA1c (per 1% increase) and incident coronary heart disease and peripheral arterial disease in persons with DM



[Selvin, E. et. al. Ann Intern Med 2004;141:421-431]

PERIPHERAL ARTERIOPATHY FEATURES

DIABETIC

- 40 – 50 yrs
- No gender predominance
- Polidistrictual
- Distal
- No collaterals
- Bilateral
- Hyposympomatic

NON DIABETIC

- 60 – 70 yrs
- Male predominance
- Smoke
- Proximal
- Sintomatic
- Collaterals
- Monolateral

Diagnostic Parameters

	Normal	PAD	Critical Ischemia
Ankle pressure (mmHg)	> 100	100 - 50	< 50
Allux pressure (mmHg)	> 50	50 - 30	< 30
ABPI (ratio)	> 0.9*	0.9 – 0.5	< 0.5
$TcPO_2$ (mmHg)	> 60	60 - 40	< 40

*If > 1.3 consider Monckeberg's sclerosis

The Indipendent Contributions Of Diabetic Neuropathy And Vasculopathy In Foot Ulceration. How Great Are The Risks?

	Adjusted O.R.	***95% C.I.***
Absent Ankle Reflexes	6.48	2.37 – 18.06
Insensate to the 5.07 Monofilament	18.42	3.83 – 88.47
$TcPO_2$ < 30 mmHg	57.87	5.08 – 658.96

[McNeely et al. Diabetes Care 18 (2): 216 - 219; 1995]

EURODIALE



www.eurodiale.org

- European study group
- An independant multi-disciplinary s



24%



49%

Diabetologia (2008) 51:747–755
DOI 10.1007/s00125-008-0940-0

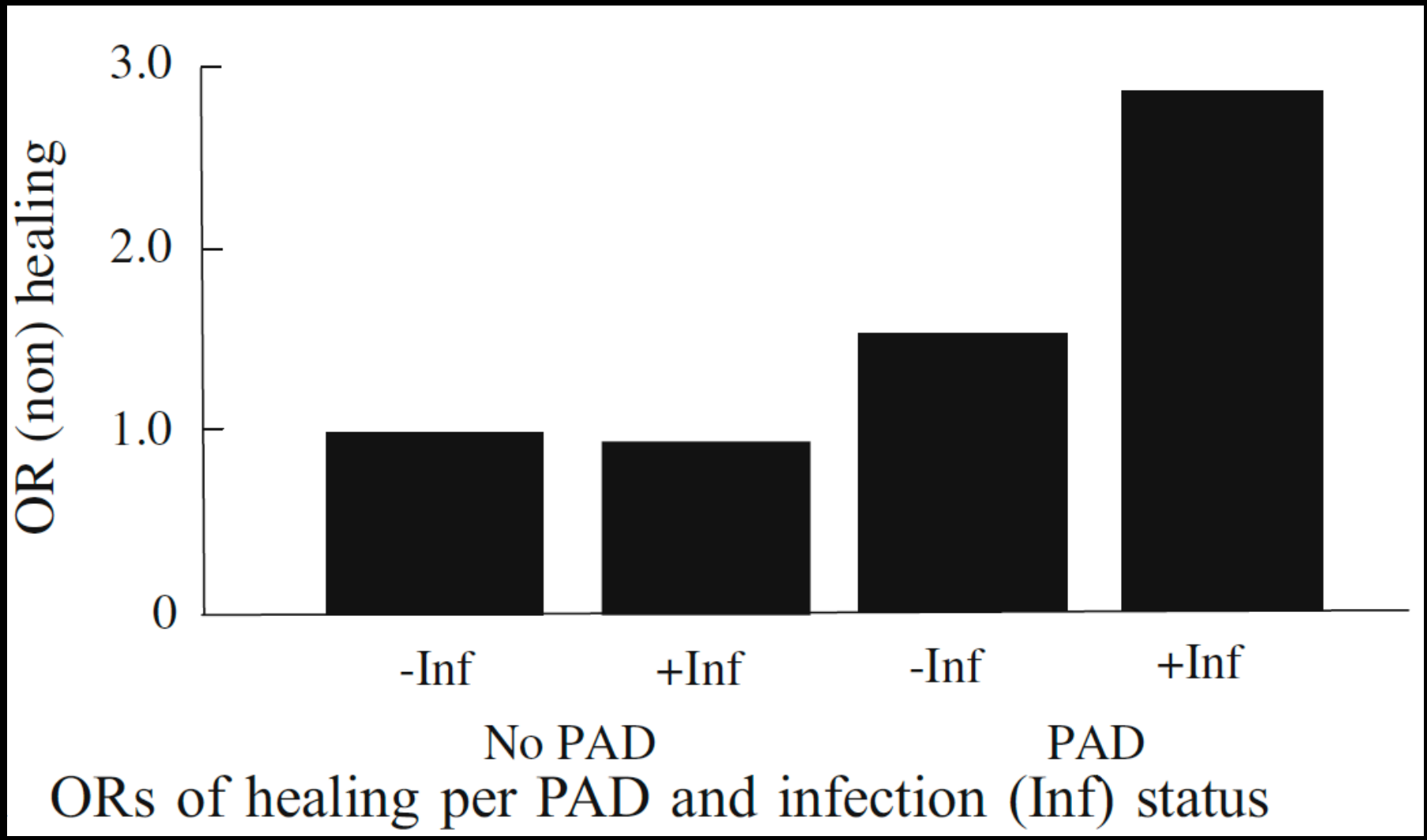
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ARTICLE

Prediction of outcome in individuals with diabetic foot ulcers: focus on the differences between individuals with and without peripheral arterial disease. The EURODIALE Study

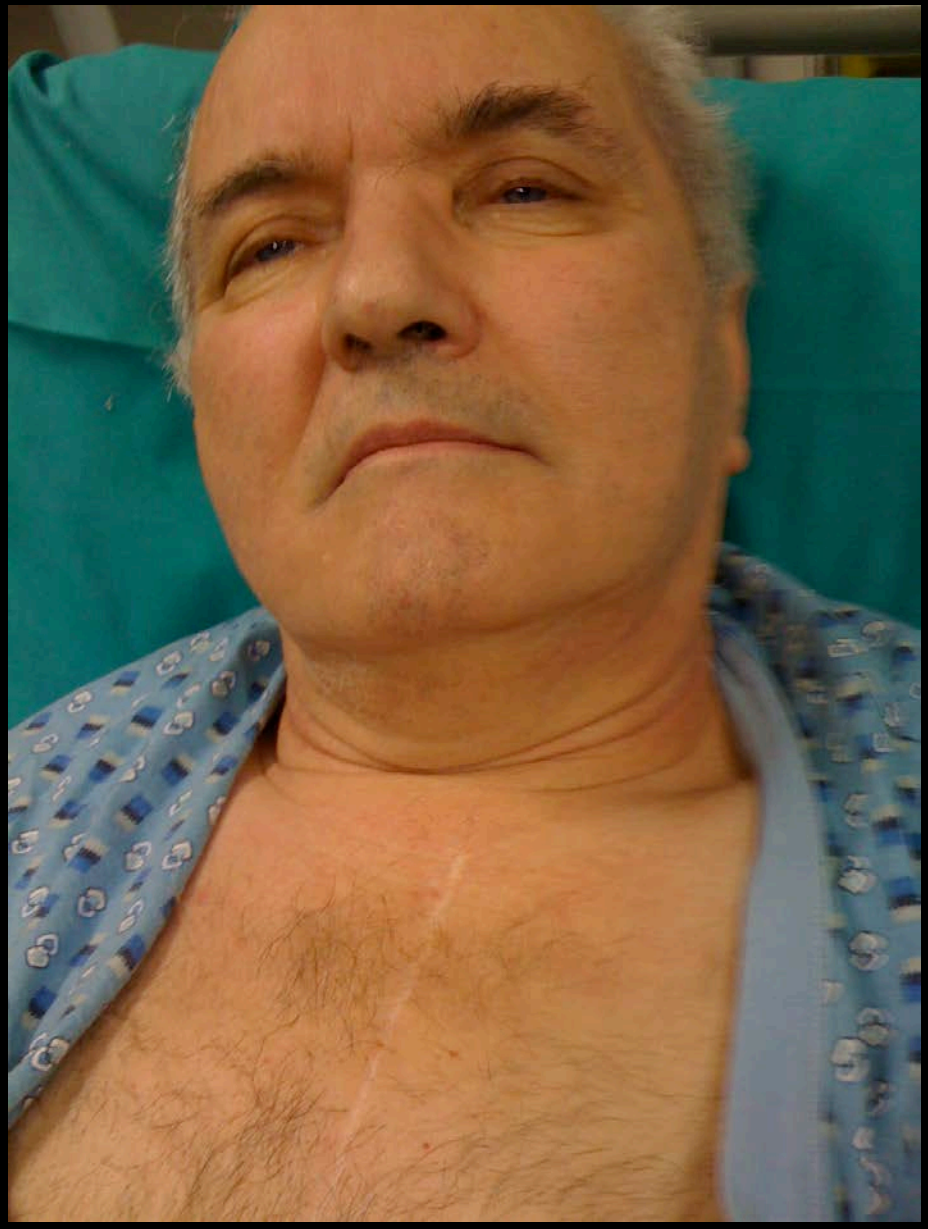
L. Prompers · N. Schaper · J. Apelqvist · M. Edmonds · E. Jude · D. Mauricio · L. Uccioli · V. Urbancic · K. Bakker · P. Holstein · A. Jirkovska · A. Piaggesi · G. Ragnarson-Tennvall · H. Reike · M. Spraul · K. Van Acker · J. Van Baal · F. Van Merode · I. Ferreira · M. Huijberts

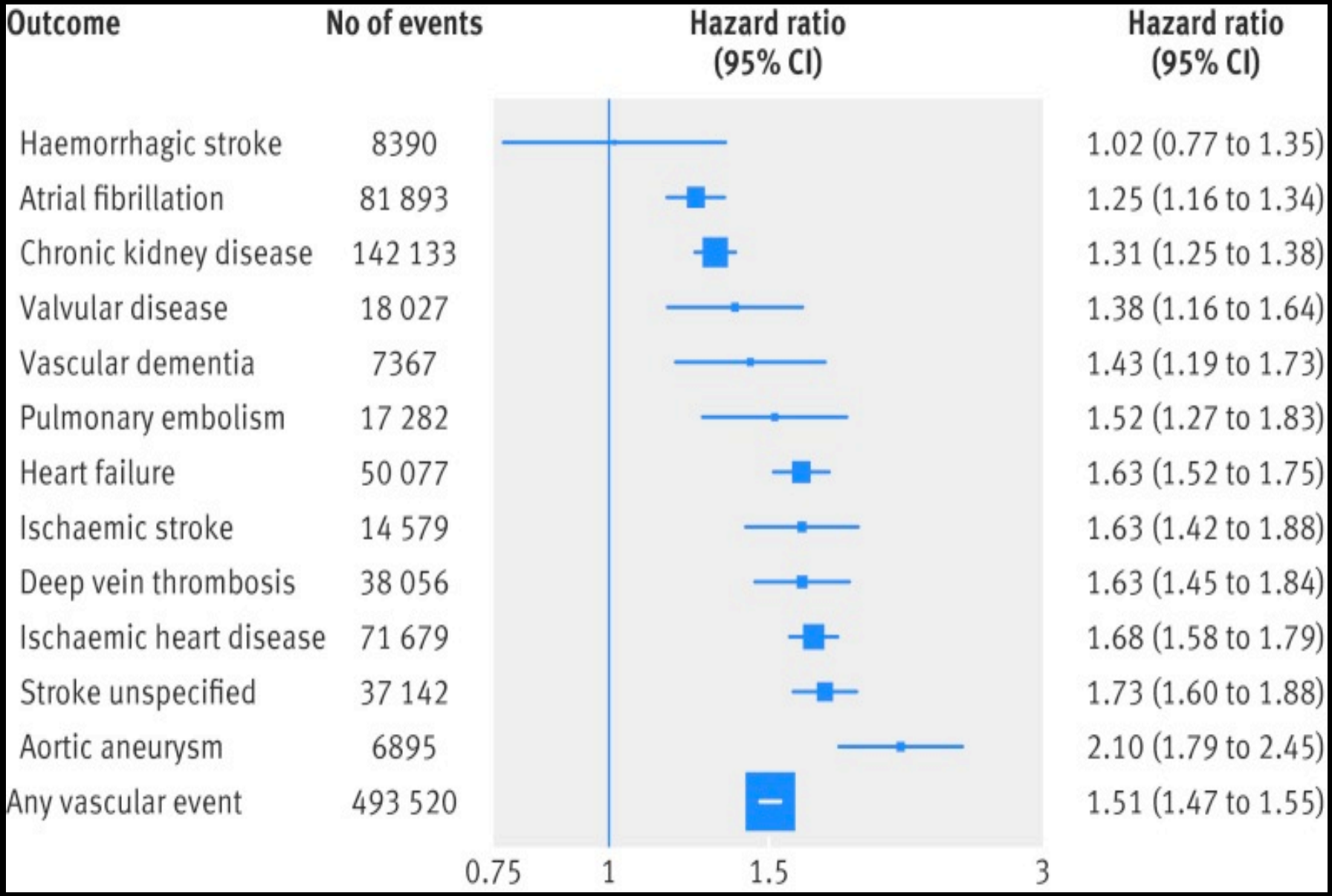
Received: 1 October 2007 / Accepted: 3 January 2008 / Published online: 23 February 2008
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[Prompers et al. Diabetologia 2007]







[Emdin et al. BMJ 2015]

