Problemas clínicos en ERC y edad avanzada

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Evidencia

Sentido común

Experiencia

Envejecimiento población

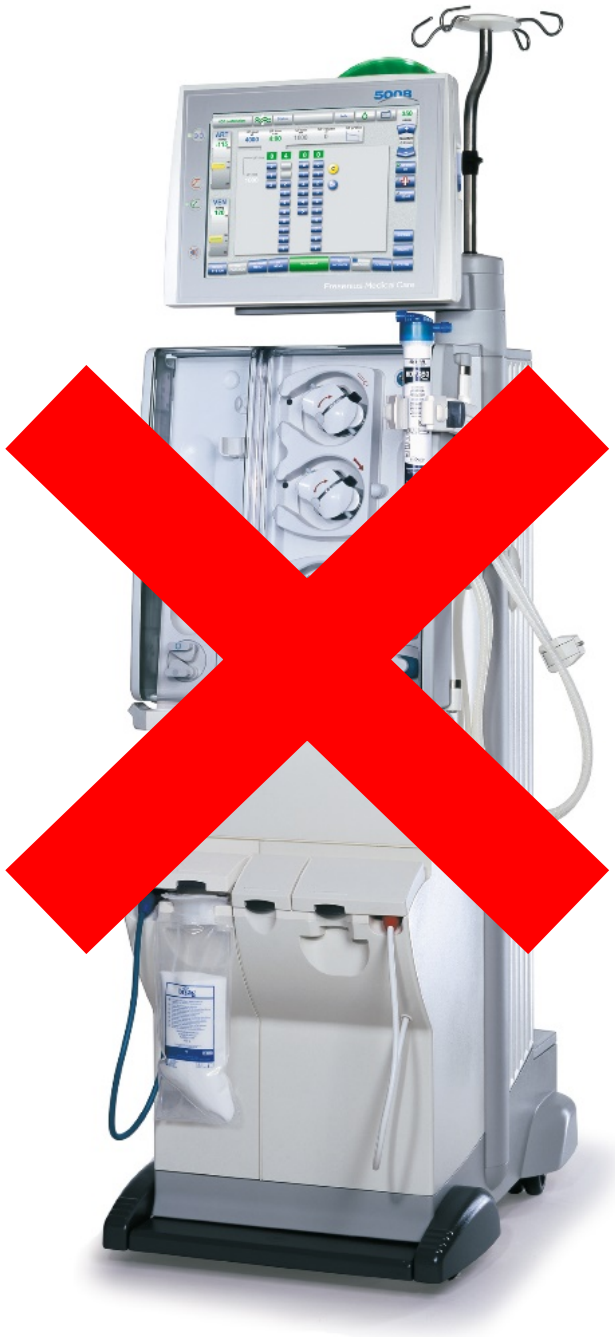
+

Alta prevalencia de la ERC

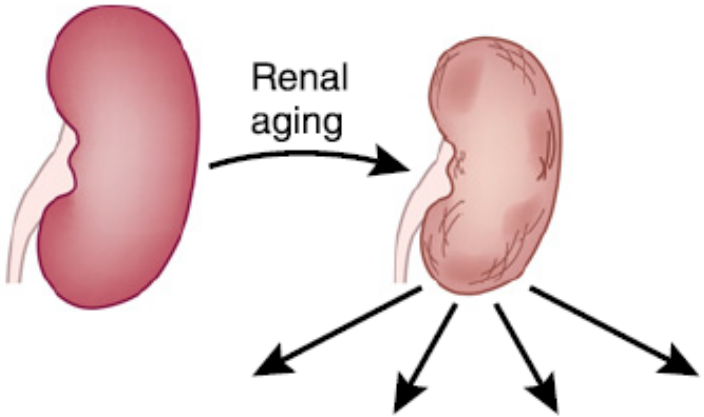
Caso 1

- Mujer de 83 años
- Independiente, cognitivo conservado
- HTA
- Dislipemia
- Artrosis
- Diabetes 2 con ADOs
- Colecistis y shock séptico en 2000
- ERC desde hace 6 años, atribuida a nefroangiosclerosis
- Cr p 1.2 mg/dl, eFG CKD-EPI 42 ml/min, CAC 40 mg/g (ERC 3bA2), Hb 12 g/dl

¿Qué significa su insuficiencia renal?

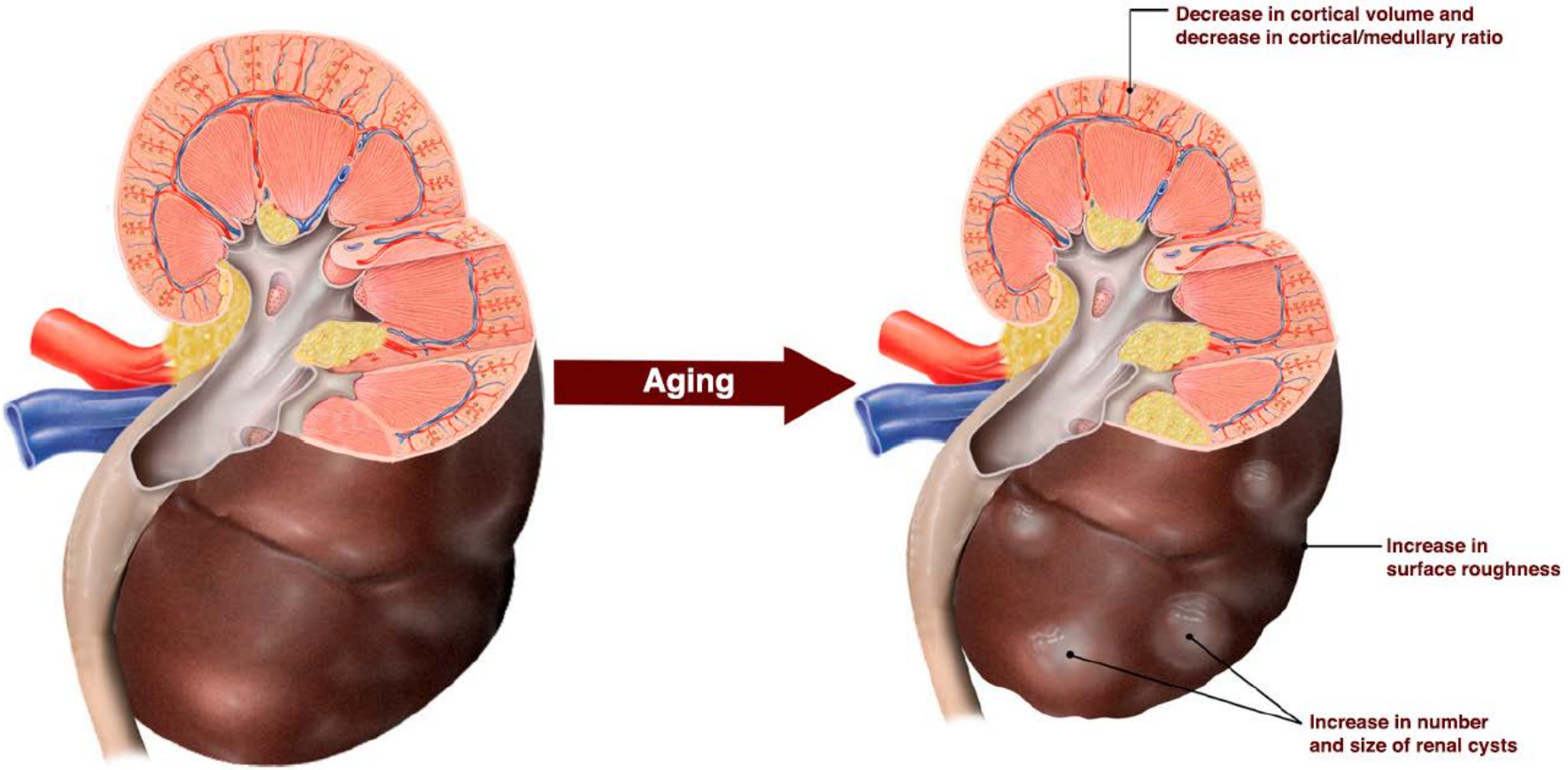


Normal para su edad…?

