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XI JORNADA D'ATENCIÓ COMPARTIDA EN CIRURGIA VASCULAR

MANEIG INTEGRAL DE LA PATOLOGIA VENOSA

"Relació entre la insuficiència venosa crònica i l'enfermetat arterial perifèrica: son les varius un factor de risc cardiovascular?"

Dra. Gemma Arnedo Valero, MD, PhD, FEBVS
Servei d'Angiologia I Cirurgia Vascular
Hospital Clínic, Barcelona

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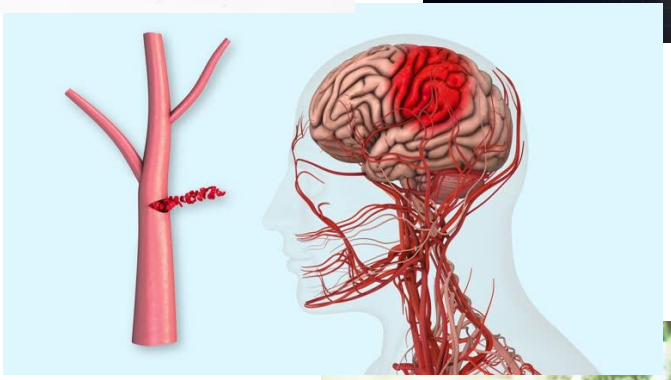


Elaborada por Autor

PATOLOGIES:

-Cardiopatia isquèmica
-Accidents cerebro-vasculars
-Enfermetat Arterial Perifèrica

-Insuficiència Venosa Crònica

Àrea Integral de Salut

Imagen aportada por Autor

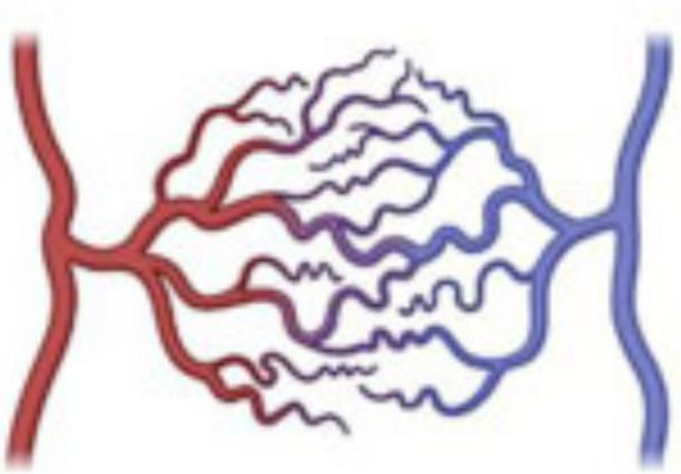
ESC European Society of Cardiology
European Heart Journal (2021) **42**, 4157–4165
doi:10.1093/eurheartj/ehab495

CLINICAL RESEARCH
Epidemiology and prevention

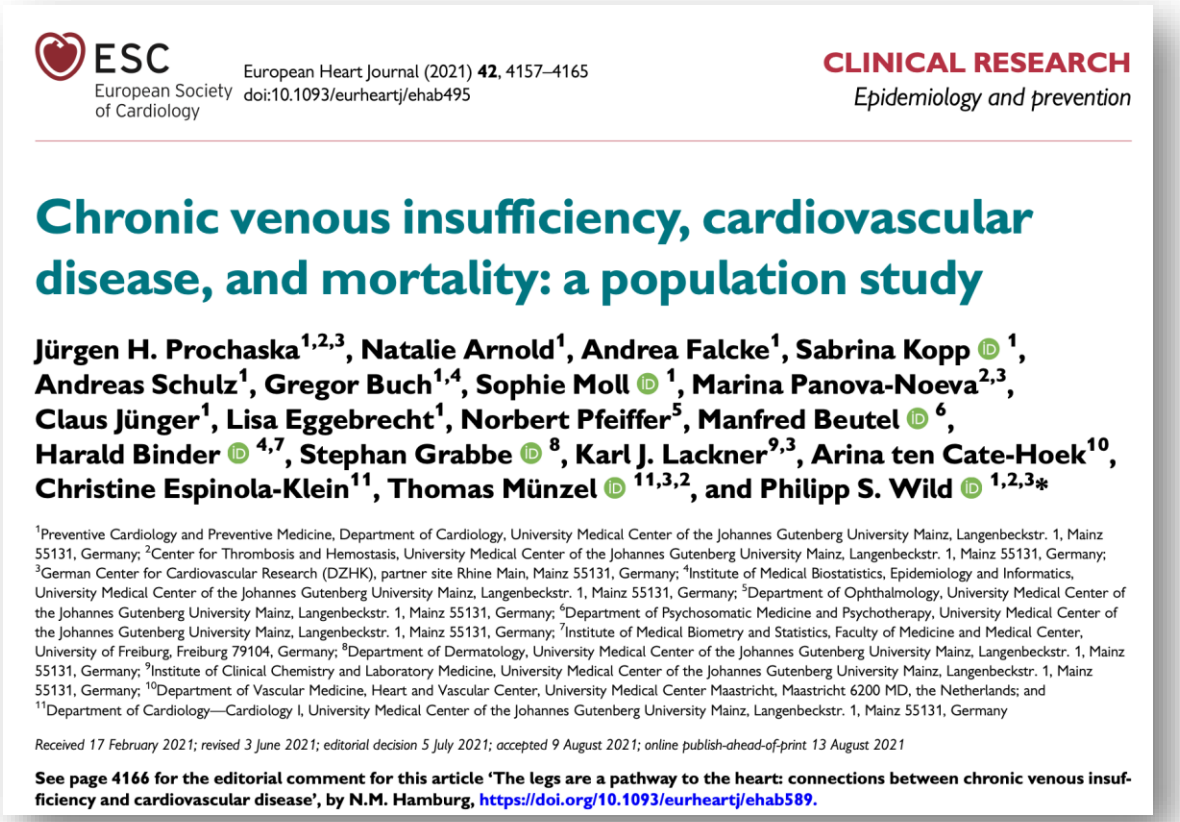
de Barcelona
at de Catalunya i l'Ajuntament de Barcelona
la Salut
ària de Barcelona