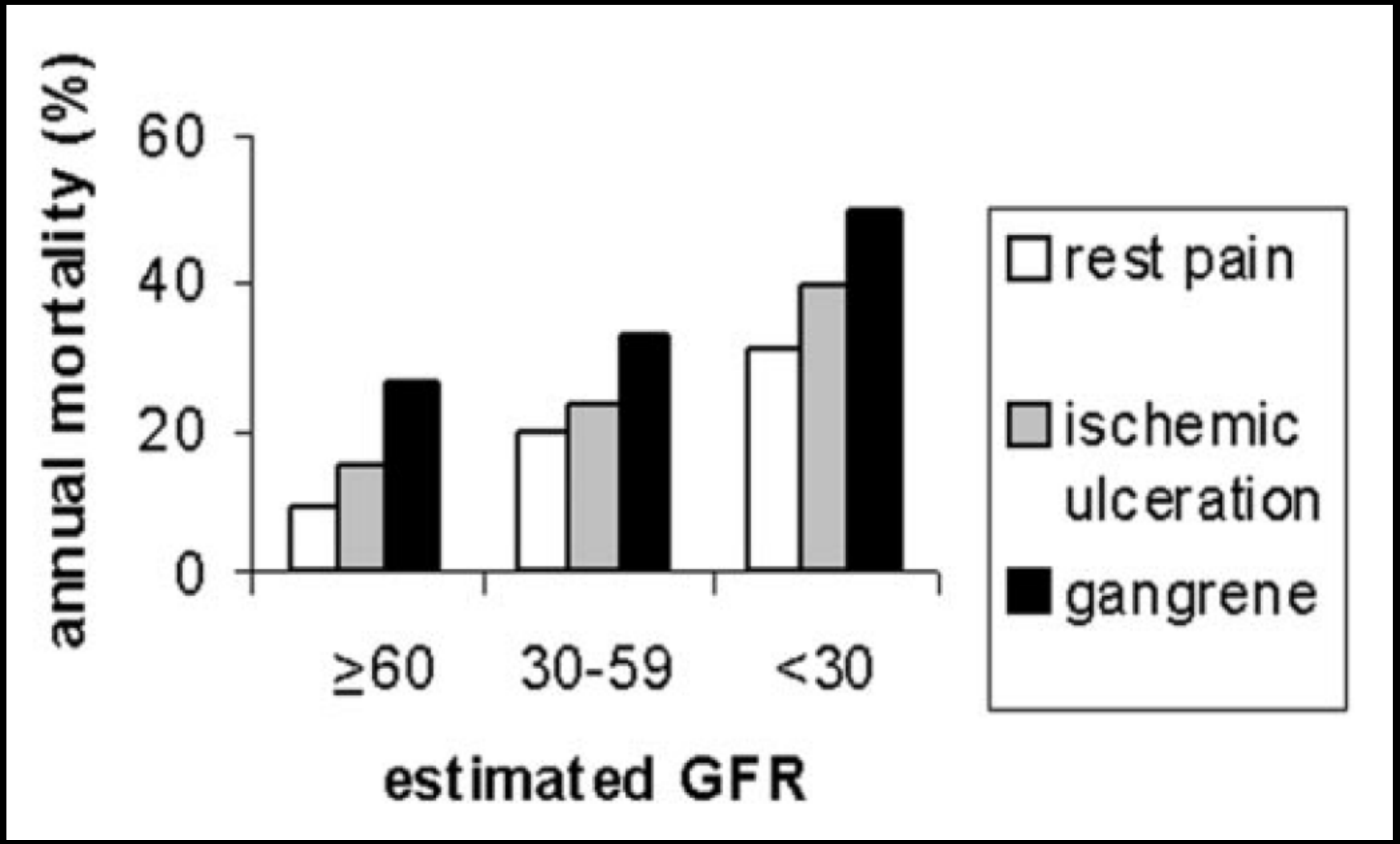
Impact of Renal Insufficiency on Mortality in Advanced Lower Extremity Peripheral Arterial Disease

Ann M. O'Hare,*¶ Daniel Bertenthal,‡ Michael G. Shlipak,†‖¶ Saunak Sen,‖ Mary-Margaret Chren§

*Divisions of Nephrology and †General Internal Medicine, Department of Medicine, ‡Health Services Research Enhancement Award Program, and §Department of Dermatology, VA Medical Center San Francisco; and ‖Department of Epidemiology and Biostatistics; and ¶Department of Medicine, University of California, San Francisco, San Francisco, California

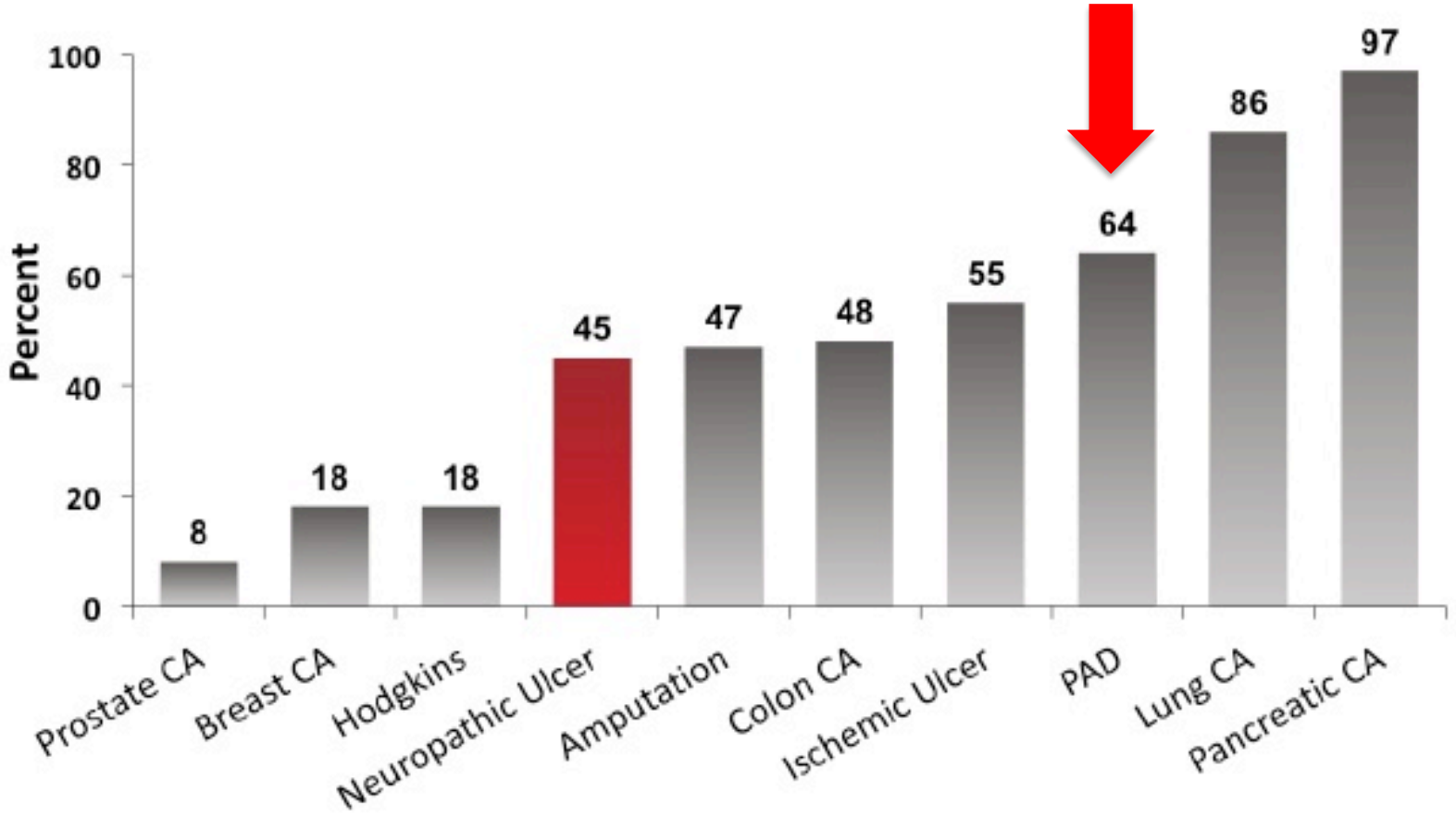
Renal insufficiency predicts mortality among patients who are treated for myocardial infarction and congestive heart failure, but its clinical significance in advanced peripheral arterial disease has not been evaluated. A national cohort of 5787 male veterans who received an initial diagnosis of rest pain, ischemic ulceration, or gangrene between January 1, 2000, and September 30, 2002, and had at least one serum creatinine measurement within 3 mo before diagnosis were identified. Sixty-two percent (n = 3561) of cohort members had normal or mildly reduced renal function (GFR ≥60 ml/min per 1.73 m^2), 30% (n = 1742) had moderate renal insufficiency (GFR 30 to 59 ml/min per 1.73 m^2), and 8% (n = 484) had severe renal insufficiency or renal failure (GFR <30 ml/min per 1.73 m^2) but were not on dialysis. The percentages of patients who presented with gangrene or ischemic ulceration rather than rest pain increased with declining renal function (70, 77, and 87%; P < 0.001), as did 1-yr mortality risk (17, 27, and 44%; P < 0.001). After adjustment for demographic and clinical characteristics, patients with a GFR of 30 to 59 ml/min per 1.73 m^2 (odds ratio, 1.32; 95% confidence interval, 1.13 to 1.53) and <30 ml/min per 1.73 m^2 (odds ratio, 2.97; 95% confidence interval, 2.39 to 3.69) had a significantly increased odds of death within 1 yr of cohort entry. Both moderate and severe renal insufficiency are associated with an increased odds of death in patients with critical limb ischemia. Death rates were particularly high among those with a GFR <30 ml/min per 1.73 m^2. This finding may be partly explained by their more frequent presentation with ischemic ulceration or gangrene rather than rest pain.

J Am Soc Nephrol 16: 514-519, 2005. doi: 10.1681/ASN.2004050409



[O'Hare AM et al. *J Am Soc Nephrol 2005*]

5-Year Mortality Rates



Armstrong DG, Wrobel J, Robbins JM. Guest Editorial: are diabetes-related wounds and amputations worse than cancer? Int Wound J. 2007;4(4):286–287


Media
Ateroma

TASC D Femorale superficiale

PAD IN THE ILIAC AND FEMORAL ARTERIES





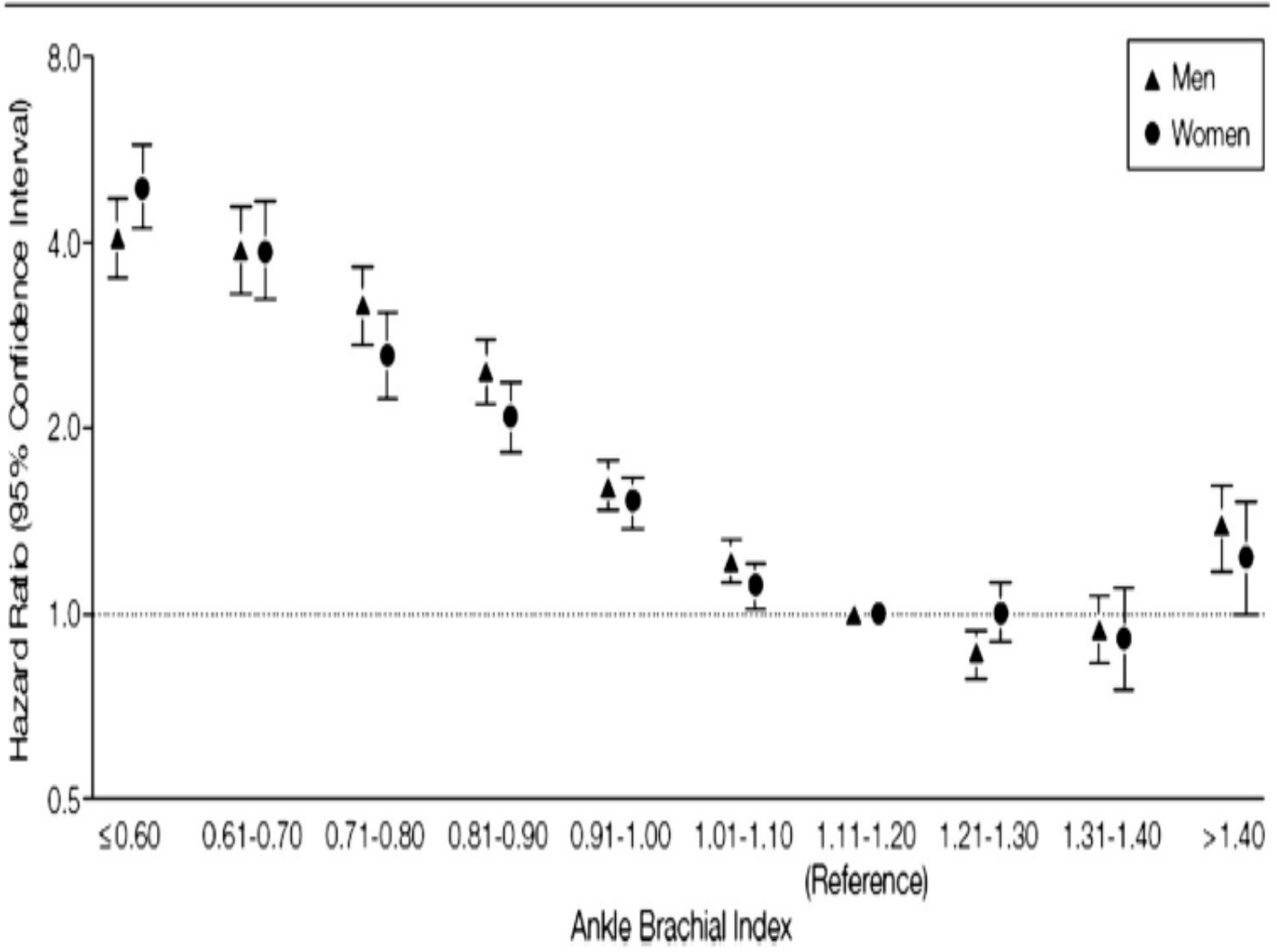
Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

American Heart Association®

Measurement and Interpretation of the Ankle-Brachial Index : A Scientific Statement From the American Heart Association

Victor Aboyans, Michael H. Criqui, Pierre Abraham, Matthew A. Allison, Mark A. Creager, Curt Diehm, F. Gerry R. Fowkes, William R. Hiatt, Björn Jönsson, Philippe Lacroix, Benoît Marin, Mary M. McDermott, Lars Norgren, Reena L. Pande, Pierre-Marie Preux, H.E. (Jelle) Stoffers and Diane Treat-Jacobson

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Print ISSN: 0009-7322. Online ISSN: 1524-4539


Men
Women
Hazard Ratio (95% Confidence Interval)
8.0
4.0
2.0
1.0
0.5
≤0.60
0.61-0.70
0.71-0.80
0.81-0.90
0.91-1.00
1.01-1.10
1.11-1.20
(Reference)
1.21-1.30
1.31-1.40
>1.40
Ankle Brachial Index