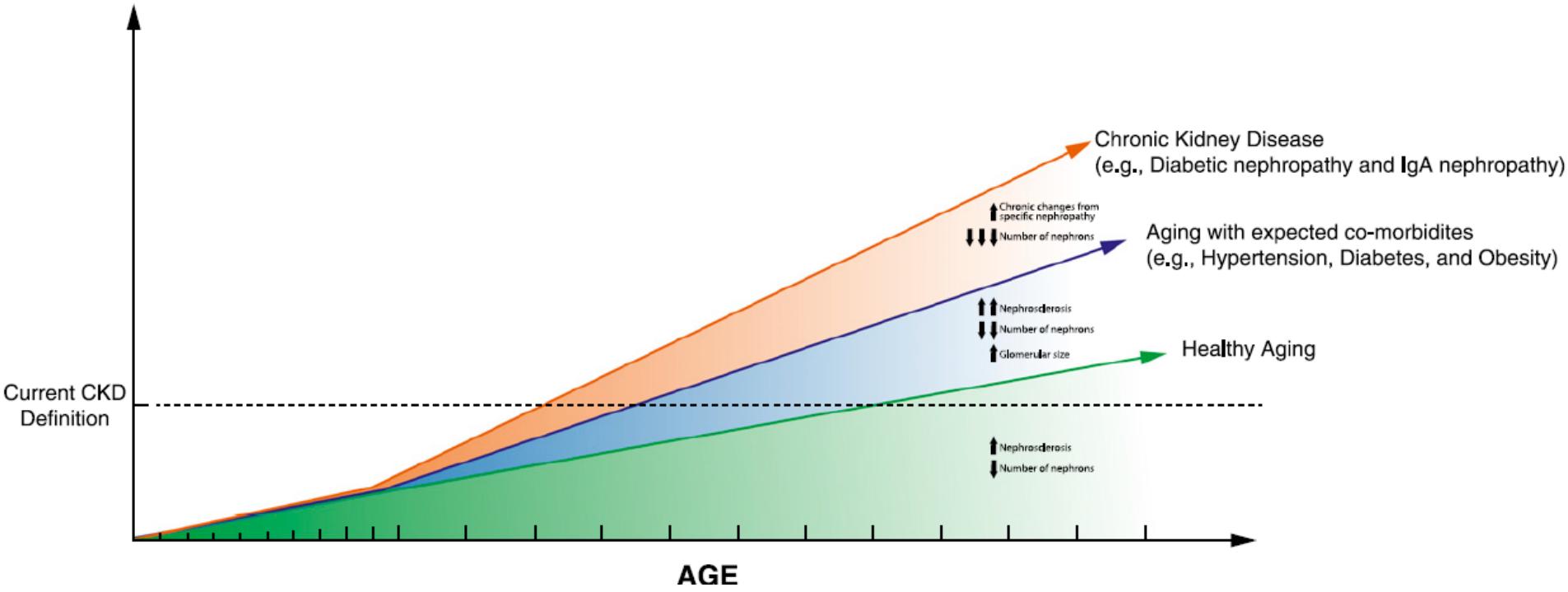


Clinical changes	Microscopic changes	Macroscopic changes	Functional changes
Progression of new CKD	Glomerulosclerosis	Mass (20–25% between age 30 to 80)	GFR (in most patients)
Function and survival after T_x	Interstitial fibrosis	Weight (10% per decade)	Sodium resorption
Functional renal reserve	Pericapsular fibrosis	Length (0.5 cm per decade >40)	Transtubular K+ gradient
Susceptibility to AKI	GBM thickness	Parenchyma (10% per decade)	Urinary concentration
	Arteriosclerosis		Renal vascular resistance
	Tubular atrophy		Plasma flow

O'Sullivan et al. JASN 2017



Hommos et al. JASN 2017



Hommos et al. JASN 2017

Prognosis of CKD by GFR and albuminuria category

Prognosis of CKD by GFR and Albuminuria Categories: KDIGO 2012

GFR categories (ml/min/ 1.73 m^2) Description and range				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30-300 mg/g 3-30 mg/mmol	>300 mg/g >30 mg/mmol
	G1	Normal or high	≥90			
	G2	Mildly decreased	60-89			
	G3a	Mildly to moderately decreased	45-59			
	G3b	Moderately to severely decreased	30-44			
	G4	Severely decreased	15-29			
	G5	Kidney failure	<15			

Especial atención a los fármacos
Necesidad de “cuidar los riñones”

Caso 2

- Hombre 79 años
- Exfumador
- Independiente, cognitivo conservado
- HTA, dislipemia, hiperuricemia asintomática
- Claudicación intermitente
- ERC 3bA1 x nefroangiosclerosis, larga evolución, lentamente progresiva. Cr p basal 1.6 mg/dl, eFG CKD-EPI 40 ml/min, CAC 15 mg/g
- Telmisartan/hidroclortiazida 80/12.5 x1
- Atorvastatina 20 x1
- AAS 100 x1
- Revisión programada

- PA 160/92 mmHg (habitual 160/90-95)
- No edema, pulsos periféricos muy debiles.
- IMC 27%
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 7.3 mg/dl
  - Colesterol LDL 103 mg/dl, Trig 130 mg/dl
  - Hb 12.9 g/dl. Hierro normal
  - Cr 1.5 mg/dl, eFG CKD-EPI 44 ml/min
  - Na y K normal
  - CAC 20 mg/g

¿RCV?

Very-high-risk	People with any of the following: Documented ASCVD, either clinical or unequivocal on imaging. Documented ASCVD includes previous ACS (MI or unstable angina), stable angina, coronary revascularization (PCI, CABG, and other arterial revascularization procedures), stroke and TIA, and peripheral arterial disease. Unequivocally documented ASCVD on imaging includes those findings that are known to be predictive of clinical events, such as significant plaque on coronary angiography or CT scan (multivessel coronary disease with two major epicardial arteries having >50% stenosis), or on carotid ultrasound. DM with target organ damage,[a] or at least three major risk factors, or early onset of T1DM of long duration (>20 years). Severe CKD (eGFR <30 mL/min/1.73 m^2). A calculated SCORE ≥10% for 10-year risk of fatal CVD. FH with ASCVD or with another major risk factor.
High-risk	People with: Markedly elevated single risk factors, in particular TC >8 mmol/L (>310 mg/dL), LDL-C >4.9 mmol/L (>190 mg/dL), or BP ≥180/110 mmHg. Patients with FH without other major risk factors. Patients with DM without target organ damage,[a] with DM duration ≥10 years or another additional risk factor. Moderate CKD (eGFR 30–59 mL/min/1.73 m^2). A calculated SCORE ≥5% and <10% for 10-year risk of fatal CVD.
Moderate-risk	Young patients (T1DM <35 years; T2DM <50 years) with DM duration <10 years, without other risk factors. Calculated SCORE ≥1 % and <5% for 10-year risk of fatal CVD.
Low-risk	Calculated SCORE <1% for 10-year risk of fatal CVD.

¿RCV?

ESC European Society of Cardiology
European Heart Journal (2019) **00**, 1–78
doi:10.1093/eurheartj/ehz455

ESC/EAS GUIDELINES

2019 ESC/EAS Guidelines for the management of dyslipidaemias: *lipid modification to reduce cardiovascular risk*

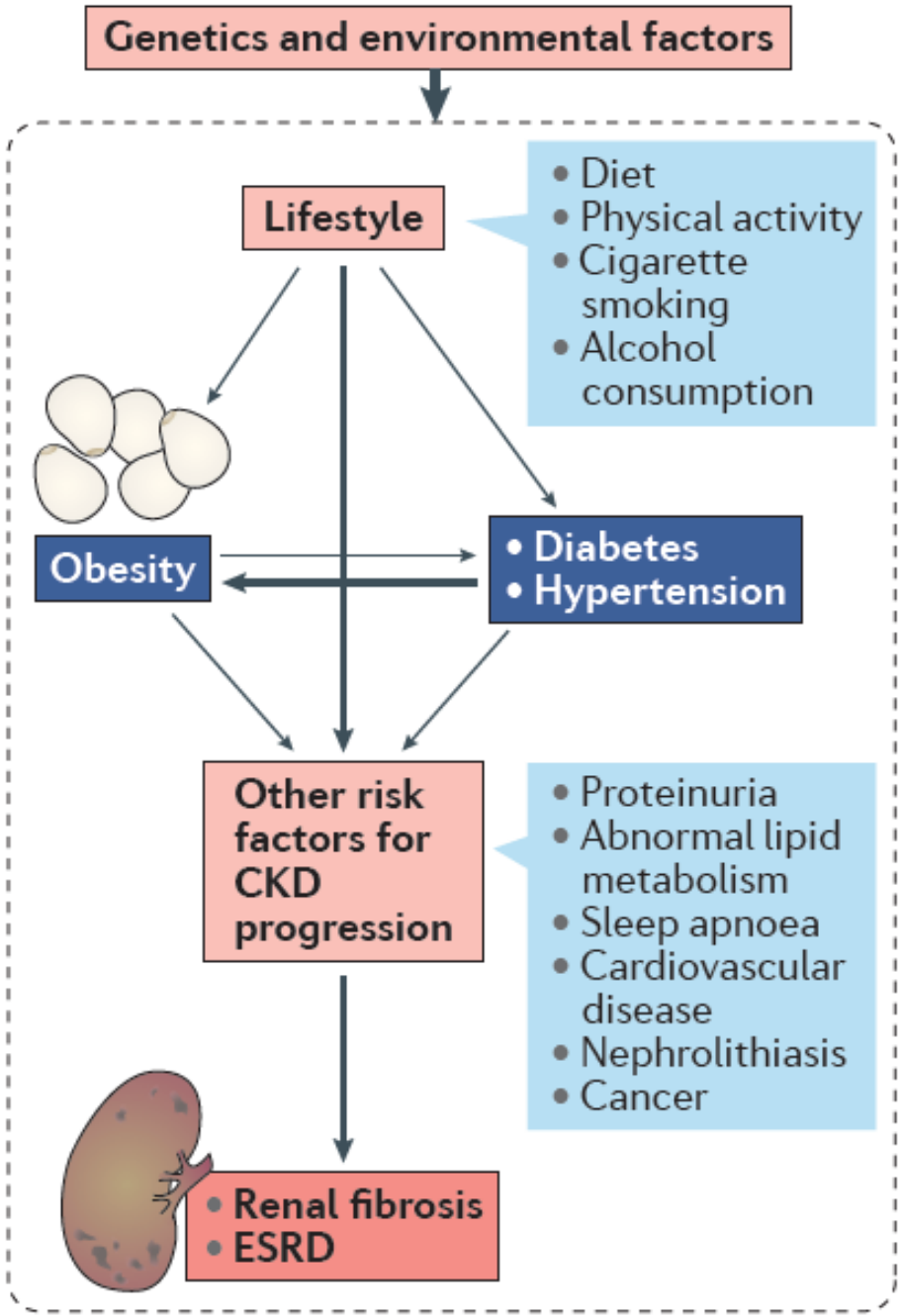
The Task Force for the management of dyslipidaemias of the European Society of Cardiology (ESC) and European Atherosclerosis Society (EAS)