Chronic venous insufficiency, cardiovascular disease, and mortality: a population study

Jürgen H. Prochaska[1,2,3], Natalie Arnold[1], Andrea Falcke[1], Sabrina Kopp [1], Andreas Schulz[1], Gregor Buch[1,4], Sophie Moll [1], Marina Panova-Noeva[2,3], Claus Jünger[1], Lisa Eggebrecht[1], Norbert Pfeiffer[5], Manfred Beutel [6], Harald Binder [4,7], Stephan Grabbe [8], Karl J. Lackner[9,3], Arina ten Cate-Hoek[10], Christine Espinola-Klein[11], Thomas Münzel [11,3,2], and Philipp S. Wild [1,2,3]*



https://doi.org/10.1093/eurheartj/ehab495
Chronic venous insufficiency, cardiovascular disease, and mortality: a population study



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[1]Preventive Cardiology and Preventive Medicine, Department of Cardiology, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [2]Center for Thrombosis and Hemostasis, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [3]German Center for Cardiovascular Research (DZHK), partner site Rhine Main, Mainz 55131, Germany; [4]Institute of Medical Biostatistics, Epidemiology and Informatics, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [5]Department of Ophthalmology, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [6]Department of Psychosomatic Medicine and Psychotherapy, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [7]Institute of Medical Biometry and Statistics, Faculty of Medicine and Medical Center, University of Freiburg, Freiburg 79104, Germany; [8]Department of Dermatology, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [9]Institute of Clinical Chemistry and Laboratory Medicine, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany; [10]Department of Vascular Medicine, Heart and Vascular Center, University Medical Center Maastricht, Maastricht 6200 MD, the Netherlands; and [11]Department of Cardiology—Cardiology I, University Medical Center of the Johannes Gutenberg University Mainz, Langenbeckstr. 1, Mainz 55131, Germany

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See page 4166 for the editorial comment for this article 'The legs are a pathway to the heart: connections between chronic venous insufficiency and cardiovascular disease', by N.M. Hamburg, https://doi.org/10.1093/eurheartj/ehab589.

The Gutenberg Health Study:

- Prospectiu Unicèntric en població Mig-Oest Alemània
- N= 12.423 participants; (40-80) anys
- Abril 2012 a Abril 2017
- Registre de:
  - Riscos cardiovasculars
  - Comorbilitats
  - Insuficiència Venosa Crònica (IVC)– CEAP
- Validació externa MyoVasc Study
  IVC-------totes causes mortalitat

https://doi.org/10.1093/eurheartj/ehab495
Chronic venous insufficiency, cardiovascular disease, and mortality: a population study
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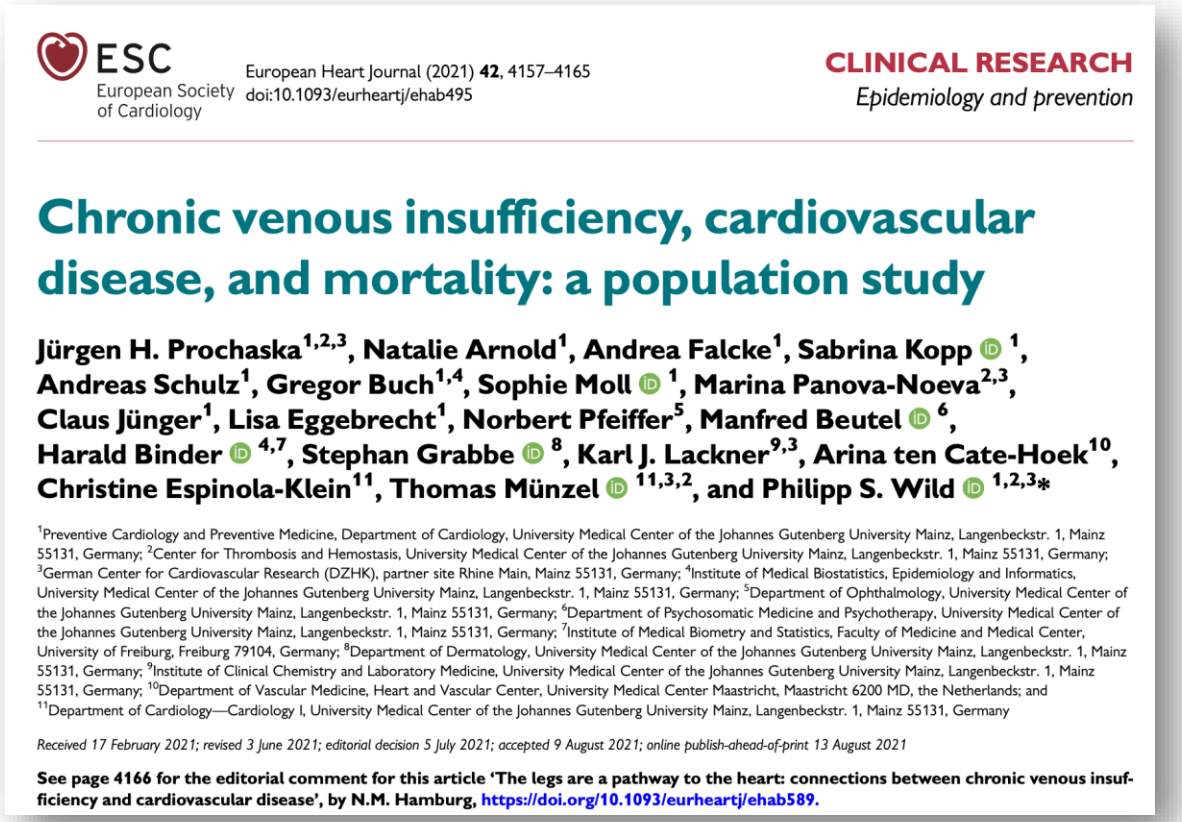