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IBMS BoneKEy. 2008 February;5(2):41-58
http://www.bonekey-ibms.org/cgi/content/full/ibmske;5/2/41
doi: 10.1138/20080298

PERSPECTIVES

Vascular Calcification: A Perspective On An Imminent Disease Epidemic

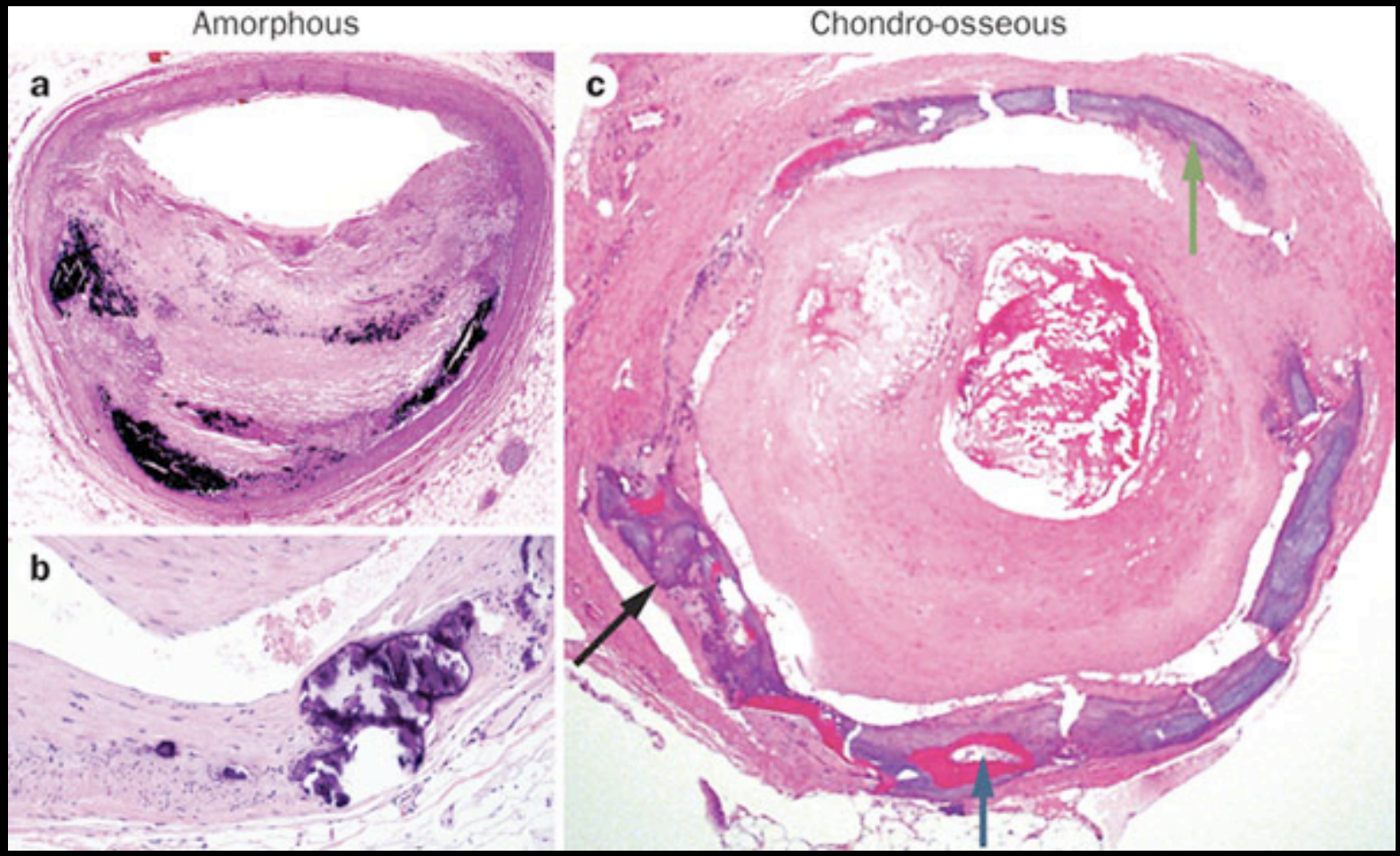
Dwight A. Towler

Center for Cardiovascular Research, Department of Medicine – Bone & Mineral Diseases, Washington University in St. Louis, St. Louis, MO, USA

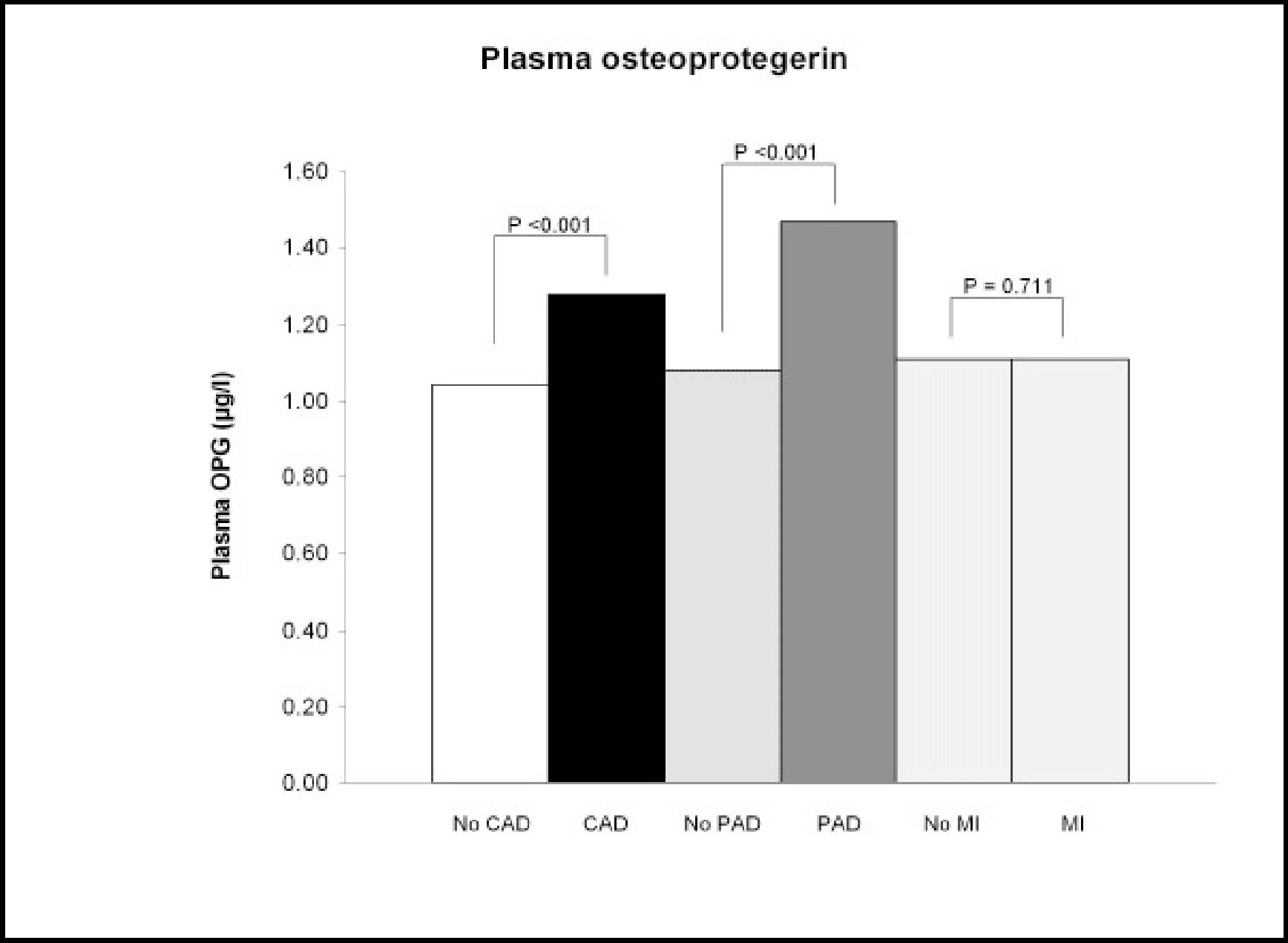
Abstract

Westernized societies are on the verge of an epidemic of vascular calcification. Aging, metabolic syndrome and type II diabetes (T2DM), and chronic kidney disease increasingly characterize our populace – and promote valve and arterial calcium deposition. Epidemiology, histopathology, and pathobiology define at least 5 distinct and prevalent types of vascular calcification: calcific aortic stenosis (CAS), medial artery calcification, atherosclerotic intimal calcification, vascular calcification of chronic kidney disease, and calcific uremic arteriolopathy. The clinical impact of these 5 mineralization disorders is highly significant. For example, 2%-3% of individuals ≥ 65 years old have CAS, and require surgery to prevent precocious death and to improve quality of life. Valve calcium load is the best predictor of clinical progression; if unaddressed, interactions between longevity and T2DM prevalence will increase the future incidence of CAS. Reduced vascular compliance – arising in part from arterial calcification – impairs macrovascular Windkessel function and normal tissue perfusion; thus, medial artery calcification of T2DM conveys a 3-fold increased risk for lower extremity amputation, a debilitating and costly outcome. Once considered a passive process only, data from laboratories world-wide have now established that vascular calcification is an actively regulated type of biomineralization. As in bone, morphogenetic, mechanical, metabolic, endocrine, and inflammatory signals control vascular mineral deposition. Molecular and cellular mechanisms familiar to bone biologists are activated with disease initiation and progression. This *Perspective* briefly recounts the pathobiology of vascular calcification and conveys the urgent need to pursue the basic, translational, and outcomes-based research necessary to address an imminent epidemic of abnormal vascular calcium metabolism.
IBMS BoneKEy. 2008 February;5(2):41-58.
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MECHANISMS OF ARTERIAL CALCIFICATION



Sage et al. Nature Cardiology, 2010

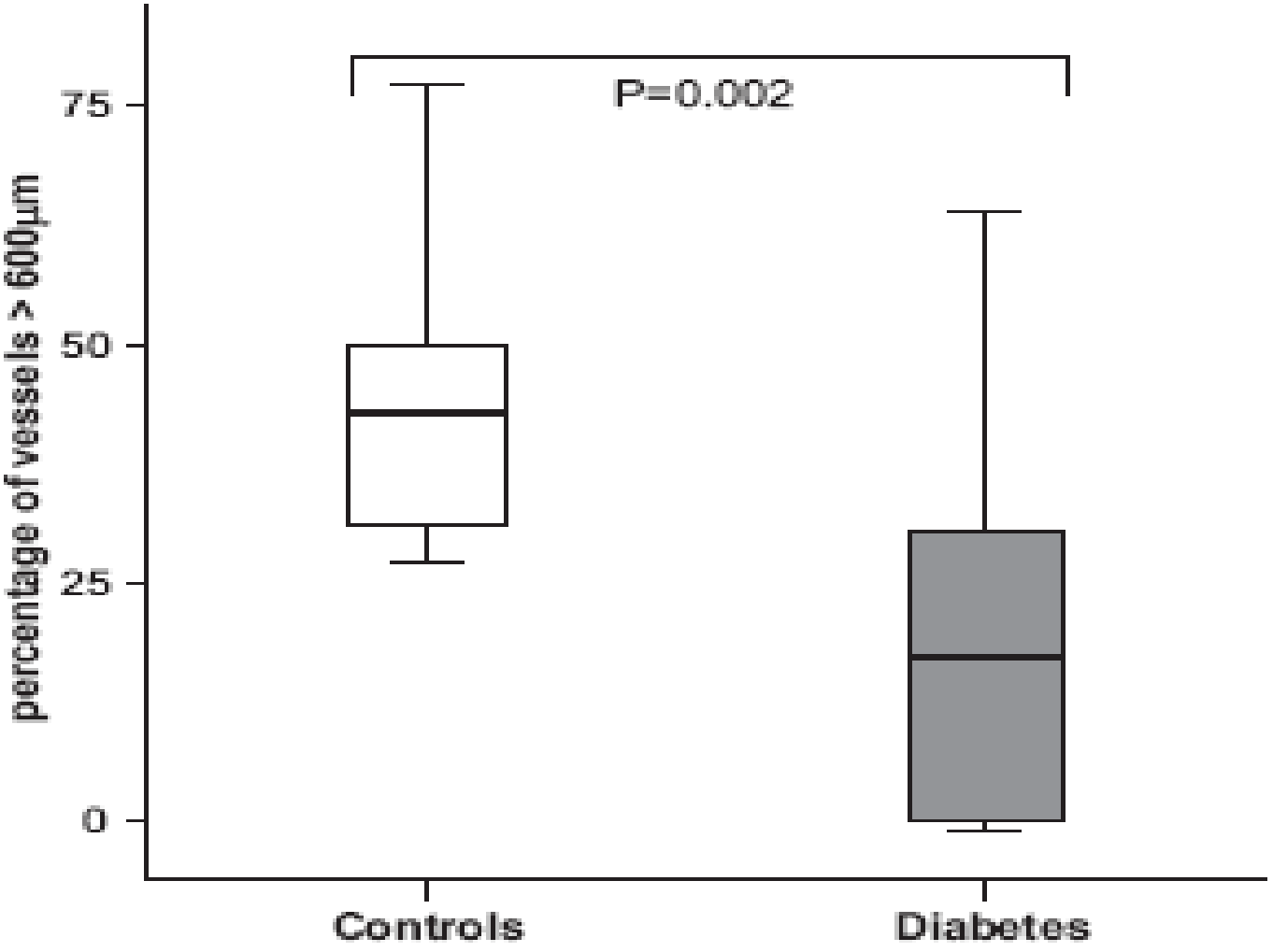


[Poulsen et al. Cardiovasc Diabetol. 2011]

ORIGINAL ARTICLE

Impaired Collateral Recruitment and Outward Remodeling in Experimental Diabetes

Jolanda M. van Golde,[1] Matthijs S. Ruiter,[1] Nicolaas C. Schaper,[1] Stefan Vöö,[2] Johannes Waltenberger,[2] Walter H. Backes,[3] Mark J. Post,[4] and Maya S. Huijberts[1]