RCV en ERC

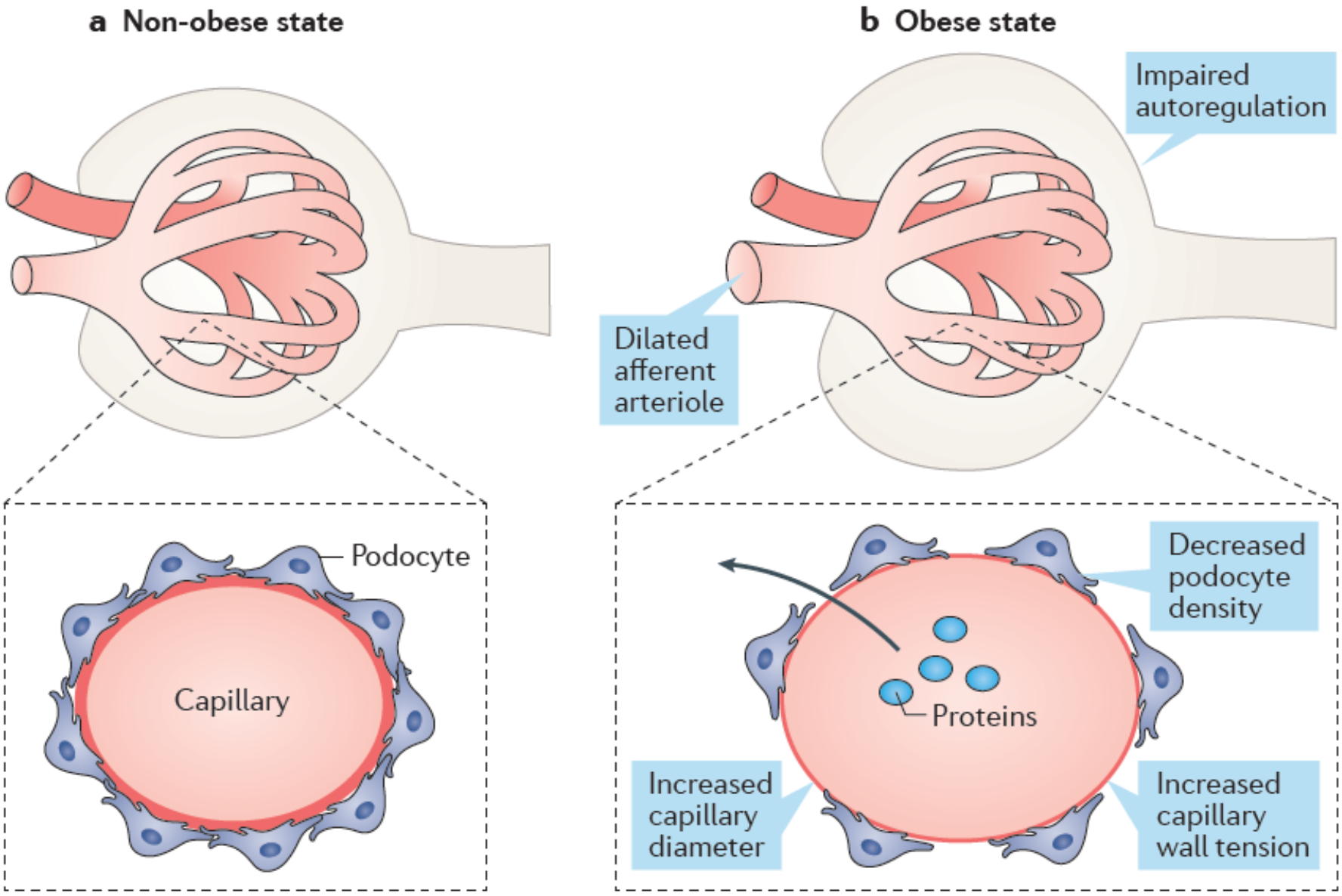
E3: alto riesgo

E4-5: muy alto riesgo

¿Podemos mejorar su RCV?
(y a la vez prevenir la progresión renal)