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CLINICAL RESEARCH
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The Gutenberg Health Study:

- OBJECTIUS:

1. Informar actual prevalença per edad- sexe segons grau IVC en la població

2. Avaluar el "burden" del risc cardiovascular i comorbilitats segons el grau IVC.

3. Apreciar la rellevància IVC en relació a la mortalitat poblacional.

https://doi.org/10.1093/eurheartj/ehab495
Chronic venous insufficiency, cardiovascular disease, and mortality: a population study
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Àrea Integral de Salut Barcelona Esquerra

1. Informar actual prevalença per edad-sexe segons grau IVC en la població

- N= 10.664
- Sexe: 49% ♀
- Edad mitja: 59+/- 10 anys

Table 1 Clinical characteristics of the study sample according to clinical signs of chronic venous insufficiency

Characteristics	No signs of venous insufficiency (C0) (*n* = 906)	Telangiectasia/ reticular veins (C1) (*n* = 3756)	Varicose veins (C2) (*n* = 1399)	Chronic venous insufficiency with oedema (C3) (*n* = 3361)	Chronic venous insufficiency with skin changes (C4–C6) (*n* = 1242)
Age, years, median (IQR)	51.0 (45.0–58.0)	56.0 (49.0–65.0)	59.0 (51.0–68.0)	65.0 (56.0–72.0)	67.0 (59.0–74.0)
Female sex, % (*n*)	23.4 (212)	54.4 (2044)	53.8 (752)	51.1 (1718)	37.4 (464)

Data from the Gutenberg Health Study illustrating relative and absolute frequencies of clinical characteristics are presented.
IQR, interquartile range.

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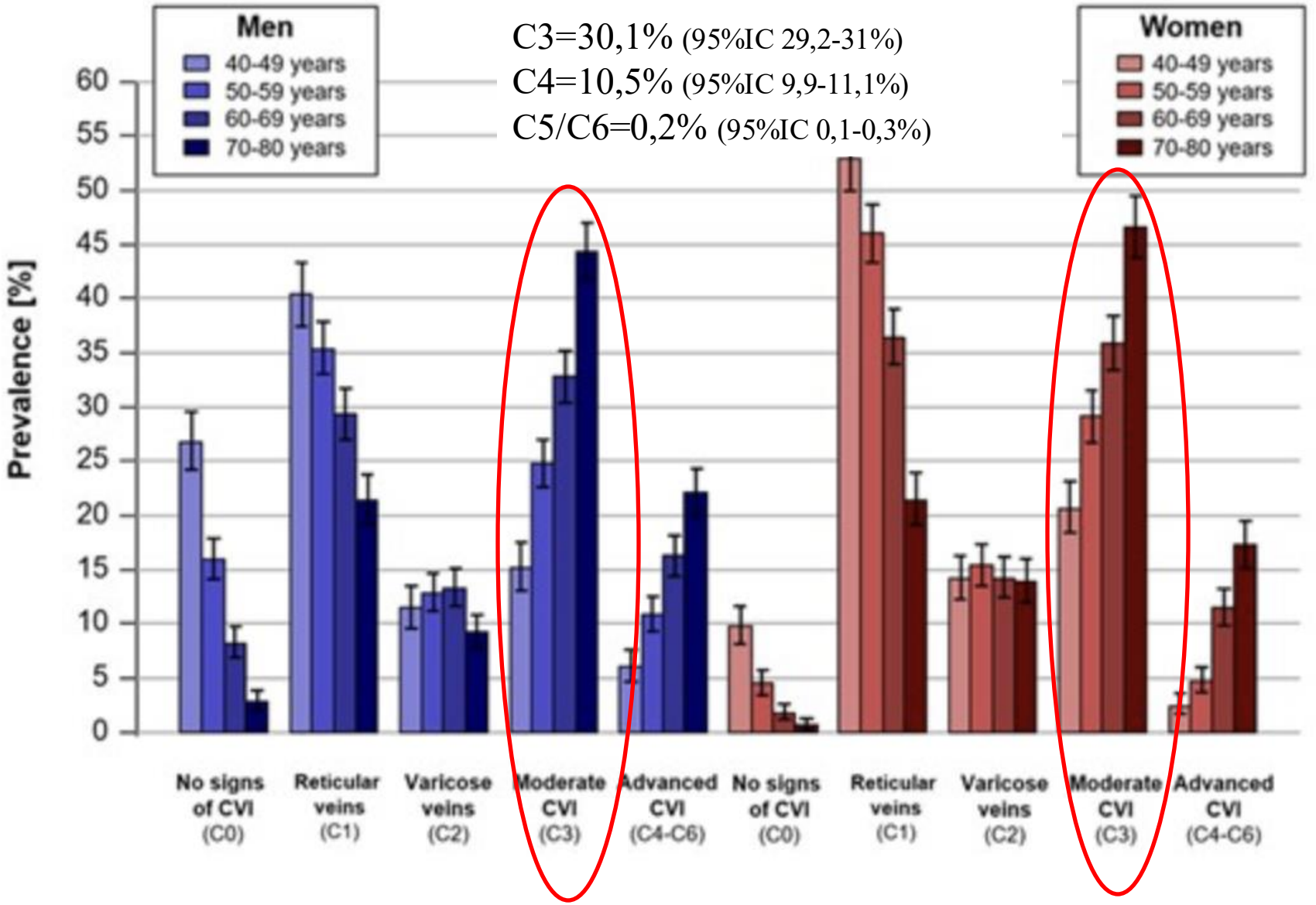
Àrea Integral de Salut Barcelona Esquerra