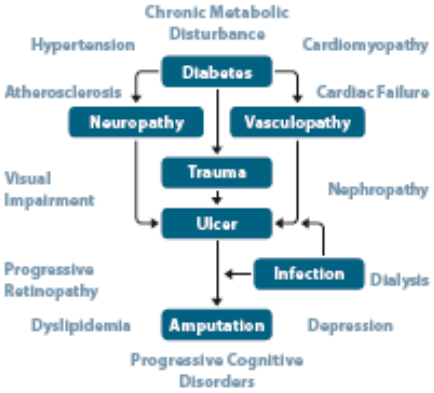
26
Frontiers in Diabetes

Frontiers in Diabetes
Editor: M. Porta
Vol. 26

The Diabetic Foot Syndrome

Editors
A. Piaggesi
J. Apelqvist





KARGER

Piaggesi/Apelqvist (eds.) The Diabetic Foot Syndrome

Karger

Piaggesi A, Apelqvist J (eds): The Diabetic Foot Syndrome.
Front Diabetes. Basel, Karger, 2018, vol 26, pp 60–69 (DOI: 10.1159/000480046)

Diabetic Peripheral Arteriopathy: A Tale of Two Diseases

Michael E. Edmonds[a] · C. Shanahan[b] · Nina L. Petrova[a]

[a]Diabetic Foot Clinic, King's College Hospital NHS Foundation Trust and Division of Diabetes and Nutritional Sciences, King's College London, and [b]Cardiovascular Division, King's College London, London, UK

The NEW ENGLAND JOURNAL of MEDICINE

REVIEW ARTICLE

Julie R. Ingelfinger, M.D., *Editor*

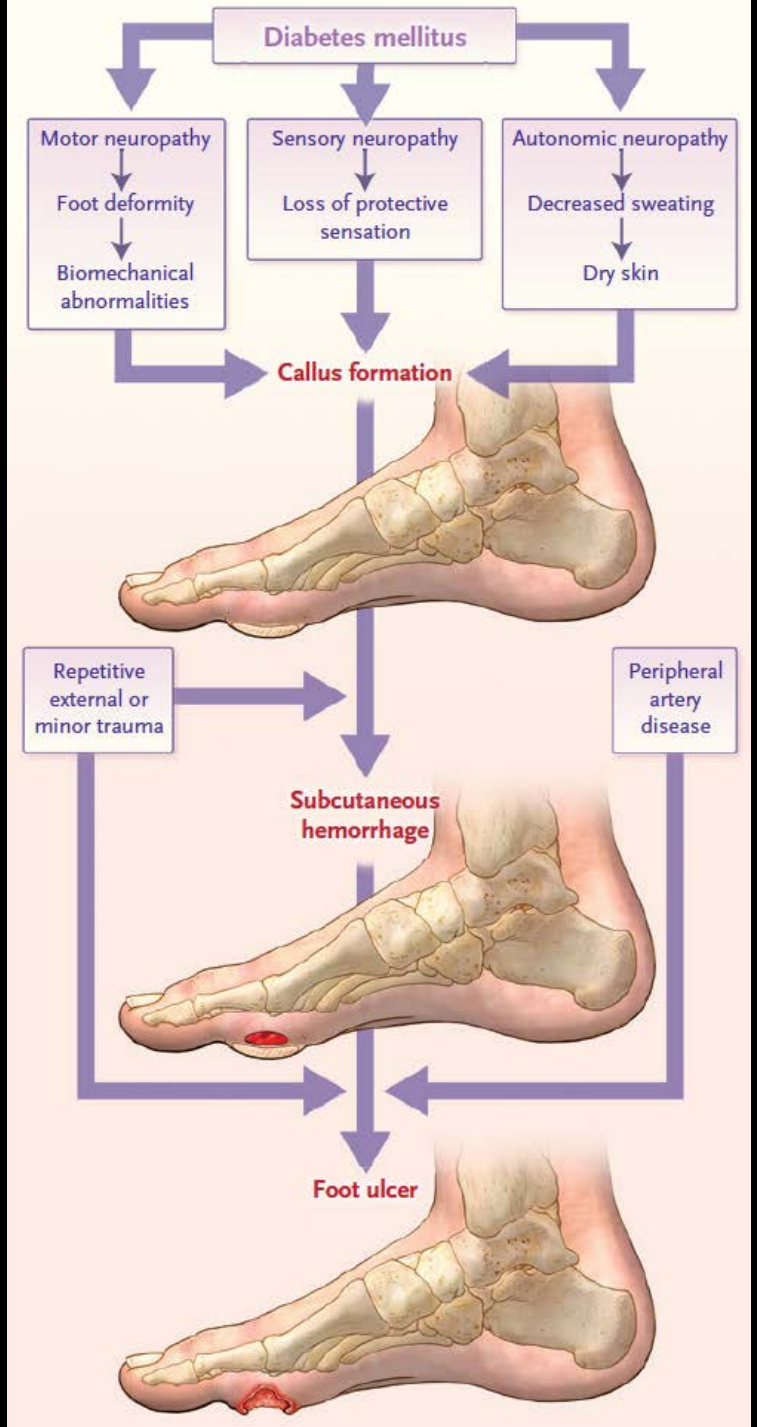
Diabetic Foot Ulcers and Their Recurrence

David G. Armstrong, D.P.M., M.D., Ph.D., Andrew J.M. Boulton, M.D., and Sicco A. Bus, Ph.D.

COMPLICATIONS OF DIABETES THAT AFFECT THE LOWER EXTREMITIES ARE common, complex, and costly. Foot ulceration is the most frequently recognized complication. In a community-based study in the northwestern United Kingdom, the prevalence of active foot ulcers identified at screening among persons with diabetes was 1.7%, and the annual incidence was 2.2%.[1] Higher annual incidence rates have been reported in specific populations: 6.0% among Medicare beneficiaries with diabetes, 5.0% among U.S. veterans with diabetes, and 6.3% in the global population of persons with diabetes.[2-4] On the basis of 2015 prevalence data from the International Diabetes Federation,[5] it is estimated that, annually, foot ulcers develop in 9.1 million to 26.1 million people with diabetes worldwide. The proportion of persons with diabetes and a history of foot ulceration is understandably higher than the proportion with an active ulcer; 3.1 to 11.8% of persons with diabetes, or 12.9 million to 49.0 million persons worldwide and 1.0 million to 3.5 million in the United States alone, have a history of foot ulceration.[1,5-7] The lifetime incidence of foot ulcers has previously been estimated to be 15 to 25% among persons with diabetes,[8] but when additional data are considered, between 19% and 34% of persons with diabetes are likely to be affected (for the calculation, see the Supplementary Appendix, available with the full text of this article at NEJM.org).

From the Southern Arizona Limb Salvage Alliance (SALSA), Department of Surgery, University of Arizona College of Medicine, Tucson (D.G.A.); Faculty of Biology, Medicine, and Health, University of Manchester, Manchester, United Kingdom (D.G.A., A.J.M.B.); and the Department of Rehabilitation Medicine, Academic Medical Center, University of Amsterdam, and Amsterdam Movement Sciences — both in Amsterdam (S.A.B.). Address reprint requests to Dr. Armstrong at SALSA, Department of Surgery, University of Arizona College of Medicine, 1501 N. Campbell Ave., Tucson, AZ 85724, or at armstrong@usa.net.

N Engl J Med 2017;376:2367-75.
DOI: 10.1056/NEJMra1615439
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Diabetes mellitus
Motor neuropathy
Foot deformity
Biomechanical abnormalities
Sensory neuropathy
Loss of protective sensation
Autonomic neuropathy
Decreased sweating
Dry skin
Callus formation
Repetitive external or minor trauma
Peripheral artery disease
Subcutaneous hemorrhage
Foot ulcer





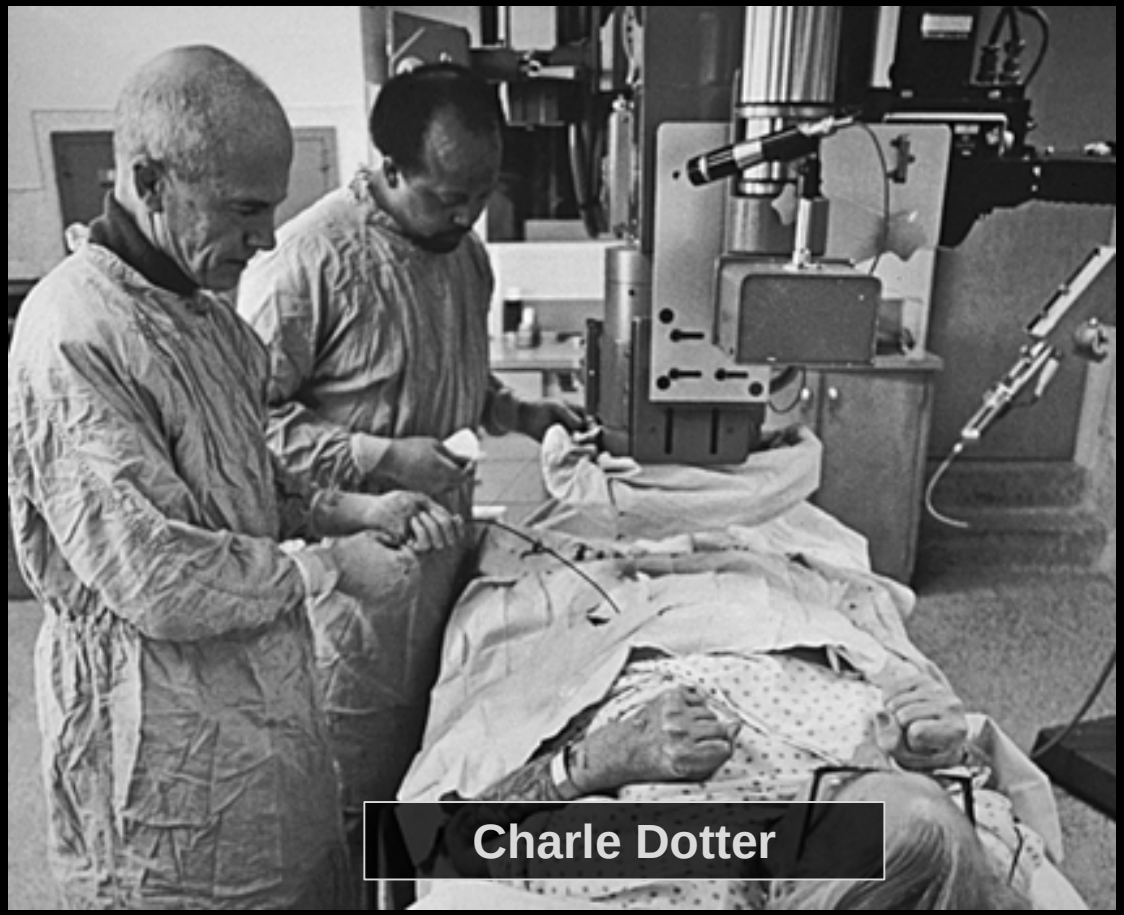


SURGICAL REVASCULARIZATION









Seldinger first published this technique for obtaining percutaneous access to blood vessels in 1953 for the publication Acta Radiologica.

On January 16, 1964, Dotter percutaneously dilated a tight, localized stenosis of the superficial femoral artery (SFA) in an 82-year-old woman with painful leg ischemia and gangrene who refused leg amputation.