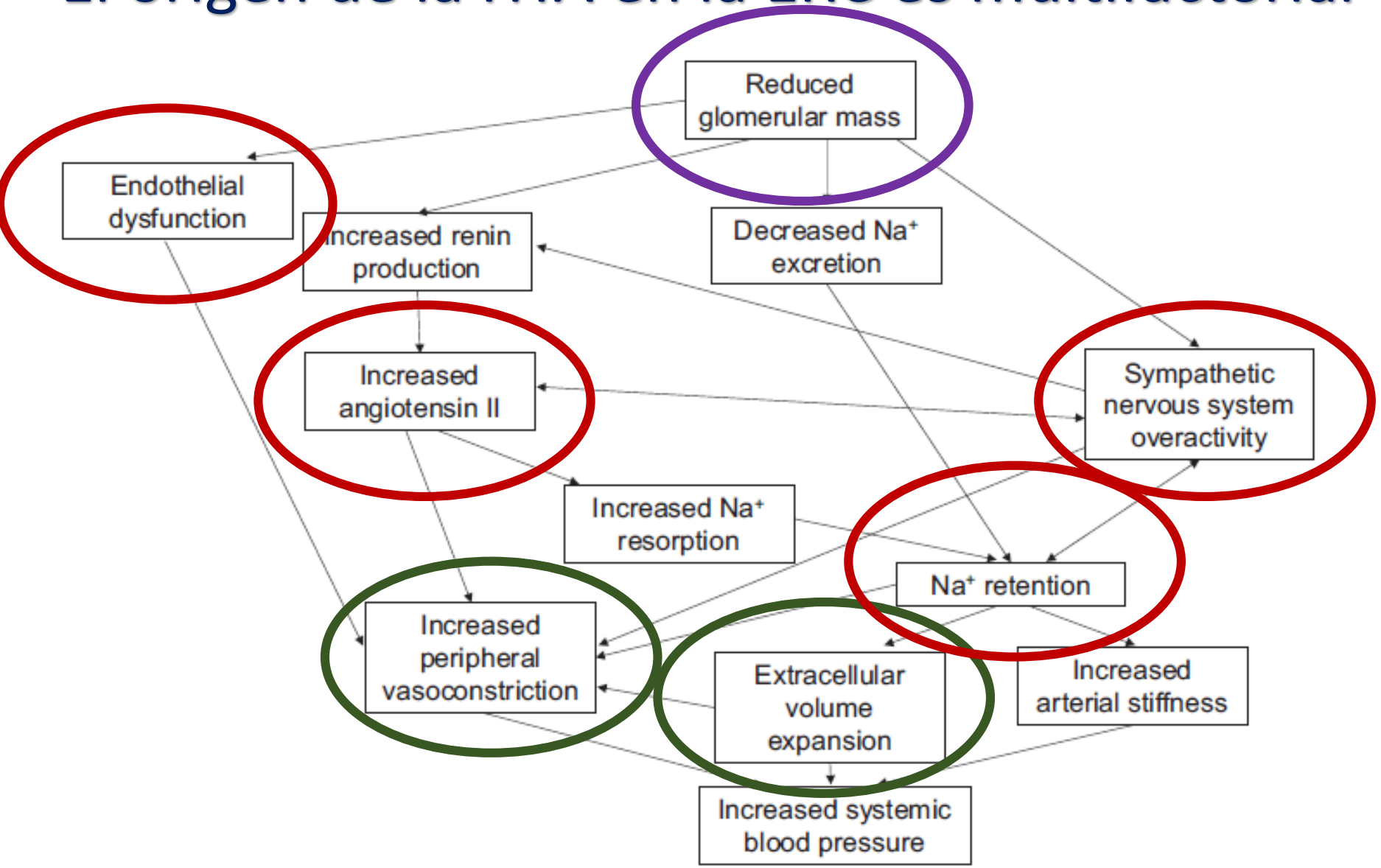


Saraiva Câmara et al. Nat Rev Neph 2017



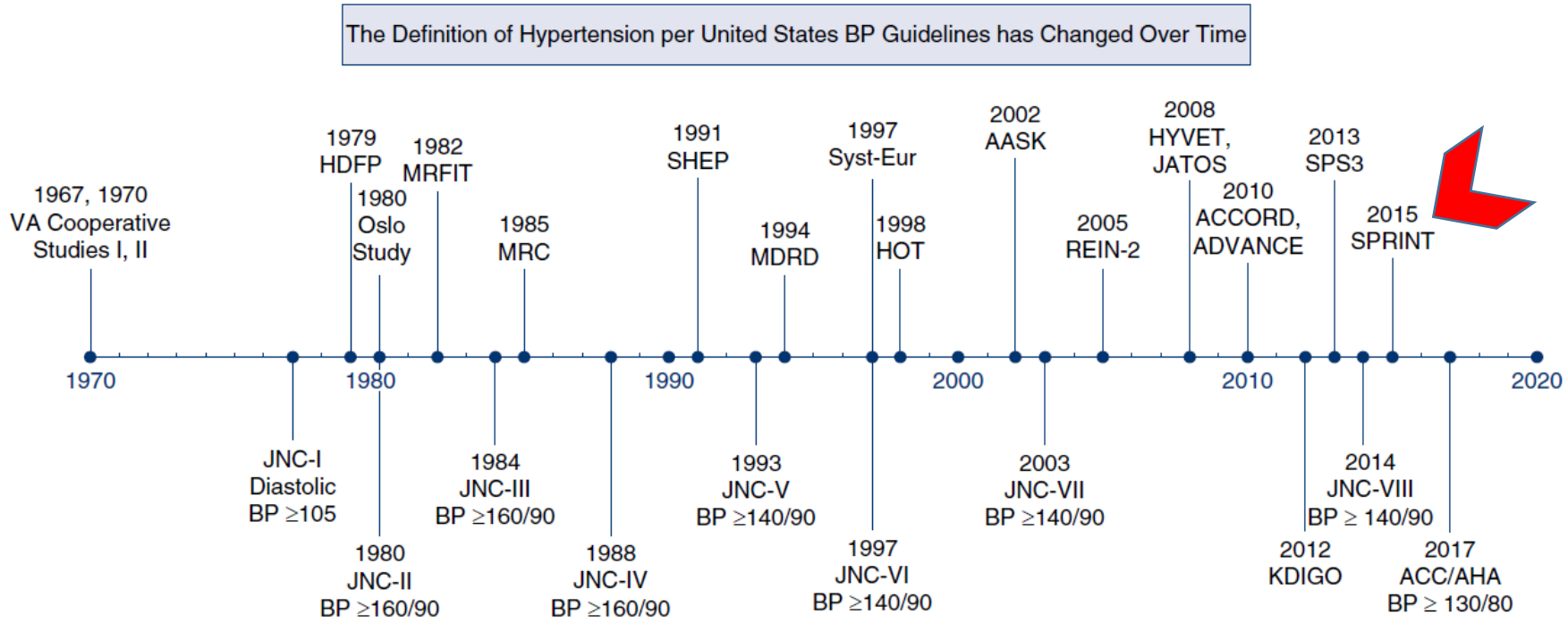
Saraiva Câmara et al. Nat Rev Neph 2017

El origen de la HTA en la ERC es multifactorial



Ku et al. AJKD 2019

¿Cuánto conviene bajar la PA?
¿Con qué?



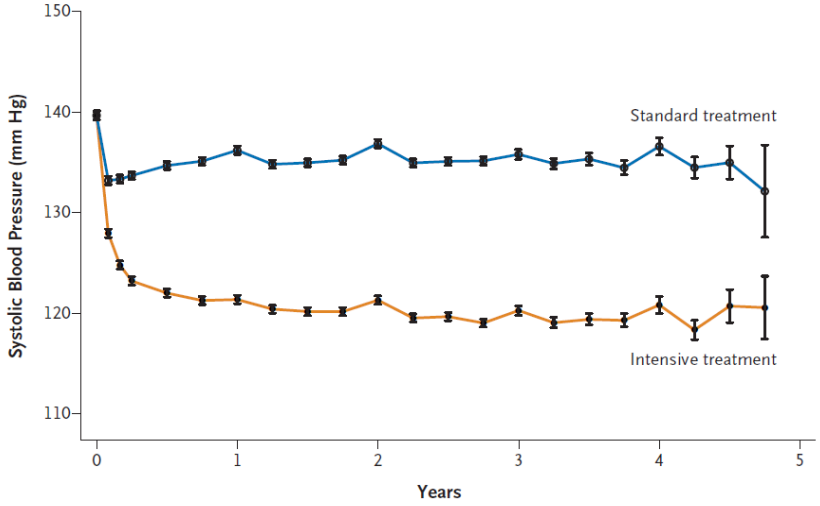
Chang et al. Clin J Am Soc Nephrol 2019

The NEW ENGLAND JOURNAL of MEDICINE

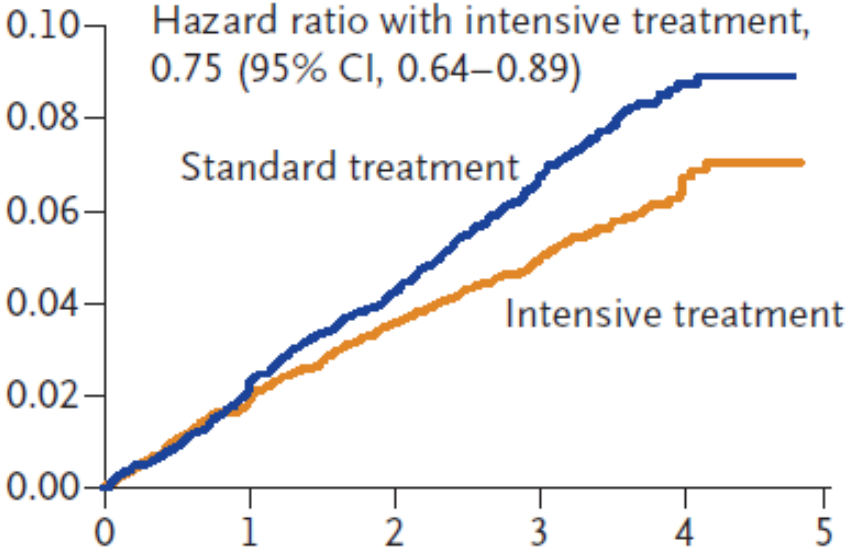
ESTABLISHED IN 1812 NOVEMBER 26, 2015 VOL. 373 NO. 22

A Randomized Trial of Intensive versus Standard Blood-Pressure Control

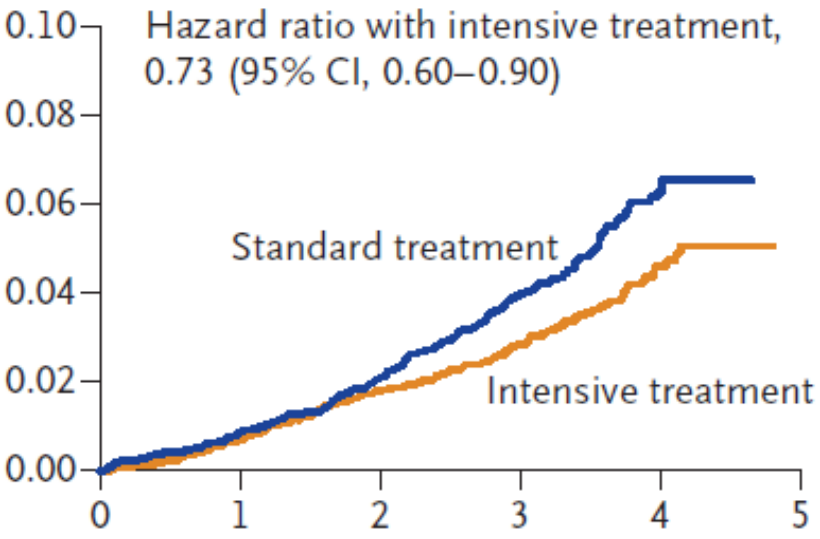
The SPRINT Research Group*



Primary Outcome



Death from Any Cause



ARTÍCULO ESPECIAL

El clínico al día. ¿Un peligro para el paciente?