1. Informar actual prevalença per edad-sexe segons grau IVC en la població

- Prevalència IVC:

C1=36,5% (95%IC 35,6-37,4%)
C2=13,3% (95%IC 12,6-13,9%)
C3-C6=40,8% (95%IC 39,9-41,7%)



C3=30,1% (95%IC 29,2-31%)
C4=10,5% (95%IC 9,9-11,1%)
C5/C6=0,2% (95%IC 0,1-0,3%)

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Àrea Integral de Salut Barcelona Esquerra

2. Avaluar el "burden" del risc cardiovascular i comorbilitats segons el grau IVC.

IVC C4-C6

↑ Fcts. Risc CV tradicionals

↑ Co-P(E) enfermetats CV

Table I Clinical characteristics of the study sample according to clinical signs of chronic venous insufficiency

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Female sex, % (*n*)	23.4 (212)	54.4 (2044)	53.8 (752)	51.1 (1718)	37.4 (464)
Traditional cardiovascular risk factors, % (*n*)					
Arterial hypertension	43.0 (387)	47.0 (1761)	44.9 (627)	67.0 (2247)	70.2 (870)
Diabetes mellitus	7.2 (65)	6.8 (256)	6.9 (96)	15.8 (528)	19.5 (241)
Dyslipidaemia	45.3 (410)	40.5 (1517)	37.7 (526)	51.0 (1711)	55.2 (685)
Family history of myocardial infarction or stroke	21.9 (198)	24.0 (902)	21.1 (295)	25.5 (858)	23.8 (295)
Obesity	17.5 (159)	17.8 (668)	14.9 (208)	41.3 (1388)	40.5 (503)
Smoking (current)	19.1 (173)	16.4 (614)	13.9 (194)	12.8 (431)	16.0 (198)
Cardiovascular comorbidities, % (*n*)					
Atrial fibrillation	2.1 (19)	2.0 (76)	3.3 (46)	5.3 (176)	8.6 (107)
Chronic obstructive pulmonary disease	5.1 (46)	6.5 (244)	5.7 (80)	9.4 (314)	9.0 (111)
Congestive heart failure	0.7 (6)	1.3 (50)	1.6 (22)	3.3 (110)	4.4 (54)
Coronary artery disease	2.9 (16)	3.8 (141)	3.9 (54)	7.7 (255)	10.1 (123)
Myocardial infarction	2.1 (29)	2.1 (79)	2.4 (33)	4.8 (161)	5.6 (69)
Peripheral artery disease	1.6 (14)	2.6 (97)	3.6 (50)	5.7 (187)	9.9 (120)
Stroke	0.8 (7)	1.7 (64)	2.4 (34)	3.5 (118)	3.7 (46)
Venous thrombo-embolism	2.6 (23)	3.8 (143)	5.0 (70)	7.8 (259)	11.0 (135)

Data from the Gutenberg Health Study illustrating relative and absolute frequencies of clinical characteristics are presented.
IQR, interquartile range.