Revascularization in Diabetic Foot

Basic Technique - Intraluminal PTA



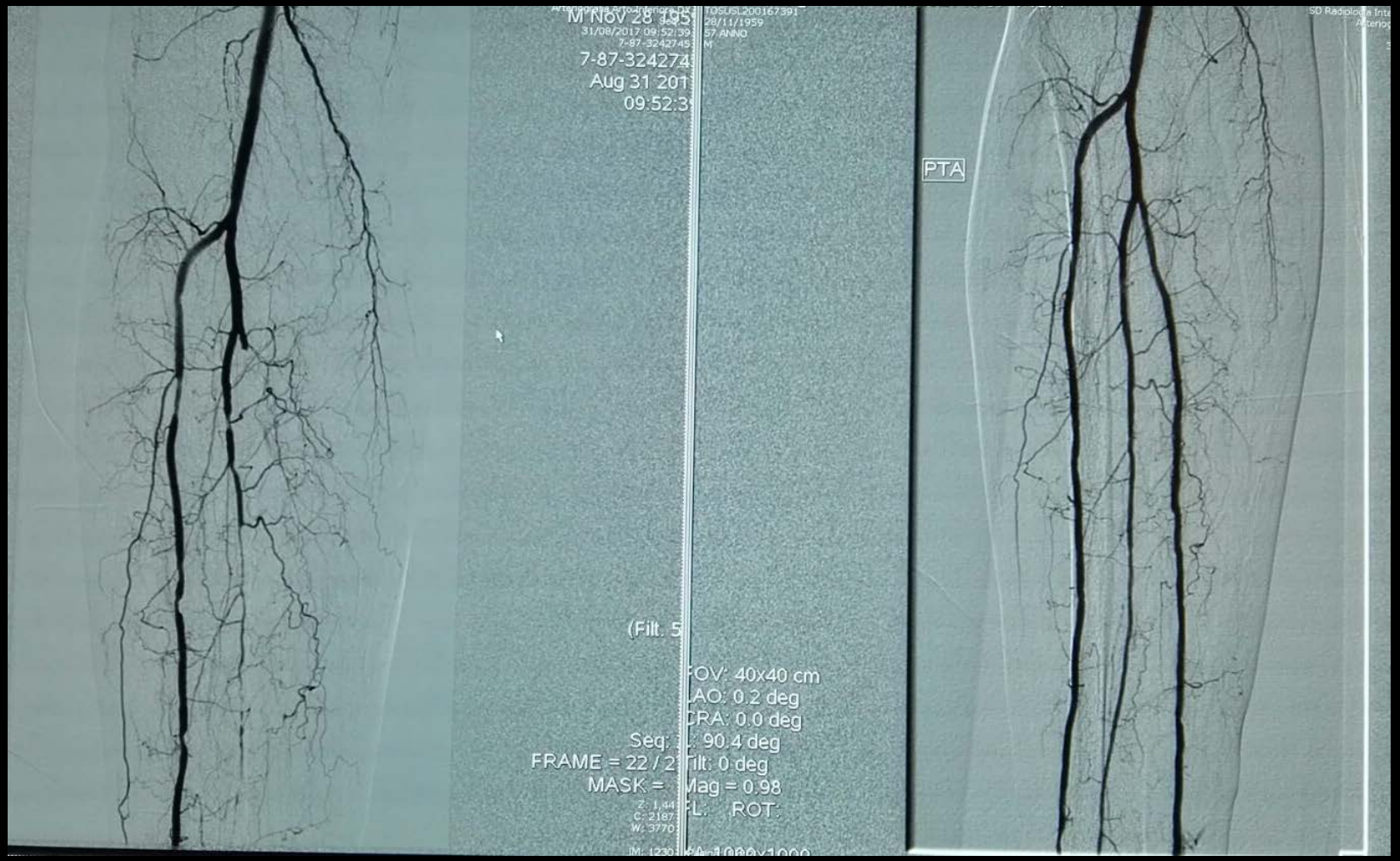
Before



After

Revascularization in Diabetic Foot

CTO: Subintimal Technique



Revascularization in Diabetic Foot

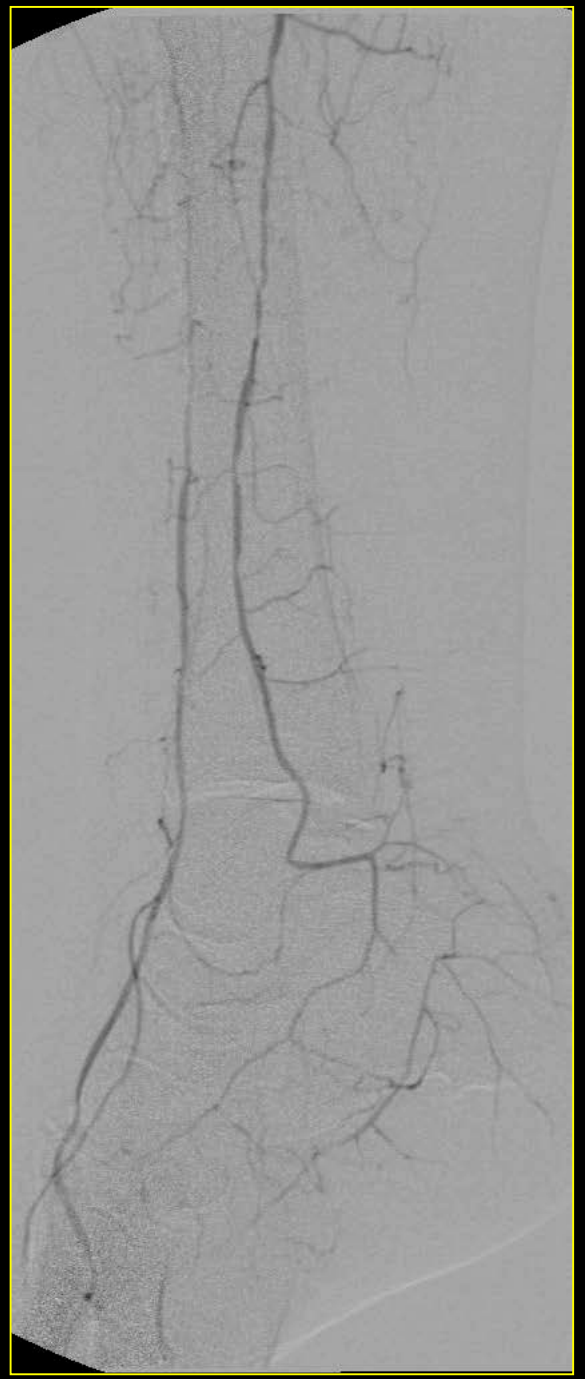
CTO: Subintimal Technique

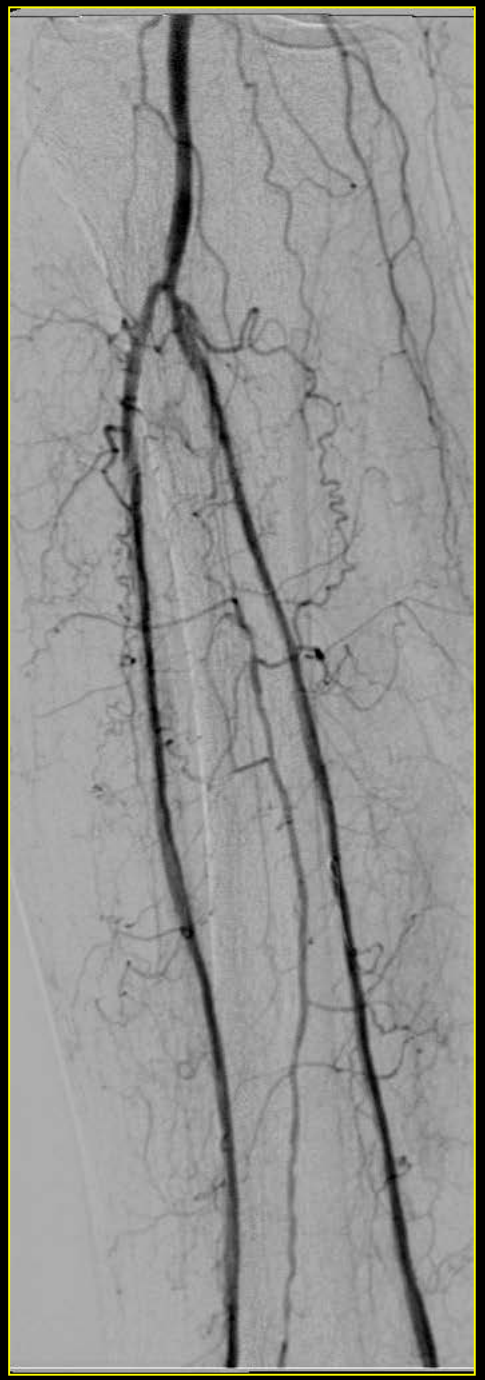




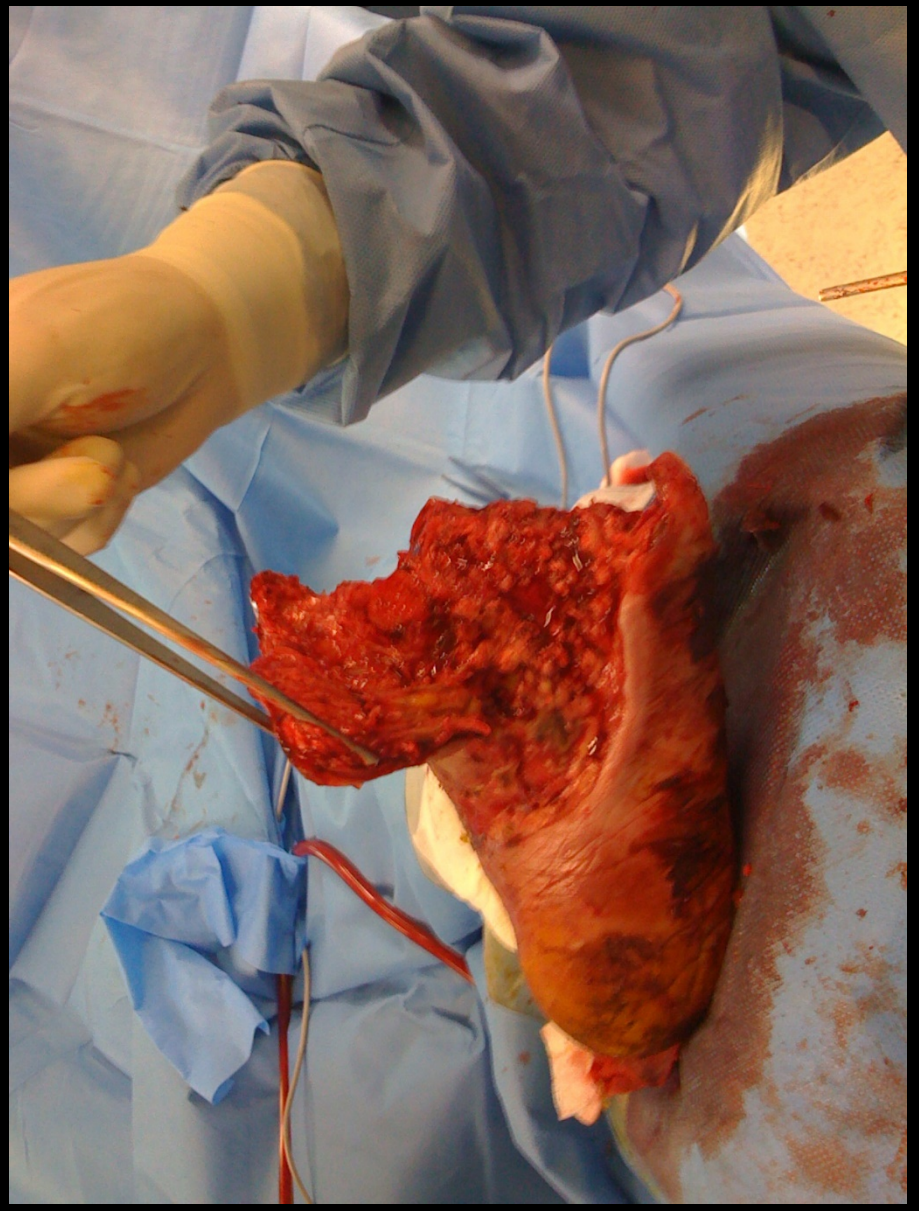








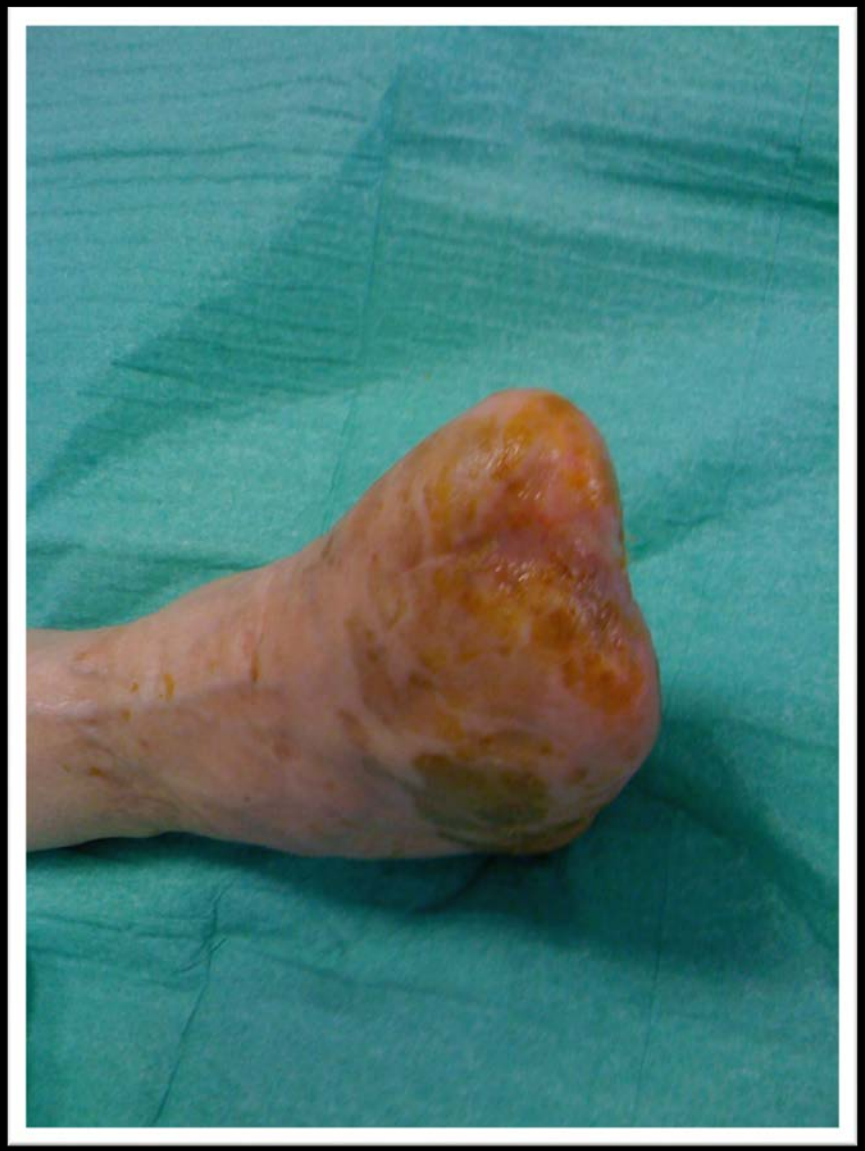





















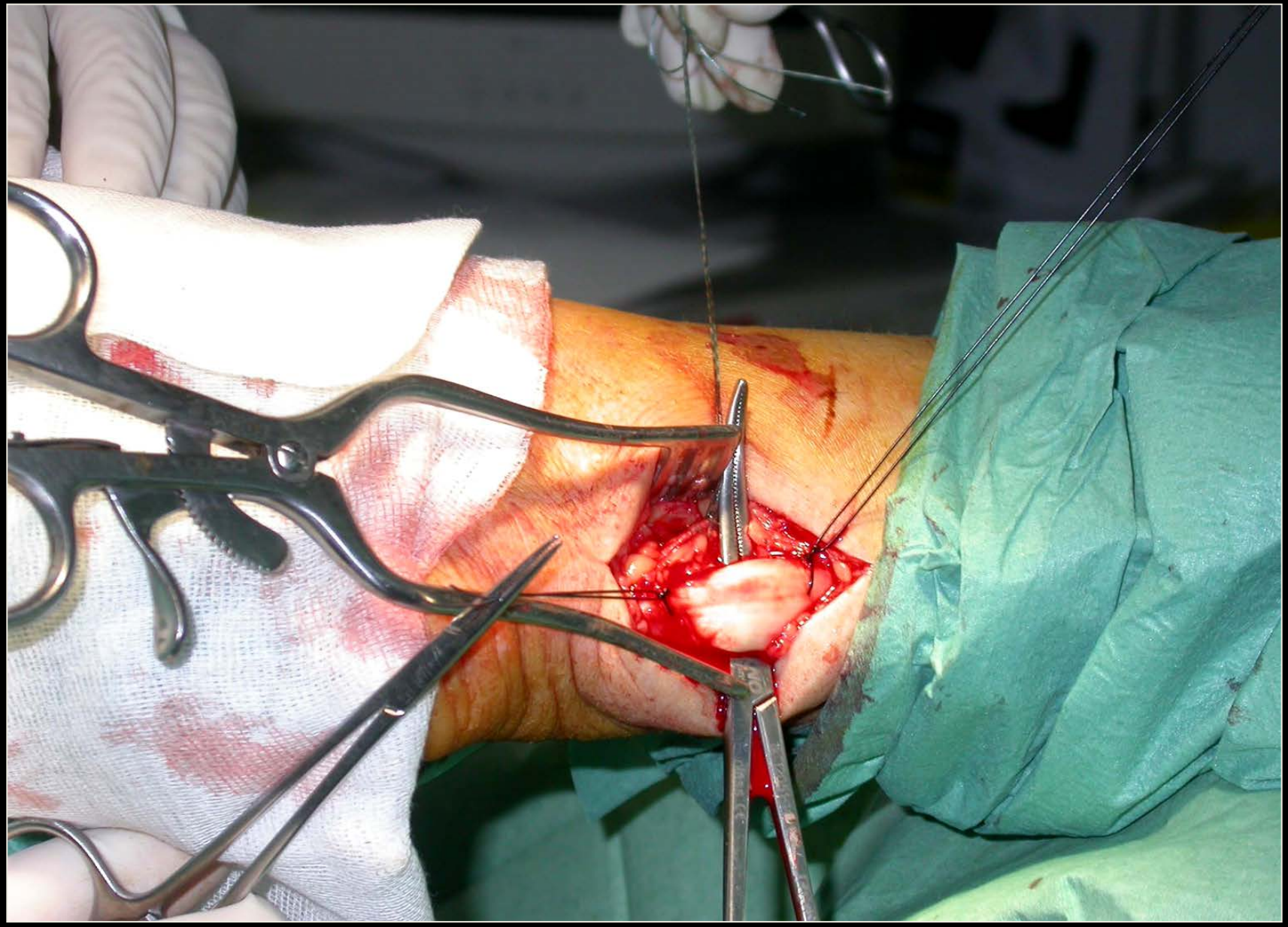


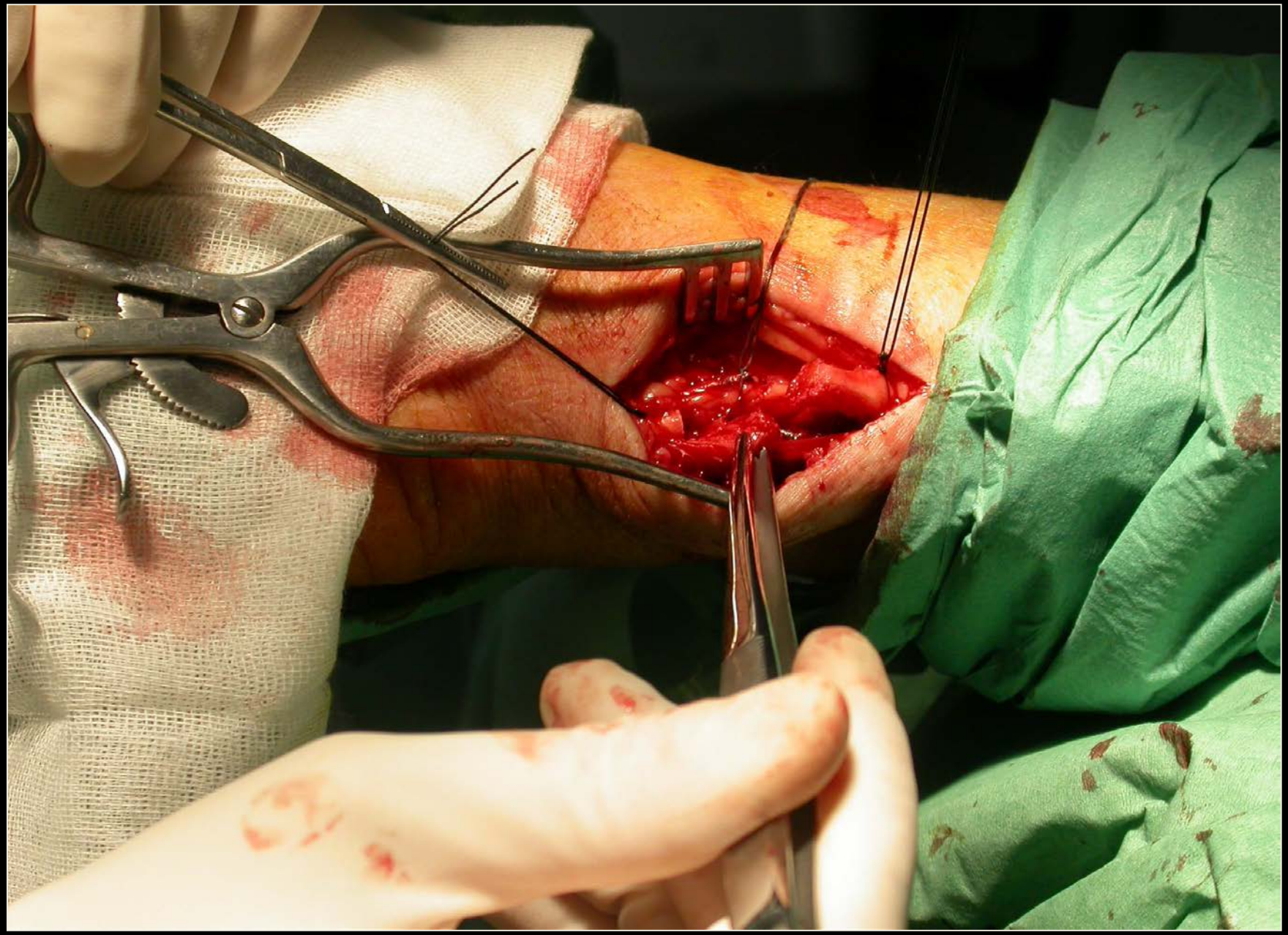














TOSI EDDA

23/10/03



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PLOS ONE

Lower Extremity Amputations in Persons with and without Diabetes in Italy: 2001–2010

Flavia L. Lombardo[1], Marina Maggini[1], Alessandra De Bellis[2], Giuseppe Seghieri[2], Roberto Anichini[2]*

1 National Centre for Epidemiology, Surveillance and Health Promotion, National Institute of Health, Roma, Italy, **2** Diabetes Unit and Diabetic Foot Unit, Department of Internal Medicine General Hospital Pistoia, Pistoia, Italy

Abstract

Objective: To analyze hospitalization for lower extremity amputations (LEAs) and amputee rates in persons with and without diabetes in Italy.

Research Design and Methods: All patients with LEAs in the period 2001–2010 were identified analyzing the National Hospital Discharge Record database. For each year, amputee and hospitalization rates for LEAs were calculated either for persons with diabetes or without. Time trend for major and minor amputations were analysed.

Results: From 2001 to 2010 a mean annual number of 11,639 individuals underwent a lower extremity amputation: 58.6% had diabetes accounting for 60.7% of total hospitalizations. In 2010, the crude amputee rate for LEAs was 20.4 per 100,000 inhabitants: 247.2 for 100.000 persons with diabetes, and 8.6 for those without diabetes. Having diabetes was associated to an increased risk of amputation (Poisson estimated RR 10.9, 95%CI 9.4–12.8). Over the whole period, a progressive reduction of amputee rates was observed for major amputations either among persons with diabetes (−30.7%) or without diabetes (−12.5%), while the rates of minor amputations increased progressively (+22.4%) among people without diabetes and were nearly stable in people with diabetes (−4.6%). A greater number of minor amputations were performed among persons with than without diabetes: in 2010, the minor-to-major ratio among persons with diabetes (2.5) was more than twice than in those without diabetes (1.0).

Conclusions: The nationwide analyses confirm a progressive reduction of hospitalization and amputee rates for major LEAs, suggesting an earlier and more diffuse approach aimed at limb salvage.