Miguel García Martín, Pablo Lardelli Claret, Aurora Bueno Cavanillas
y Ramón Gálvez Vargas

Departamento de Medicina Preventiva y Salud Pública.
Facultad de Medicina. Universidad de Granada.

Med Clin (Barc) 1995; 105: 622-627

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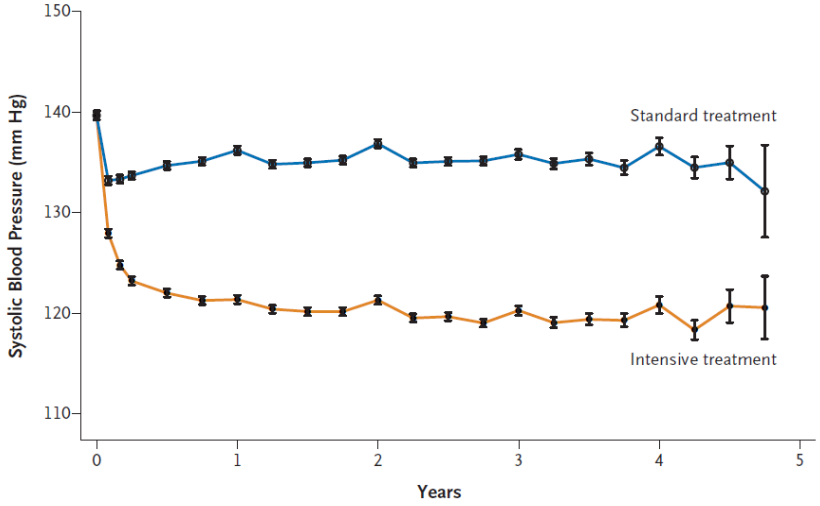

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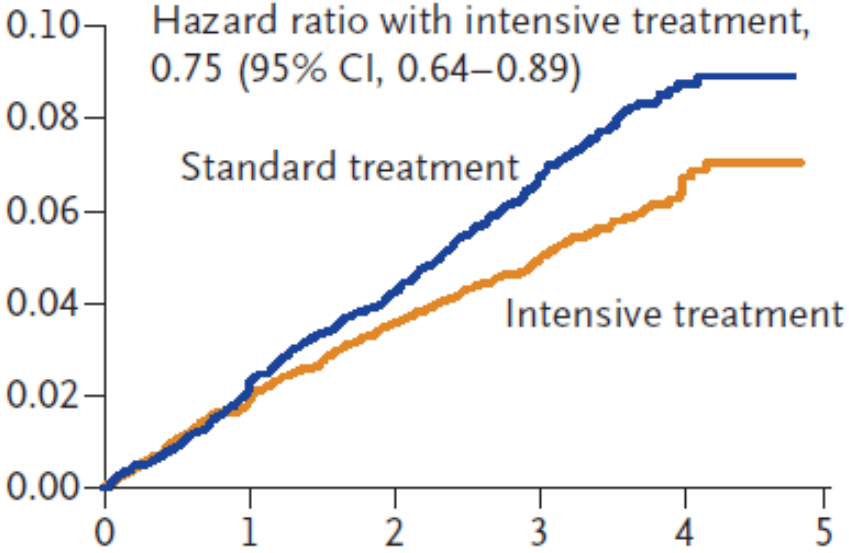

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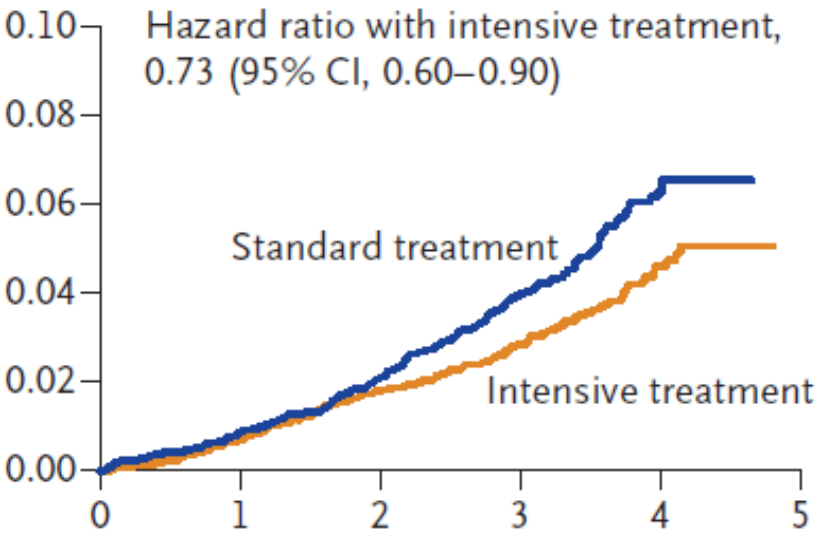


Objetivo PA en ERC

ACC/AHA 2017: PA < 130/80 mmHg

ESH/ESC 2018: PA < 140/80 mmHg

En edad avanzada podría ser menos exigente si:

Expectativa vital limitada

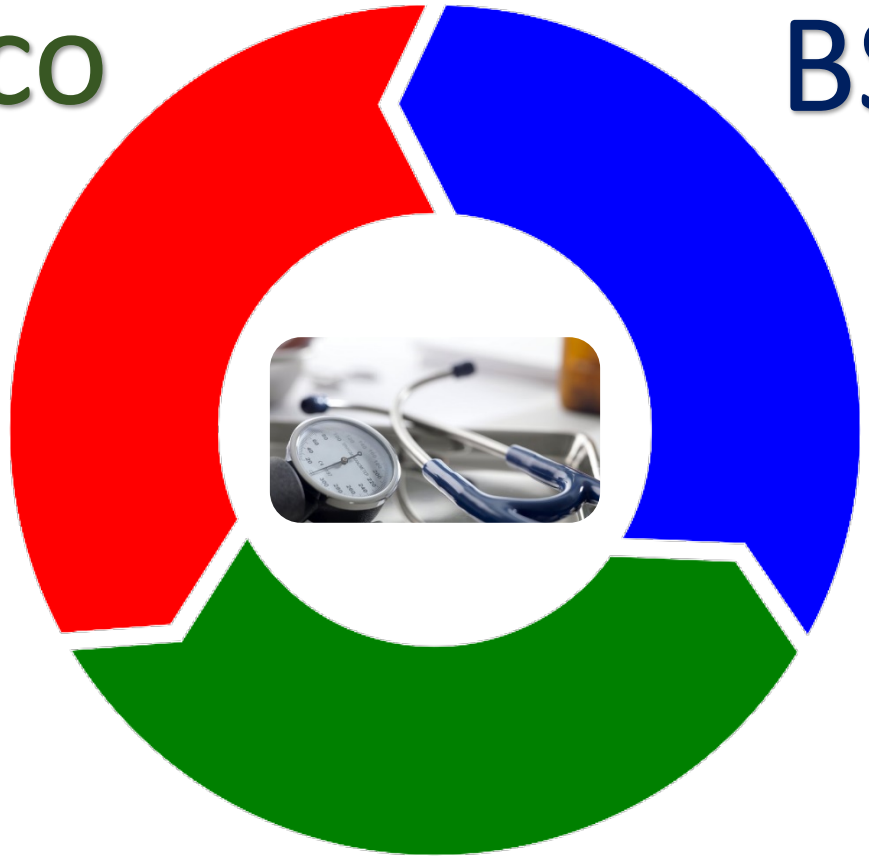
Mala tolerancia / efectos secundarios

Progresión renal rápida

BSRAA

Diurético

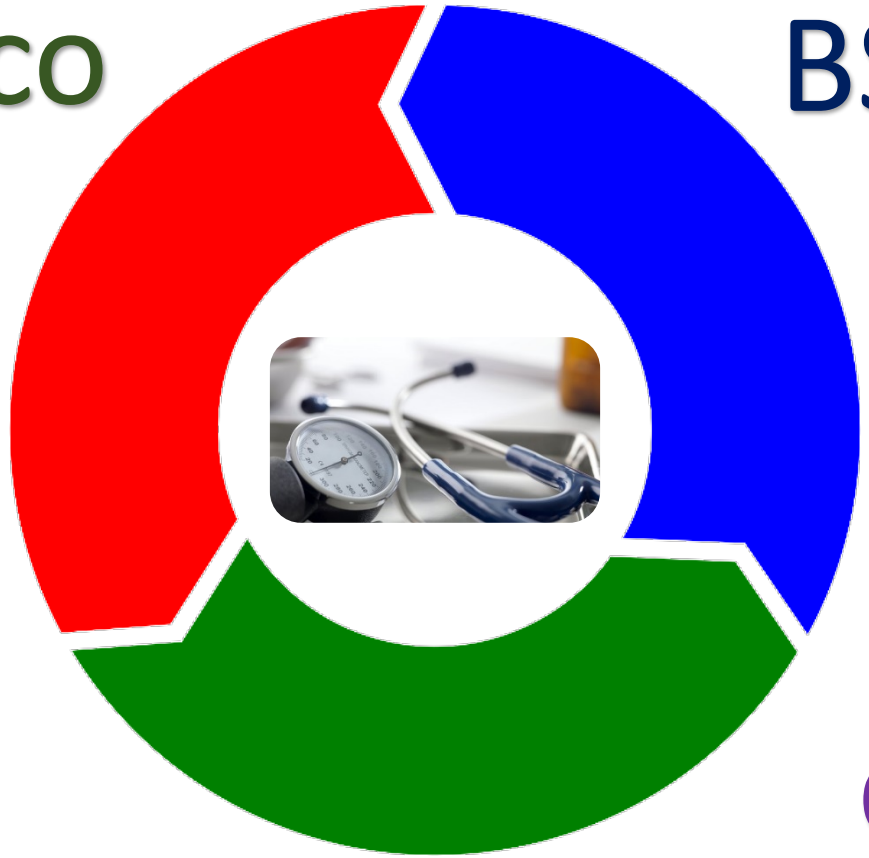
BSRAA



DHP

Diurético

BSRAA



β-bloq

α-bloq

DHP

1. Objetivo <140/80
2. Añadir DHP
3. Vigilar posibles efectos adversos

¿Cuánto conviene bajar el colestrol-LDL? ¿Con qué?