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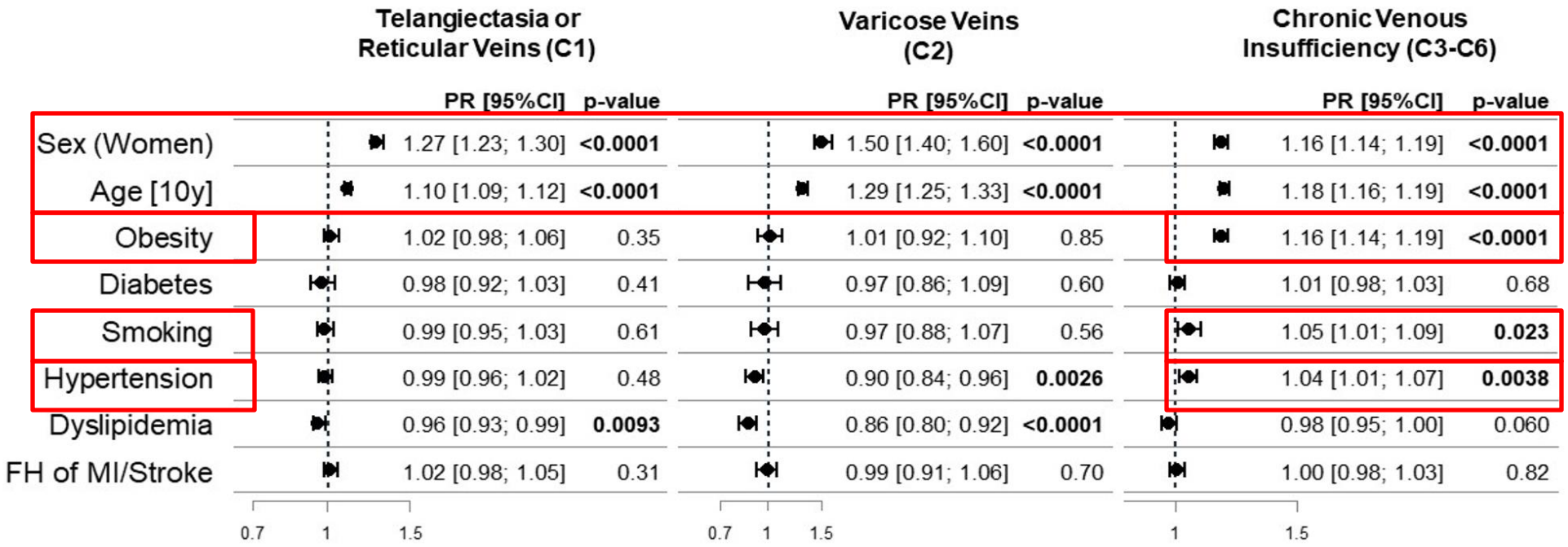
2. Avaluar el "burden" del risc cardiovascular i comorbilitats segons el grau IVC.



Data source: Gutenberg Health Study. CI, confidence interval; FH, family history; PR, prevalence ratio.

- Enf. Cardio-Vasculars → PR 1.03;(95%IC 1.01-1.05;p=0,01)
- IVC C4-C6:
  - Enf.Arterial Perifèrica → PR 1.13;(95%IC 1.04-1.24;p=0,006)
  - Trombo-embolisme venós. → PR 1.18;(95%IC 1.09-1.29;p<0,001)

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2. Avaluar el "burden" del risc cardiovascular i comorbilitats segons el grau IVC.

Table 2 **Relationship between chronic venous insufficiency and presence of cardiovascular disease**

Characteristics	Adjustment for age and sex		Additional adjustment for traditional cardiovascular risk factors	
	Prevalence ratio (95% CI)	*P*-value	Prevalence ratio (95% CI)	*P*-value
Telangiectasia and/or reticular veins (C1)	1.11 (0.87–1.42)	0.40	1.13 (0.89–1.44)	0.31
Varicose veins (C2)	1.20 (0.92–1.57)	0.17	1.33 (1.03–1.72)	0.03
Chronic venous insufficiency (C3–C6)	1.60 (1.26–2.03)	<0.001	1.46 (1.16–1.84)	0.002
Severity of chronic venous insufficiency				
Venous insufficiency with oedema (C3)	1.53 (1.20–1.95)	<0.001	1.40 (1.10–1.77)	0.006
Venous insufficiency with skin changes (C4–C6)	1.77 (1.38–2.27)	<0.001	1.62 (1.26–2.07)	<0.001
Symptomatic chronic venous insufficiency (C3–C6)	2.60 (1.99–3.39)	<0.001	2.28 (1.75–2.97)	<0.001

Presented are estimates of Poisson regression analysis with CEAP clinical conditions as independent variables (comparator: C0) and cardiovascular disease as dependent variable (data source: Gutenberg Health Study). Traditional cardiovascular risk factors comprise arterial hypertension, diabetes mellitus, dyslipidaemia, positive family history of myocardial infarction and/or stroke, obesity, and smoking. Cardiovascular disease is the composite of atrial fibrillation, coronary artery disease, congestive heart failure, myocardial infarction, peripheral artery disease, stroke, and venous thrombo-embolism.
CEAP, Clinical-Etiologic-Anatomic-Pathophysiologic; CI, confidence interval.