Citation: Lombardo FL, Maggini M, De Bellis A, Seghieri G, Anichini R (2014) Lower Extremity Amputations in Persons with and without Diabetes in Italy: 2001–2010. PLoS ONE 9(1): e86405. doi:10.1371/journal.pone.0086405

Editor: Christian Herder, German Diabetes Center, Leibniz Center for Diabetes Research at Heinrich Heine University Duesseldorf, Germany

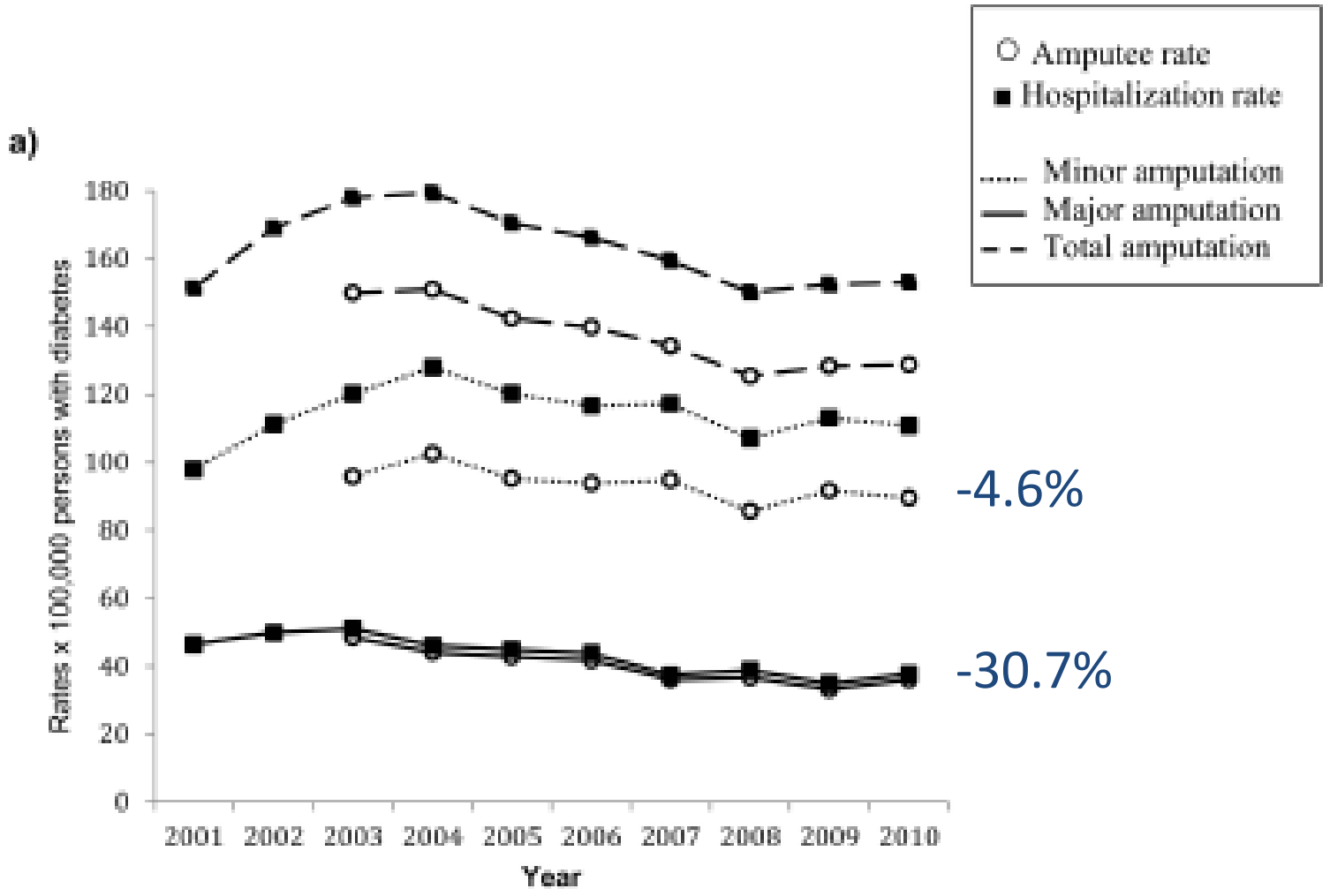
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Competing Interests: The authors have declared that no competing interests exist.

* E-mail: r.anichini@usl3.toscana.it



[Lombardo et al. Plos One, 2014]

IS REVASCULARIZATION ALWAYS

EFFECTIVE?

- TIMING
- INTENSITY
- TARGET

INDICATED?

- LIFE EXPECTANCY
- COST/BENEFIT
- RECURRENCES

A systematic review and meta-analysis of tests to predict wound healing in diabetic foot

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Background: This systematic review summarized the evidence on noninvasive screening tests for the prediction of wound healing and the risk of amputation in diabetic foot ulcers.

Methods: We searched MEDLINE In-Process & Other Non-Indexed Citations, MEDLINE, Embase, Cochrane Database of Systematic Reviews, Cochrane Central Register of Controlled Trials, and Scopus from database inception to October 2011. We pooled sensitivity, specificity, and diagnostic odds ratio (DOR) and compared test performance.

Results: Thirty-seven studies met the inclusion criteria. Eight tests were used to predict wound healing in this setting, including ankle-brachial index (ABI), ankle peak systolic velocity, transcutaneous oxygen measurement ($TcPo_2$), toe-brachial index, toe systolic blood pressure, microvascular oxygen saturation, skin perfusion pressure, and hyperspectral imaging. For the $TcPo_2$ test, the pooled DOR was 15.81 (95% confidence interval [CI], 3.36-74.45) for wound healing and 4.14 (95% CI, 2.98-5.76) for the risk of amputation. ABI was also predictive but to a lesser degree of the risk of amputations (DOR, 2.89; 95% CI, 1.65-5.05) but not of wound healing (DOR, 1.02; 95% CI, 0.40-2.64). It was not feasible to perform meta-analysis comparing the remaining tests. The overall quality of evidence was limited by the risk of bias and imprecision (wide CIs due to small sample size).

Conclusions: Several tests may predict wound healing in the setting of diabetic foot ulcer; however, most of the available evidence evaluates only $TcPo_2$ and ABI. The overall quality of the evidence is low, and further research is needed to provide higher quality comparative effectiveness evidence. (J Vasc Surg 2016;63:29S-36S.)