Objetivo colesterol-LDL

ESC
European Society of Cardiology

European Heart Journal (2019) **00**, 1–78
doi:10.1093/eurheartj/ehz455

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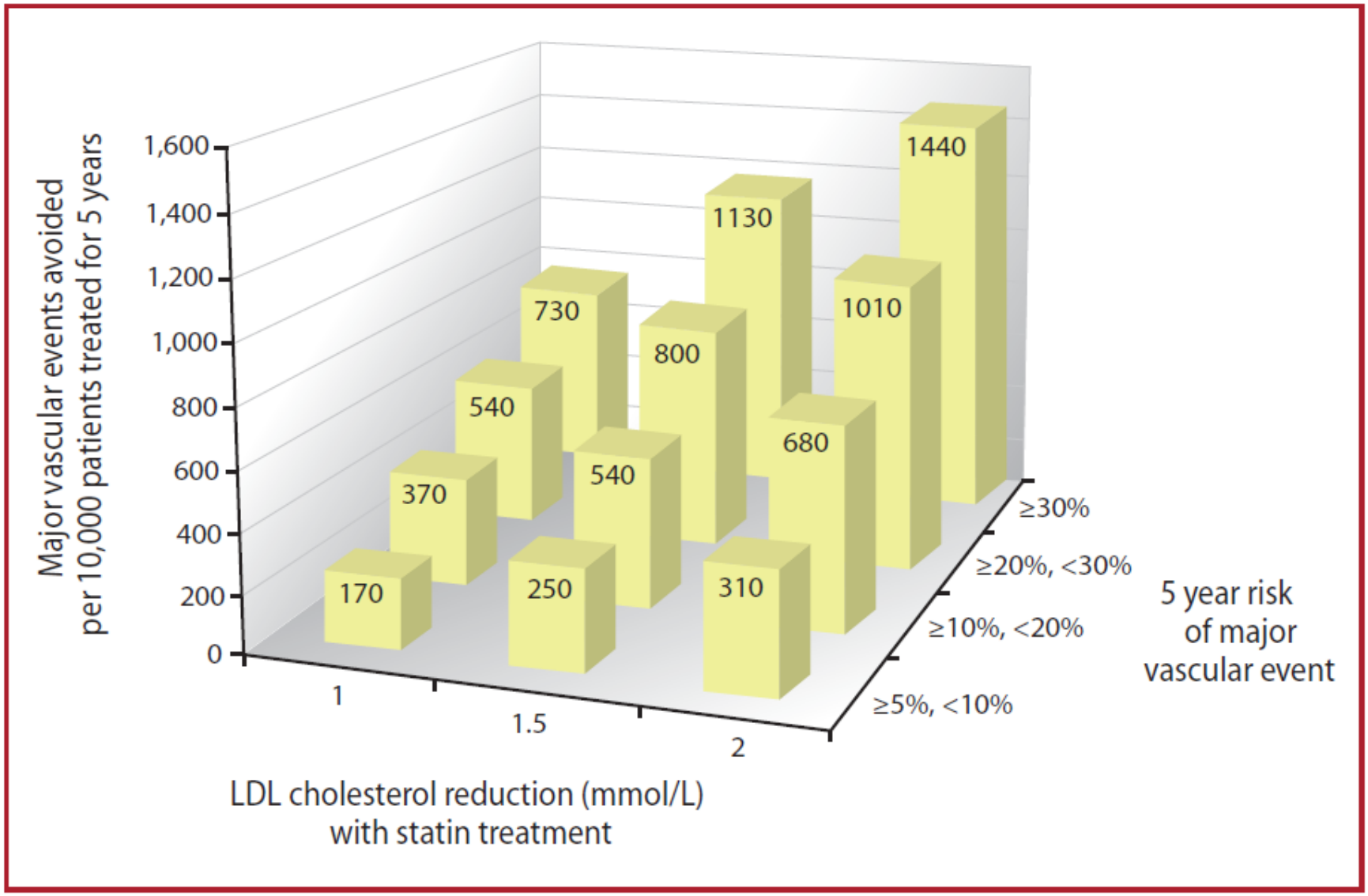
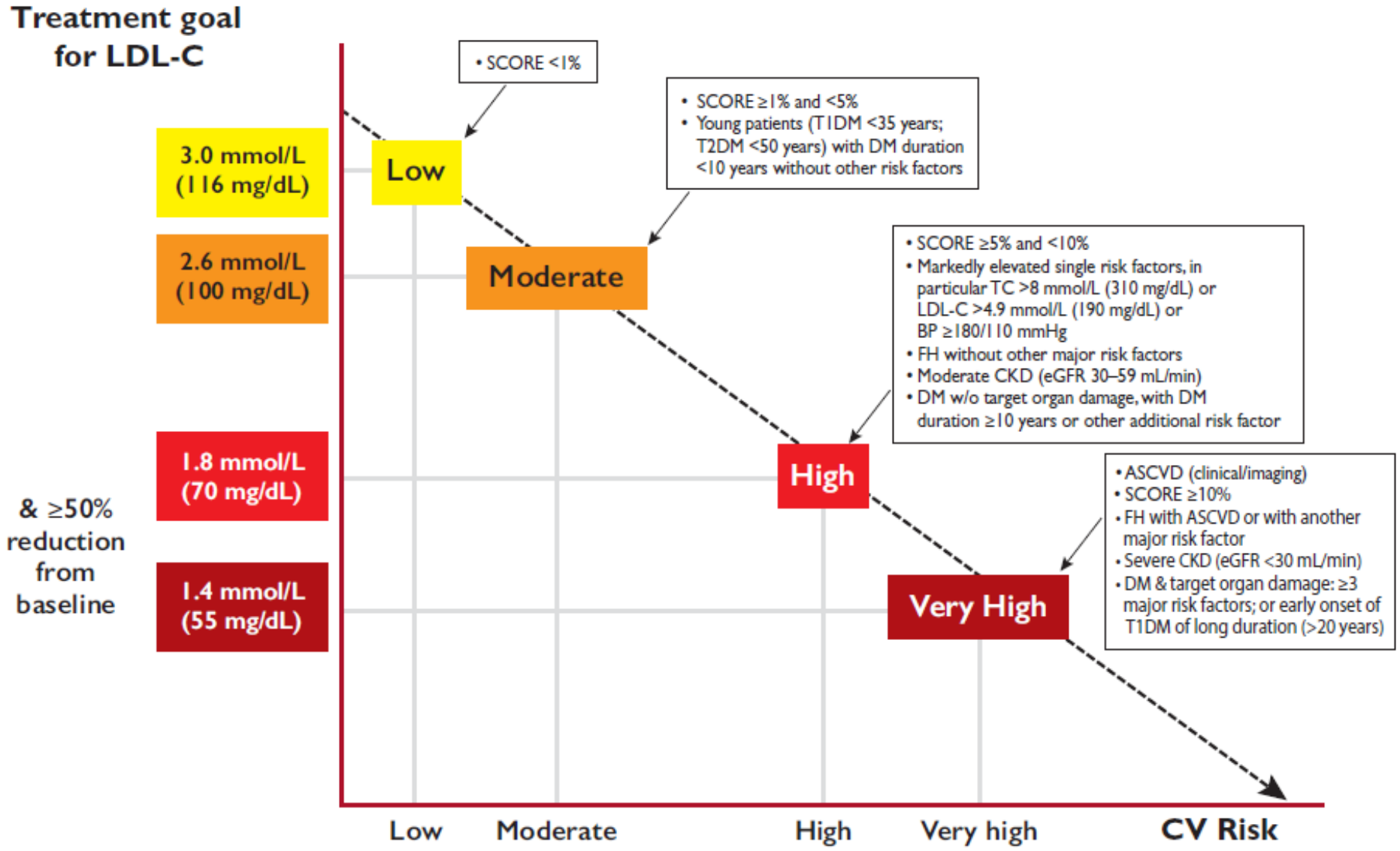