IVC independentment associat amb presència enfermetat cardio-vascular

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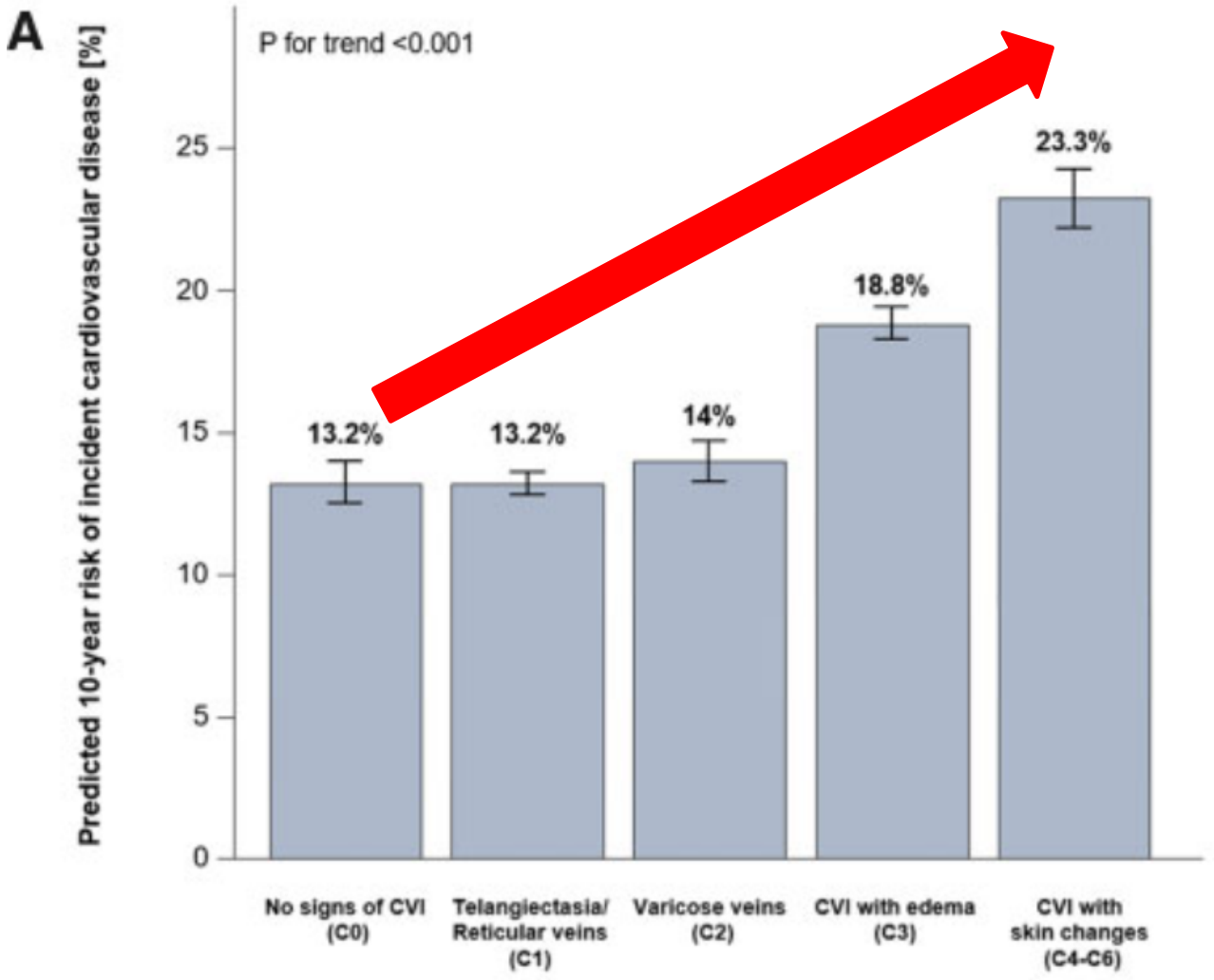
❖ **Score risc Framingham**:



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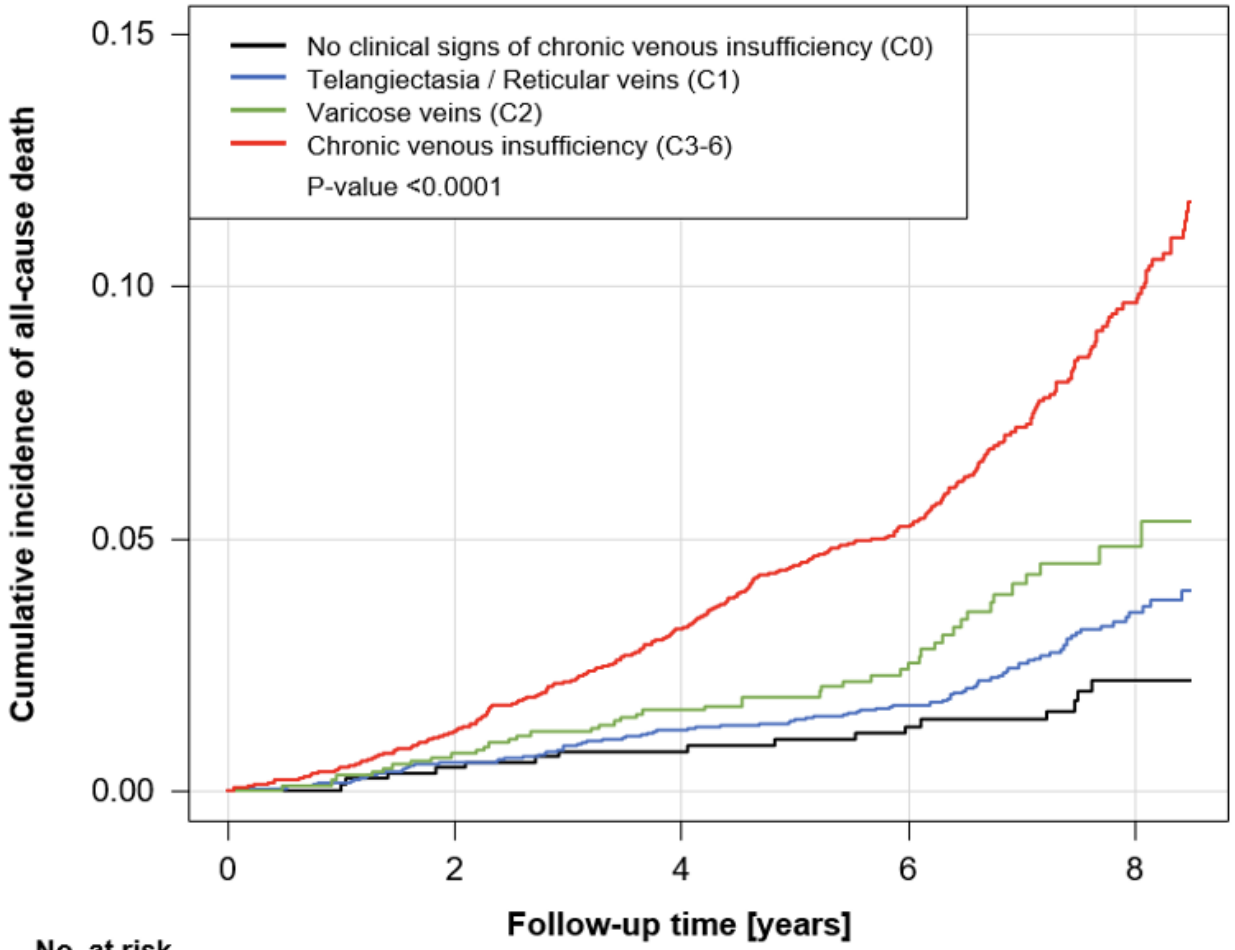
3. Apreciar la rellevància IVC en relació a la mortalitat poblacional.