Table II. Pooled sensitivity, specificity, and diagnostic odds ratio (*DOR*) of ankle-brachial index (*ABI*) and transcutaneous oxygen measurement ($TcPO_2$) tests

	ABI		$TcPO_2$	
Outcome	*Estimate*	*95% CI*	*Estimate*	*95% CI*
Complete ulcer healing				
Sensitivity	0.48	0.36-0.61	0.72	0.61-0.81
Specificity	0.52	0.42-0.63	0.86	0.68-0.95
DOR	1.02	0.40-2.65	15.81	3.36-74.45
Limb amputation				
Sensitivity	0.52	0.49-0.54	0.75	0.73-0.77
Specificity	0.73	0.63-0.81	0.58	0.52-0.64
DOR	2.89	1.65-5.05	4.14	2.98-5.76

CI, Confidence interval.

TcPO2

$TcPO_2$

- <10 mmHg = Not successful revascularizaion
- >40 mmHg = Successful revascularizaion
- 25 mmHg = Possible threshold
- Δ +15 mmHg = significant effect

Chuan Yang; Huan Weng; Lihong Chen; Haiyun Yang; Guangming Luo; Lifang Mai; Guoshu Jin; Li Yan. Journal of Wound, Ostomy and Continence Nursing. 40(6):585–589, NOV 2013
Caselli A, Latini V, Lapenna A, Di Carlo S, Pirozzi F, Benvenuto A, **Uccioli** L. Diabet Med. 2005 Apr;22(4):460-5.

Target Lesions

What is Still a Matter of Interest?

British Journal of Plastic Surgery

Volume 40, Issue 2, March 1987, Pages 113-141

The vascular territories (angiosomes) of the body: experimental study and clinical applications

G.I. Taylor, FRACS, FRCS [a], J.H. Palmer, FRCS [b, 1]

Scandinavian Journal of Surgery 101: 1–7, 2012

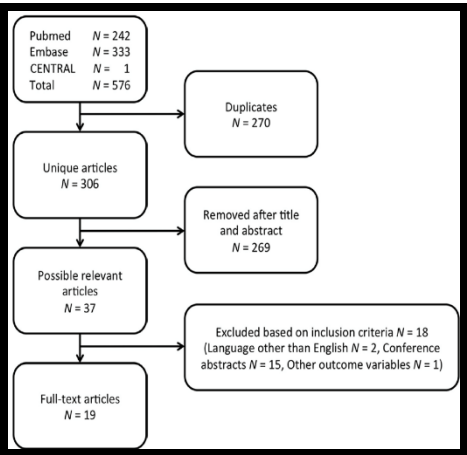
ANGIOSOME THEORY: FACT OR FICTION?

V. Alexandrescu[1], M. Söderström[2], M. Venermo[2]

[1] Department of Vascular and Thoracic Surgery, Princess Paola Hospital, Marche-en-Famenne, Belgium
[2] Department of Vascular Surgery, Helsinki University Hospital, Helsinki, Finland



Angiosome-directed revascularization in patients with critical limb ischemia

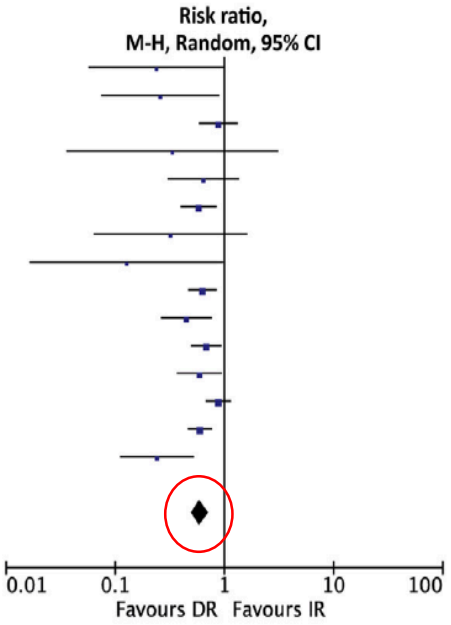


Jongsma H et al. J Vasc Surg 2017

19 high-quality but retrospective studies

Study name	Time, Months	Total N DR	IR	Estimate % DR	IR	Weight	Risk Ratio
Neville 2009	n/s	22	21	91%	62%	1.3%	0.24 [0.06, 1.00]
Varela 2010	12	45	31	93%	73%	1.7%	0.26 [0.07, 0.90]
Alexandrescu 2011	n/s	134	98	73%	69%	9.4%	0.88 [0.58, 1.32]
Azuma 2012	12	48	48	98%	93%	0.6%	0.33 [0.04, 3.09]
Rashid 2013	12	66	75	87%	79%	4.2%	0.64 [0.30, 1.35]
Soderstrom 2013	12	84	84	69%	47%	10.2%	0.58 [0.40, 0.84]
Kabra 2013	6	39	25	96%	83%	1.1%	0.32 [0.06, 1.62]
Osawa 2013	n/s	29	22	97%	73%	0.7%	0.13 [0.02, 0.98]
Fossaceca 2013	12	151	34	57%	32%	12.6%	0.63 [0.47, 0.84]
Kret 2014	n/s	54	52	76%	46%	6.8%	0.45 [0.26, 0.76]
Iida 2014	12	182	182	75%	64%	11.9%	0.68 [0.50, 0.94]
Acin 2014	12	46	39	66%	42%	7.9%	0.59 [0.37, 0.95]
Spillerova 2015	12	252	252	72%	67%	13.6%	0.88 [0.67, 1.14]
Zheng 2016	12	152	334	68%	47%	14.0%	0.60 [0.46, 0.77]
Jeon 2016	12	63	19	87%	47%	3.9%	0.24 [0.11, 0.52]
Total (95% CI)		**1367**	**1316**	**75%**	**60%**	**100.0%**	**0.60 [0.51, 0.71]**

Heterogeneity: $Tau^2 = 0.03$; $Chi^2 = 22.97$, df = 14 (P = 0.06); $I^2 = 39\%$
Test for overall effect: Z = 5.89 (P < 00001)






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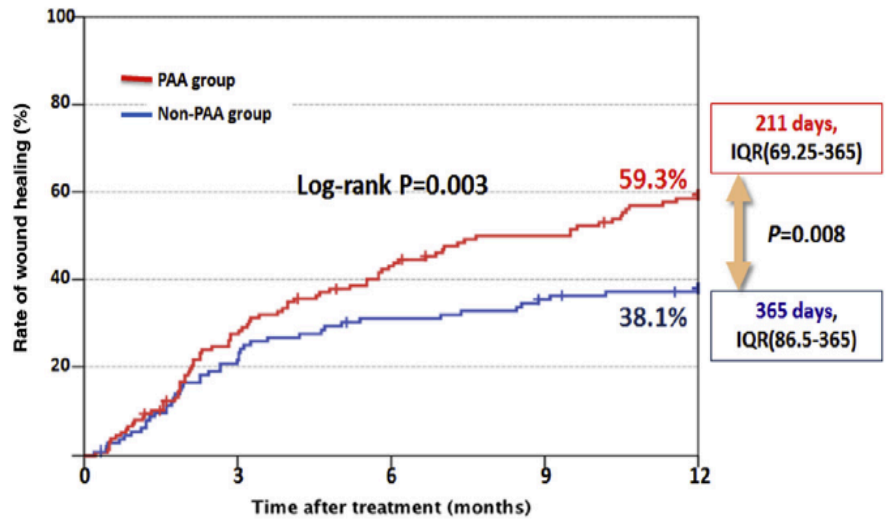

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Clinical Outcomes of Pedal Artery Angioplasty for Patients With Ischemic Wounds

Results From the Multicenter RENDEZVOUS Registry

FIGURE 3 Rate of Wound Healing in Patients Undergoing and Those Not Undergoing Pedal Artery Angioplasty



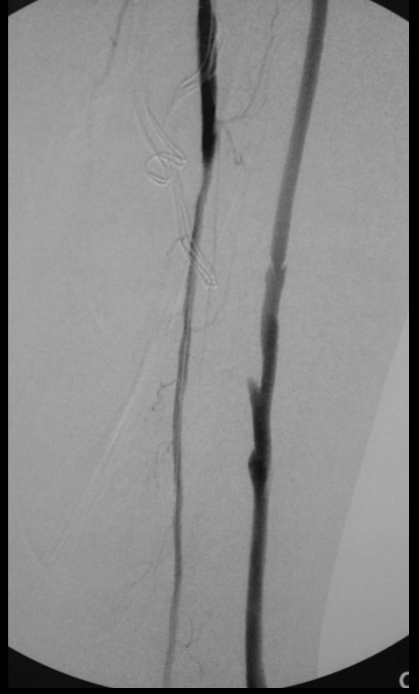
Interval (months)		0	3	6	9	12
PAA group (n= 140)	at risk	140	99	75	65	52
	%	0.0	28.3	43.8	49.9	59.3
Non-PAA group (n= 117)	at risk	117	88	79	72	68
	%	0.0	24.1	31.0	36.3	38.1

PAA : 140 pts
No PAA: 117 pts

- rate of wound healing was significantly higher (59,3% vs. 38,1%, p = 0.003)
- time to wound healing significantly shorter (211 days vs. 365 days; p=0.008) in the PAA group.

Nakama T et al. JACC Cardiovasc Interv 2017

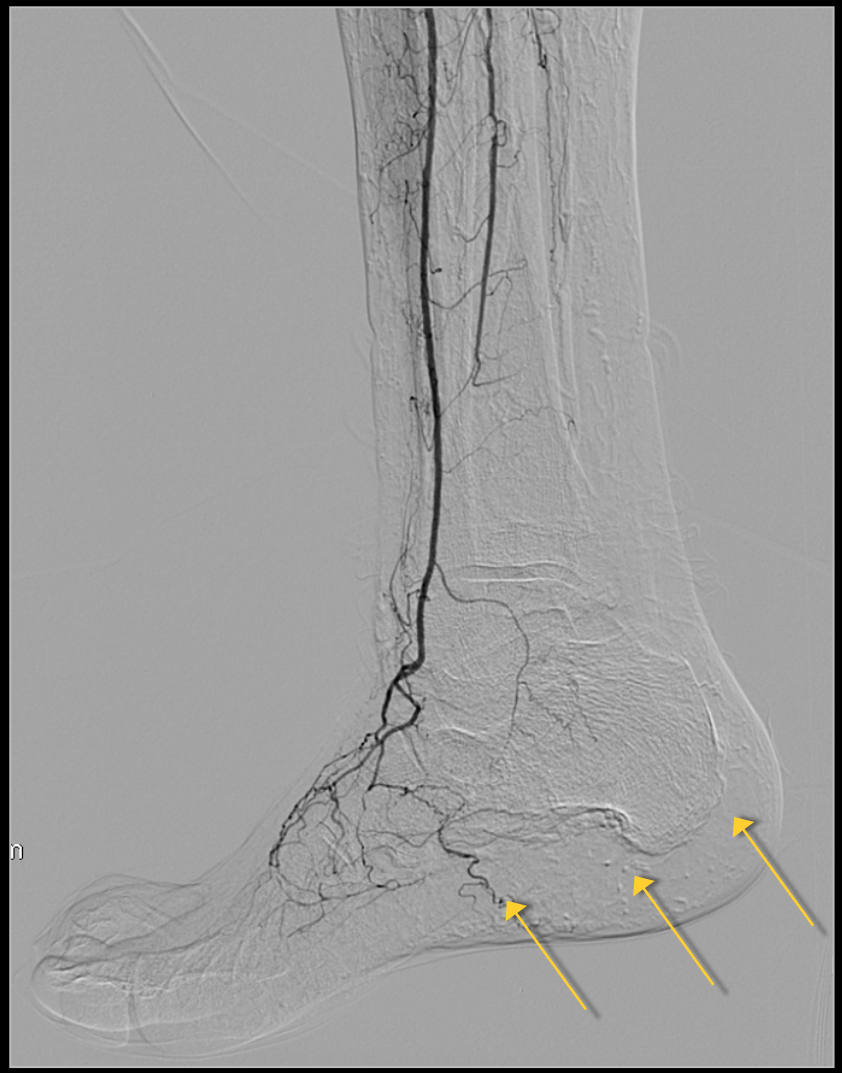








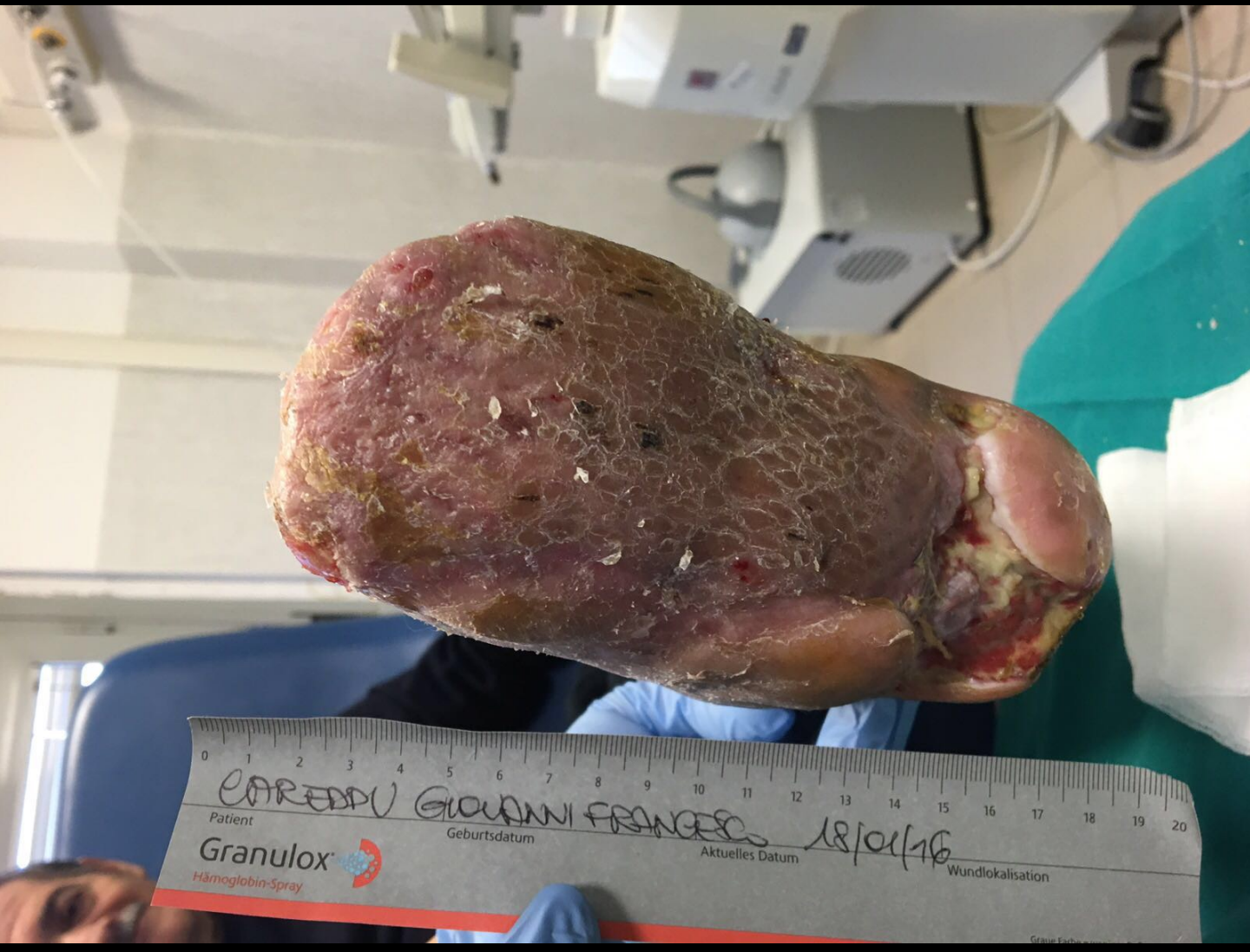

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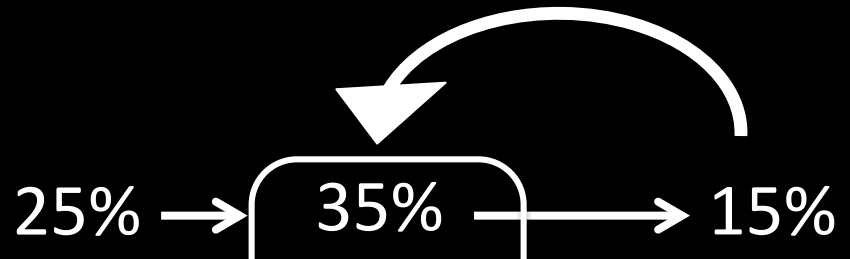