Major vascular events avoided per 10,000 patients treated for 5 years
1,600
1,400
1,200
1,000
800
600
400
200
0
170
370
540
730
250
540
800
310
680
1130
1440
1010
1
1.5
2
LDL cholesterol reduction (mmol/L) with statin treatment
≥30%
≥20%, <30%
≥10%, <20%
≥5%, <10%
5 year risk of major vascular event


Treatment goal for LDL-C
3.0 mmol/L (116 mg/dL)
2.6 mmol/L (100 mg/dL)
1.8 mmol/L (70 mg/dL)
1.4 mmol/L (55 mg/dL)
& ≥50% reduction from baseline
Low
• SCORE <1%
Moderate
• SCORE ≥1% and <5%
• Young patients (T1DM <35 years; T2DM <50 years) with DM duration <10 years without other risk factors
High
• SCORE ≥5% and <10%
• Markedly elevated single risk factors, in particular TC >8 mmol/L (310 mg/dL) or LDL-C >4.9 mmol/L (190 mg/dL) or BP ≥180/110 mmHg
• FH without other major risk factors
• Moderate CKD (eGFR 30–59 mL/min)
• DM w/o target organ damage, with DM duration ≥10 years or other additional risk factor
Very High
• ASCVD (clinical/imaging)
• SCORE ≥10%
• FH with ASCVD or with another major risk factor
• Severe CKD (eGFR <30 mL/min)
• DM & target organ damage: ≥3 major risk factors; or early onset of T1DM of long duration (>20 years)
Low
Moderate
High
Very high
CV Risk

Recommendations for lipid management in patients with moderate-to-severe (Kidney Disease Outcomes Quality Initiative stages 3–5) chronic kidney disease

Recommendations	Class[a]	Level[b]
It is recommended that patients with Kidney Disease Outcomes Quality Initiative stage 3–5[c] CKD are considered to be at high or very-high risk of ASCVD.[489–493]	I	A
The use of statins or statin/ezetimibe combination is recommended in patients with non-dialysis-dependent stage 3–5 CKD.[214,222,495,496]	I	A
In patients already on statins, ezetimibe, or a statin/ezetimibe combination at the time of dialysis initiation, continuation of these drugs should be considered, particularly in patients with ASCVD.	IIa	C
In patients with dialysis-dependent CKD who are free of ASCVD, commencement of statin therapy is not recommended.[220,221]	III	A

Recommendations for the treatment of dyslipidaemias in older people (aged >65 years)

Recommendations	Class[a]	Level[b]
Treatment with statins is recommended for older people with ASCVD in the same way as for younger patients.[217]	I	A
Treatment with statins is recommended for primary prevention, according to the level of risk, in older people aged ≤75 years.[217]	I	A
Initiation of statin treatment for primary prevention in older people aged >75 years may be considered, if at high-risk or above.[217]	IIb	B
It is recommended that the statin is started at a low dose if there is significant renal impairment and/or the potential for drug interactions, and then titrated upwards to achieve LDL-C treatment goals.	I	C

Recommendations for drug treatment of patients with hypertriglyceridaemia

Recommendations	Class[a]	Level[b]
Statin treatment is recommended as the first drug of choice to reduce CVD risk in high-risk individuals with hypertriglyceridaemia [TG levels >2.3 mmol/L (>200 mg/dL)].[355]	I	B
In high-risk (or above) patients with TG levels between 1.5–5.6 mmol/L (135–499 mg/dL) despite statin treatment, n-3 PUFAs (icosapent ethyl 2×2 g/day) should be considered in combination with a statin.[194]	IIa	B
In primary prevention patients who are at LDL-C goal with TG levels >2.3 mmol/L (>200 mg/dL), fenofibrate or bezafibrate may be considered in combination with statins.[305–307,356]	IIb	B
In high-risk patients who are at LDL-C goal with TG levels >2.3 mmol/L (>200 mg/dL), fenofibrate or bezafibrate may be considered in combination with statins.[305–307,356]	IIb	C

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- Col-LDL 103 mg/dl
- Trig 130 mg/dl
- eFG CKD-EPI 44 ml/min
- Arteriopatía periférica
- Atorvastatina 20

➢ Objetivo Col-LDL <55 mg (al menos 70 mg/dl)

1. Aumentar Atorvastatina a 40
2. Añadir ezetimiba

¿Es útil bajar el ácido úrico?

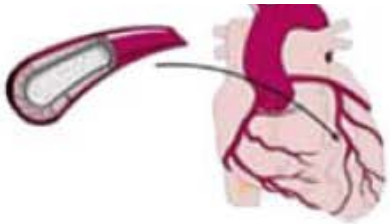
¿Cómo?

The role of uric acid in the pathogenesis of human cardiovascular disease

Treatment of Hyperuricaemia;
- Decreases blood pressure
- Improves kidney function
- Decreases inflammation
- Improves endothelial function (xanthine oxidase inhibition)

- Increases Risk for Stroke
- Associated with Poorer long-term outcome for stroke
- May Impair autoregulatory response of the cerebral arterioles
- Increases Risk for Vascular dementia

Hyperuricaemia



- Causes endothelial dysfunction
- Increases oxidative stress
- Causes microvascular disease
- Induce vascular smooth muscle cell proliferation
- Causes a reduction in endothelial NO bioavailablity

- Causes kidney disease progression
- Causes kidney allograft dysfunction
- May be Involved in Preeclampsia

- Causes activation of the renin-angiotensin system
- Causes microvascular and inflammatory changes in the kidney
- Impair the autoregulatory response of kidney
- Causes Interstitial macrophage and T cell infiltration
- Causes afferent arteriolopathy

- Causes hypertension
- Causes diastolic dysfunction
- Associated with increased mortality in congestive heart failure and CAD
- Associated with cardiac microvascular disease and poor outcome following myocardial infarction

Kanbay et al, Heart 2013

Tratamiento de la hiperuricemia asintomática en ERC

- ✓ Probable utilidad en progresión rápida
- ✓ Menos probable en pacientes muy estables, especialmente en los más mayores
- ✓ Puede mejorar también el RCV en ERC

- ➢ Iniciar terapia si urato > 7 mg/dl, objetivo < 6 mg/dl
- ➢ Alopurinol antes que febuxostat
- ➢ Iniciar alopurinol a dosis de 50-100 mg/día e ir escalando. Bajo riesgo de hipersensibilidad
- ➢ Iniciar febuxostat a dosis de 80 mg/48 h
- ➢ No datos de seguridad de lesinurad en ERC

Cardiovascular Safety of Febuxostat or Allopurinol in Patients with Gout

Table 2. Major Safety End Points (Modified Intention-to-Treat Analysis).*

End Point	Febuxostat (N=3098)	Allopurinol (N=3092)	Hazard Ratio (95% CI)	P Value†
	no. of patients (%)			
Primary end point: composite of cardiovascular death, nonfatal myocardial infarction, nonfatal stroke, or urgent revascularization due to unstable angina	335 (10.8)	321 (10.4)	1.03 (0.87–1.23)‡	0.66 (0.002)
Secondary end points				
Cardiovascular death	134 (4.3)	100 (3.2)	1.34 (1.03–1.73)	0.03
Nonfatal myocardial infarction	111 (3.6)	118 (3.8)	0.93 (0.72–1.21)	[illegible]
Nonfatal stroke	71 (2.3)	70 (2.3)	1.01 (0.73–1.41)	0.94
Urgent revascularization for unstable angina	49 (1.6)	56 (1.8)	0.86 (0.59–1.26)	0.44
Composite of cardiovascular death, nonfatal myocardial infarction, or nonfatal stroke	296 (9.6)	271 (8.8)	1.09 (0.92–1.28)	0.33
Death from any cause	243 (7.8)	199 (6.4)	1.22 (1.01–1.47)	0.04

. Estudio CARES. White et al, N Engl J Med 2018

thebmj

BMJ 2018;362:k2893 doi: 10.1136/bmj.k2893 (Published 18 July 2018)

PRACTICE

FROM DRUG AND THERAPEUTICS BULLETIN

Latest guidance on the management of gout

Table 1| Starting dose of allopurinol according to renal function[2]

Estimated GFR (mL/min/1.73 m^2)	Allopurinol starting dose
<5	50 mg weekly
5–15	50 mg twice weekly
16–39	50 mg every 2 days
31–45	50 mg daily
46–60	50 mg and 100 mg on alternate days
61–90	100 mg daily