- N= 540 morts
- Seguiment= 6,4 anys+/- 1,6 anys
- IVC C3-C6 major C0 p<0,0001



No. at risk					
C0	903	899	887	757	319
C1	3,752	3,731	3,643	2,756	988
C2	1,396	1,385	1,328	762	218
C3-6	4,597	4,541	4,354	2,565	895

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Table 3 Multivariate Cox proportional hazards analysis of the risk of all-cause death according to clinical signs of chronic venous insufficiency

Characteristics	Hazard ratio (95% CI)	*P*-value
Chronic venous insufficiency (C3–C6)		
Adjustment for age and sex	1.68 (1.38–2.03)	<0.0001
Additional adjustment for cardiovascular risk factors	1.54 (1.27–1.88)	<0.0001
Additional adjustment for CVD and cancer	1.52 (1.24–1.86)	<0.0001
Additional adjustment for cardiovascular medication	1.46 (1.19–1.79)	0.0003
Severity of chronic venous insufficiency		
Venous disease with oedema (C3)	1.66 (1.35–2.03)	<0.0001
Venous disease with skin changes (C4–C6)	1.74 (1.35–2.24)	<0.0001

During a mean follow-up time of 6.4 ± 1.6 years, a total of 540 deaths were recorded in the Gutenberg Health Study. Cox proportional hazard models with adjustment for potential confounders (i.e. age and sex) and potential effect mediators (i.e. traditional cardiovascular risk factors, cardiovascular disease, cancer, and symptomatic disease) were analysed. The cardiovascular medication comprises antithrombotic agents (ATC code B01), cardiac therapy (C01), antihypertensive drugs (C02), diuretics (C03), beta-blockers (C07), calcium channel blockers (C08), agents interacting with the renin-angiotensin system (i.e. angiotensin-converting enzyme inhibitors and angiotensin I receptor blockers; C09), and lipid-modifying agents (C10).
ATC, anatomical therapeutic and chemical classification of drugs; CI, confidence interval; CVD, cardiovascular disease.

IVC predictor independent per totes les causes de mortalitat

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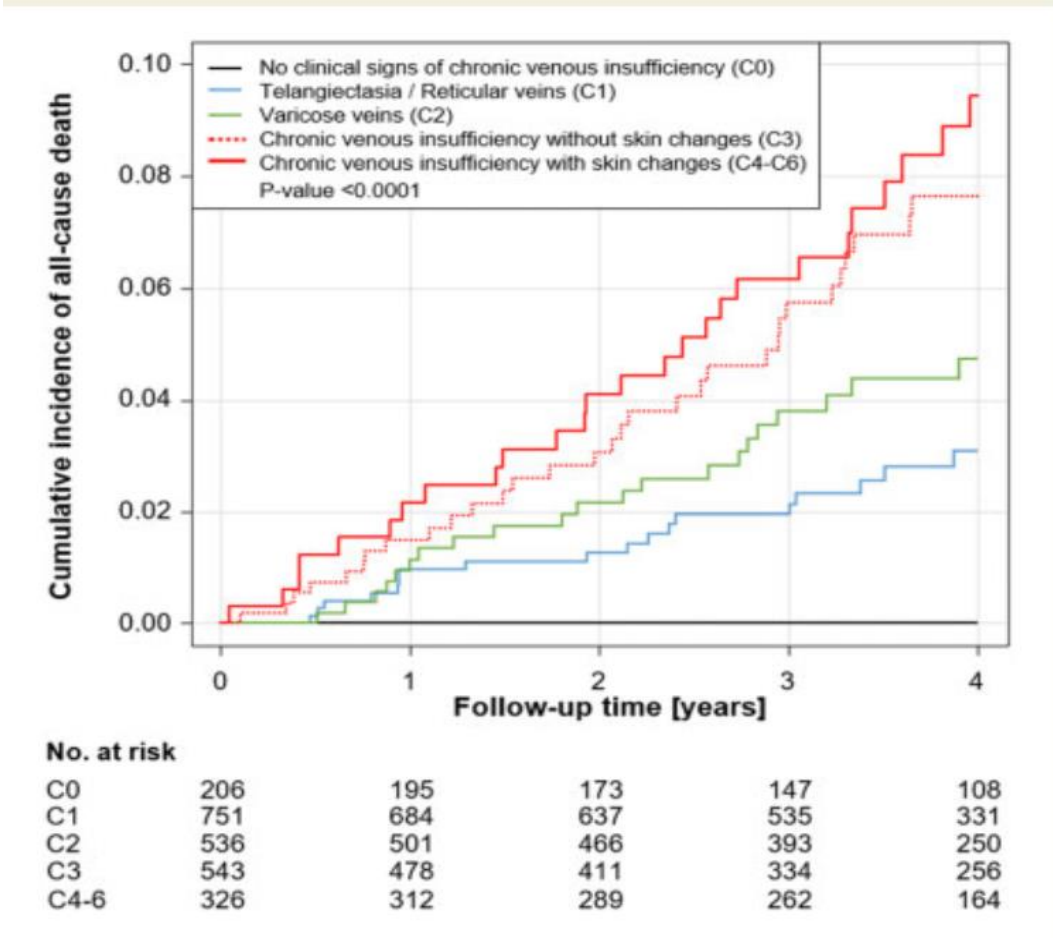
VALIDACIÓ TROBALLES AMB ESTUDI INDEPENTENT: MyoVasc