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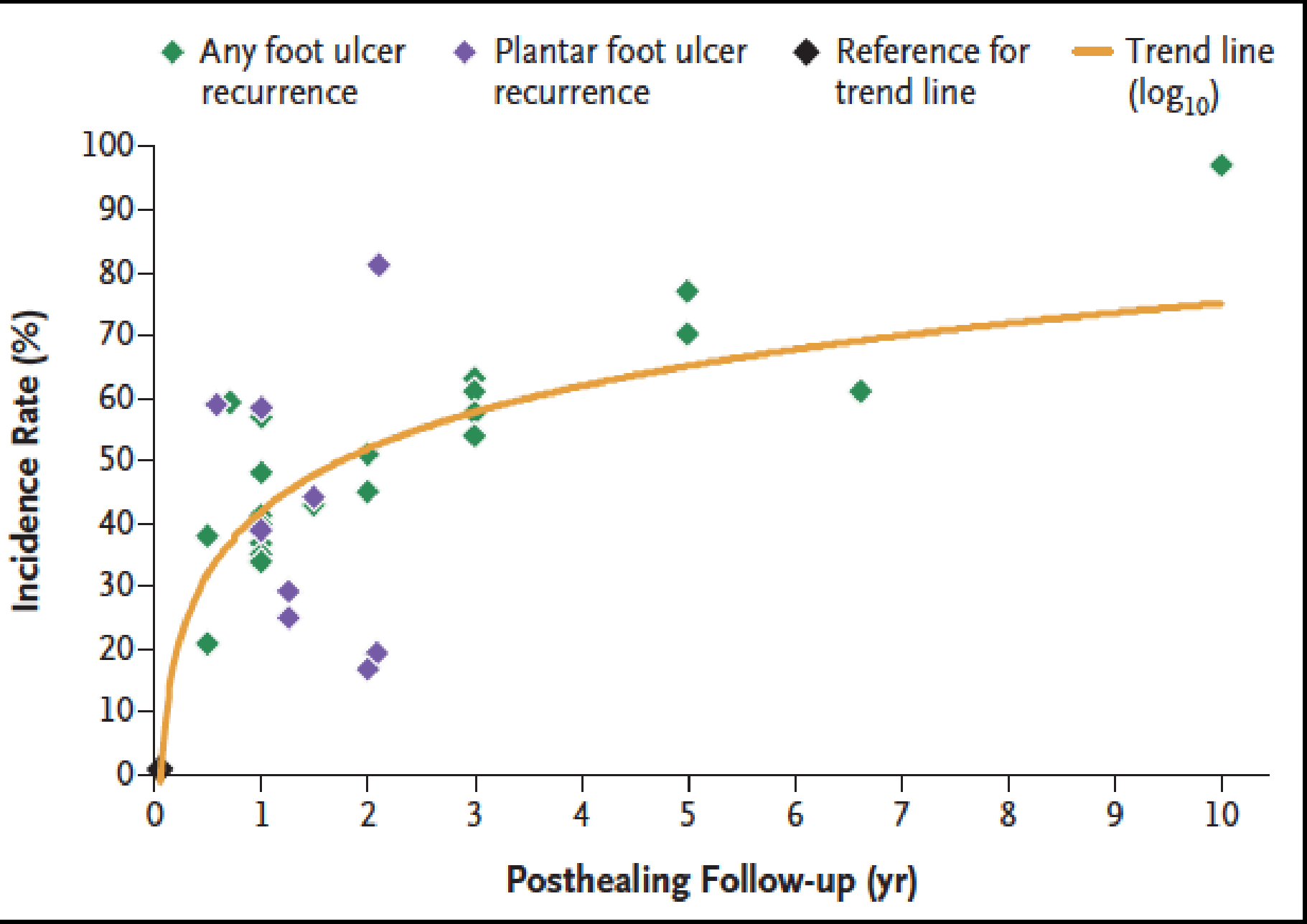

CAMPIONI
PUCCIARELLI
MARIA 09/08/14

DIAGNOSTIC CRITERIA



	Normal	PAD	Critical Ischemia
Ankle Pressure (mmHg)	> 100	100 - 50	< 50
Toe pressure (mmHg)	> 50	50 - 30	< 30
ABPI (ratio)	> 0.9*	0.9 – 0.5	< 0.5
$TcPO_2$ (mmHg)	> 60	60 - 40	< 40

*If > 1.3 consider Monckeberg's sclerosis



[Armstrong et al. NEJM 2017]

FOLLOW-UP/MAINTAINANCE

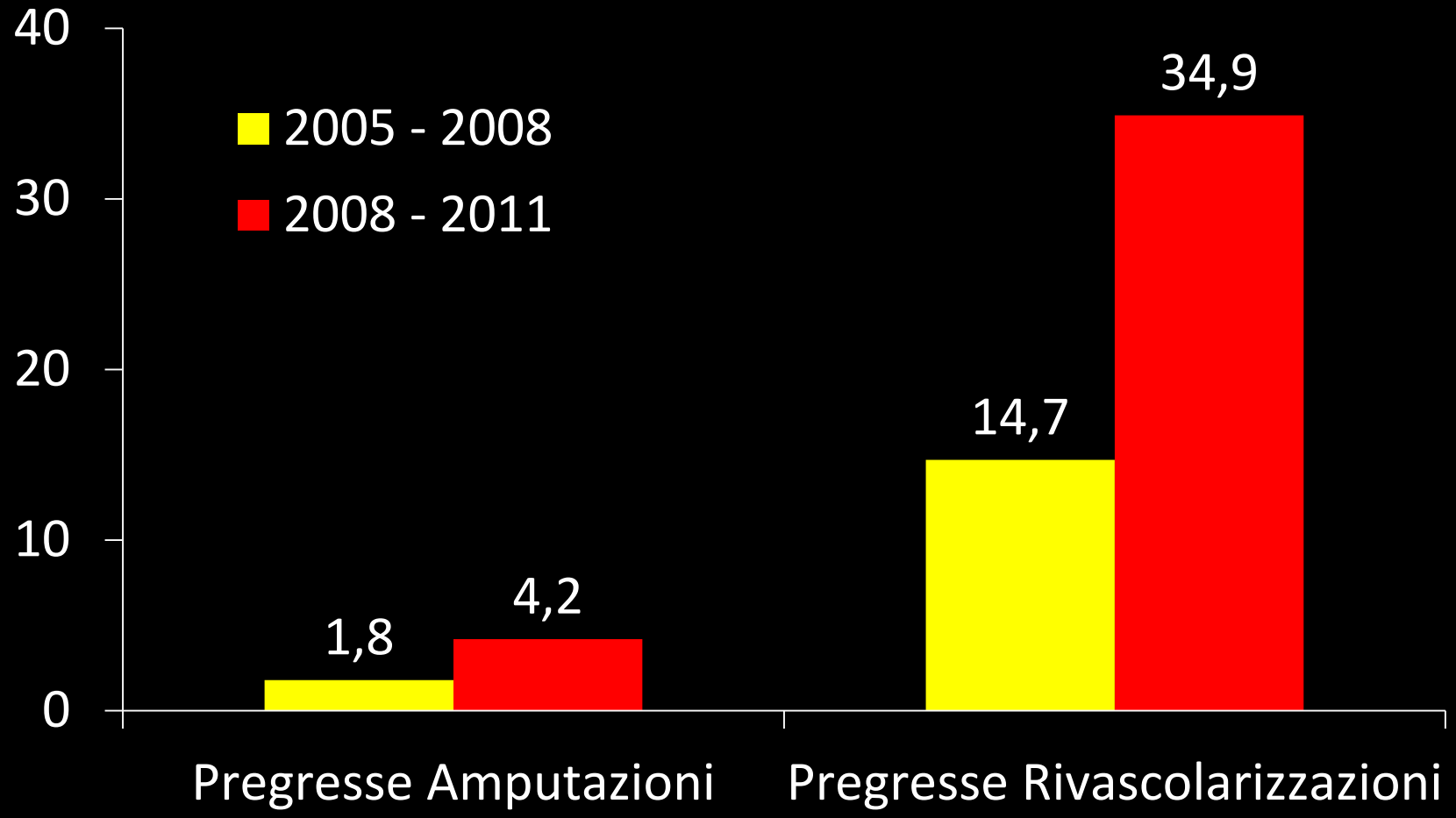








DATI ANAMNESTICI



CONCLUSIONS

- The ischemic DF is the most severe pattern of the pathology.
- It is characterized by a high mortality rate, similar to that of many cancers
- Its progressiveness and tendency to recurrences requires a complex management encompassing both urgent and programmed interventions
- The multi-disciplinar management of the disease is mandatory, in the view of the systemic involvement of the patients.

Description of the course

Overall course structure
The four day theoretical & practical course gives participants a thorough introduction to all aspects of diagnosis, management and treatment of the diabetic foot. Lectures will be combined with live revascularizations and foot surgery and with practical exercitations held in the afternoon at the diabetic foot clinic at the Pisa University Hospital.

Lectures will be in agreement with the International Consensus on the Diabetic Foot & Practical Guidelines on the Management and Prevention of the Diabetic Foot.







Participants
The course is open to anyone involved in the treatment or management of diabetic foot patients, but the primary target groups are:

- Clinicians with various professions (e.g. endocrinologists, vascular and orthopaedic surgeons, specialised nurses, chiropodists or podiatrists).
- Newly appointed managers with an interest in the development of the structure of treatment within the diabetic foot area.
- Health policymakers
- Other health care professionals.

Objectives
The Pisa International Diabetic Foot Course aims to:

- Increase the knowledge and operative skills in the management of the diabetic foot.
- Support the establishment of multidisciplinary diabetic foot clinics or departments based on the recommendations of the International Consensus Document.
- Facilitate international consensus on structure of treatment of the diabetic foot.

General Information

Dates 19-22 September 2018

Fees
Before 2 July 2018
1,600 EUR (excl. accomm.)

After 2 July 2018
1,750 EUR (excl. accomm.)

Locations
Theoretical course
Hotel San Ranieri
Via Mazzei 2
Cisanello
56124 Pisa, Italy
www.sanranierihotel.com

Practical training
Pisa University Hospital
Diabetic Foot Clinic
Via Paradisa, 2
56124 Pisa Italy

Accommodation
Accommodation at San Ranieri Hotel (course venue) can be booked when you register for the course.

Room rate
Single room: 149 EUR/night
(incl. breakfast)

Double room: 169 EUR/night
(incl. breakfast)

If you prefer accommodation within another price range, please contact the course secretariat for suggestions.

Scientific Responsible
Alberto Piaggesi, MD
Professor, Endocrinologist

Director of the Diabetic Foot Section
of the Pisa University Hospital,
University of Pisa, Pisa, Italy

Course secretariat
Pisa International Diabetic Foot Courses
c/o CAP Partner
Nordre Fasanvej 113, 2.
2000 Frederiksberg C
Denmark

T: +45 7020 0305
F: +45 7020 0315

www.diabeticfootcourses.org
info@cap-partner.eu

The Pisa International Diabetic Foot Course

Management of the Diabetic Foot

Theory & Practice

19 -22 September 2018 · Pisa · Italy

Welcome
I am very pleased to welcome you to the 10th Pisa International Diabetic Foot Course on the management of the diabetic foot.

The course is organised by the Diabetic Foot Clinic at the University Hospital of Pisa. The course is held in Pisa, Italy, and offers a combination of theory and practical training in the clinic within a four day period.

The course is based on the knowledge and the unique structure of treatment offered by the specialised diabetic foot clinic at the University Hospital of Pisa, established in 1989. By combining lectures from world-class experts, and by the local 20-year experienced D.F.team, with individula hands-on training in the DF Clinic, course participants will gain insight into both the theory of the field and the practical methods used in the clinic.

The Pisa International Diabetic Foot Course will also focus on the structure of treatment and guidelines for establishing a diabetic foot clinic. By including this important issue, we reach out to clinicians as well as hospital departments and clinic management.

A secondary, but none-the-less important, aim of the course is to facilitate European consensus on the structure of treatment of the diabetic foot and to raise political awareness of the challenges related to treatment and prevention of the diabetic foot.

We look forward to welcoming you in Pisa, Italy.

Kind regards

Prof. Alberto Piaggesi
Director of the Diabetic Foot Section
of the Pisa University Hospital

10
YEARS
ANNIVERSARY

www.diabeticfootcourses.org