3. Apreciar la rellevància IVC en relació a la mortalitat poblacional.

- Estudi Prospectiu Cohorts
- N=2423 individus
- Edad mitja: 65 anys
- Sexe: 33% ♀
- Seguiment 3,2 anys



IVC predictor independent* totes causes mort
HR 1,51, 95% IC 1,11-2,05 p=0,009

*Ajustat: edad,sexe,FR CV tradicionals, enf. CV, càncer, n-terminal probrain pèptid natriurètic I medicació CV

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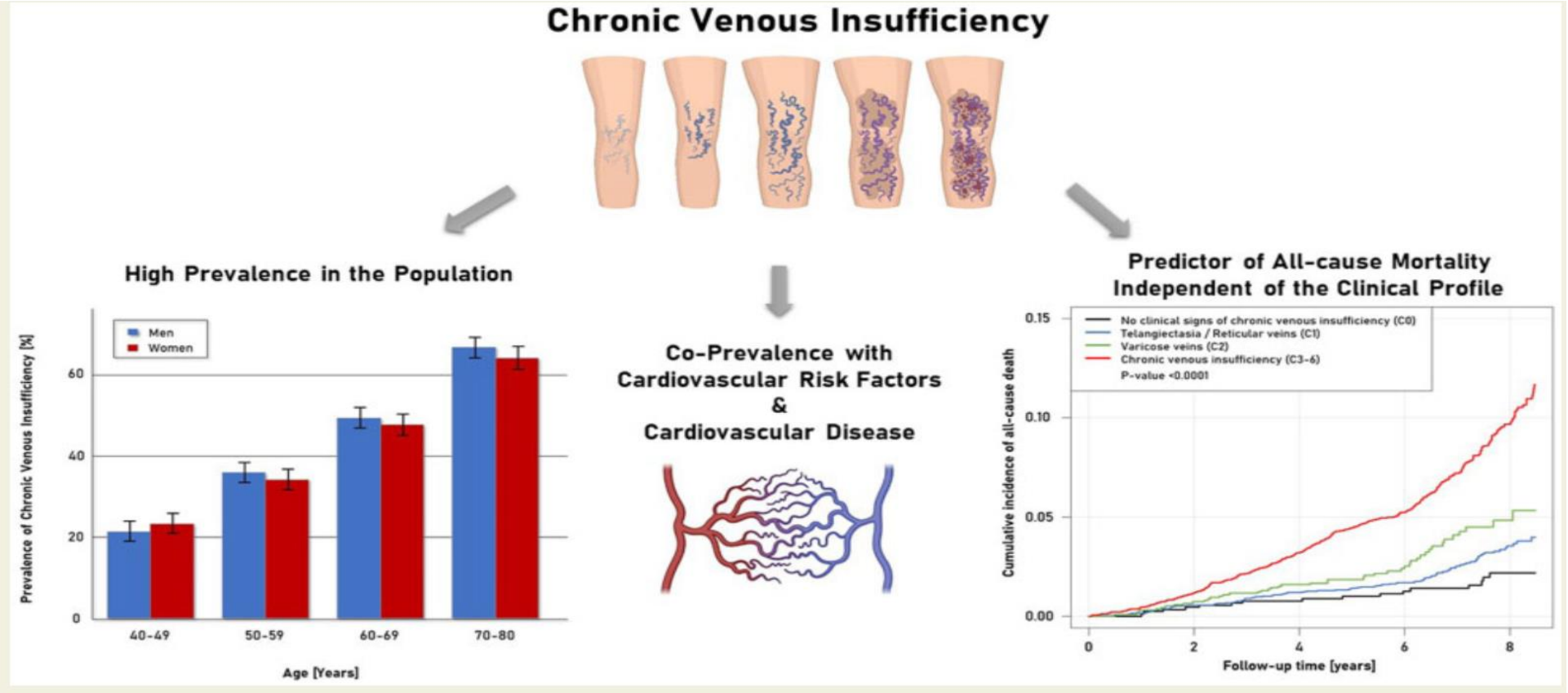
MISSATGES per emportar-se:



Calen més estudis per ampliar/ confirmar troballes i determinar CO-Factors comuns entre ambdues enfermetats

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- PER QUÈ?

-És important el seu abordatge terapèutic d'inici.

-Major vigilància de risc cardio-vascular en IVC CEAP C3-C6

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MOLTES GRÀCIES

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