GFR= glomerular filtration rate

- Urato 7.3 mg/dl
- eFG CKD-EPI 44 ml/min

- Actitud expectante y dieta

ó

- Retirar o disminuir tiazida

ó

- Añadir Alopurinol 100 y escalar hasta urato 6 mg/dl

Caso 3

- Mujer 86 años
- Parcialmente dependiente
- HTA
- Dislipemia
- Artrosis
- Osteoporosis
- ERC 3bA2 x nefroangiosclerosis, larga evolución, lentamente progresiva. Cr p basal 1.7 mg/dl
- Irbesartan/hidroclortiazida 300/25 x1
- Atorvastatina 20 x1
- Omeprazol 20 x1
- Calcio+Vit D desde 2 años antes
- Consulta por mareos y dolores osteoarticulares

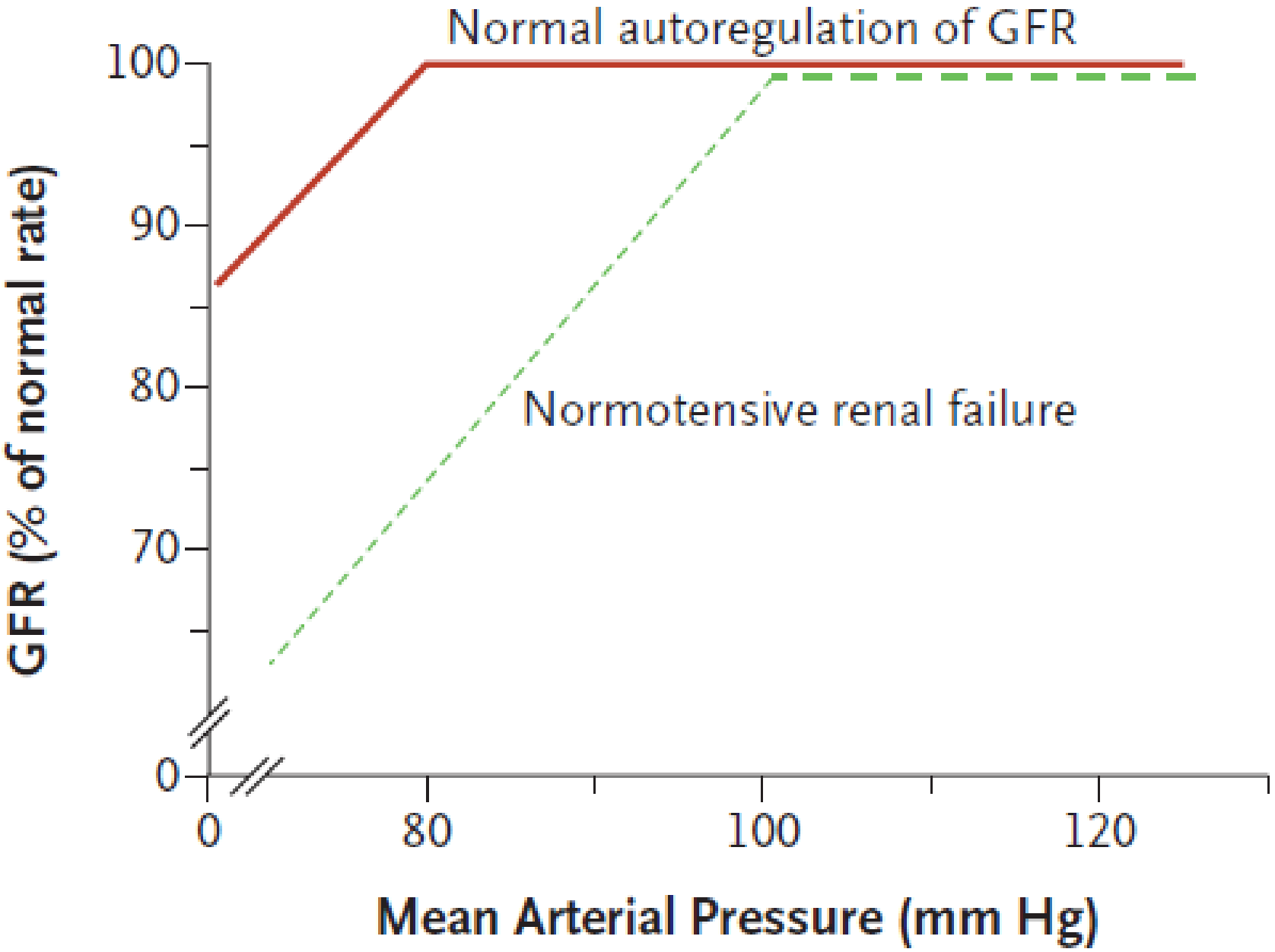
- PA 105/55 mmHg. No edema.
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 8.9 mg/dl
  - Colesterol LDL 103 mg/dl
  - Hb 12.9 g/dl. Hierro normal
  - Cr 3 mg/dl
  - Na y K normal
  - CAC 150 mg/g

Progresión?

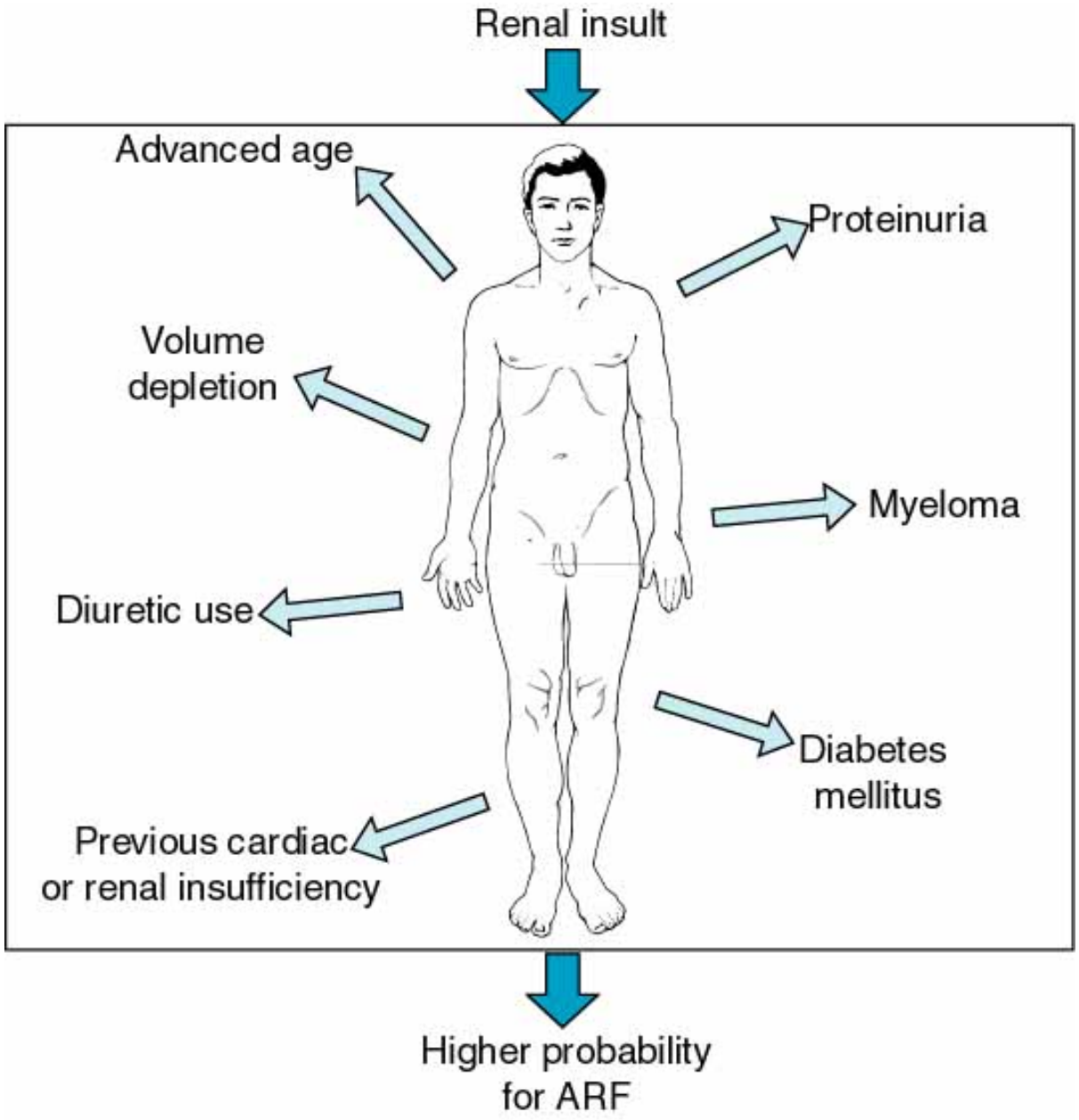
FRA
sobre ERC

¿Por qué?
¿Qué hacemos?

- Hipercontrol de la PA + BSRAA
- AINEs
- Hipercalcemia por Calcio + Vit D + tiazida
- Mieloma
- Glomerulonefritis/vasculitis
- NTIA
- Obstructivo



Abuelo et al, N Engl J Med 2018



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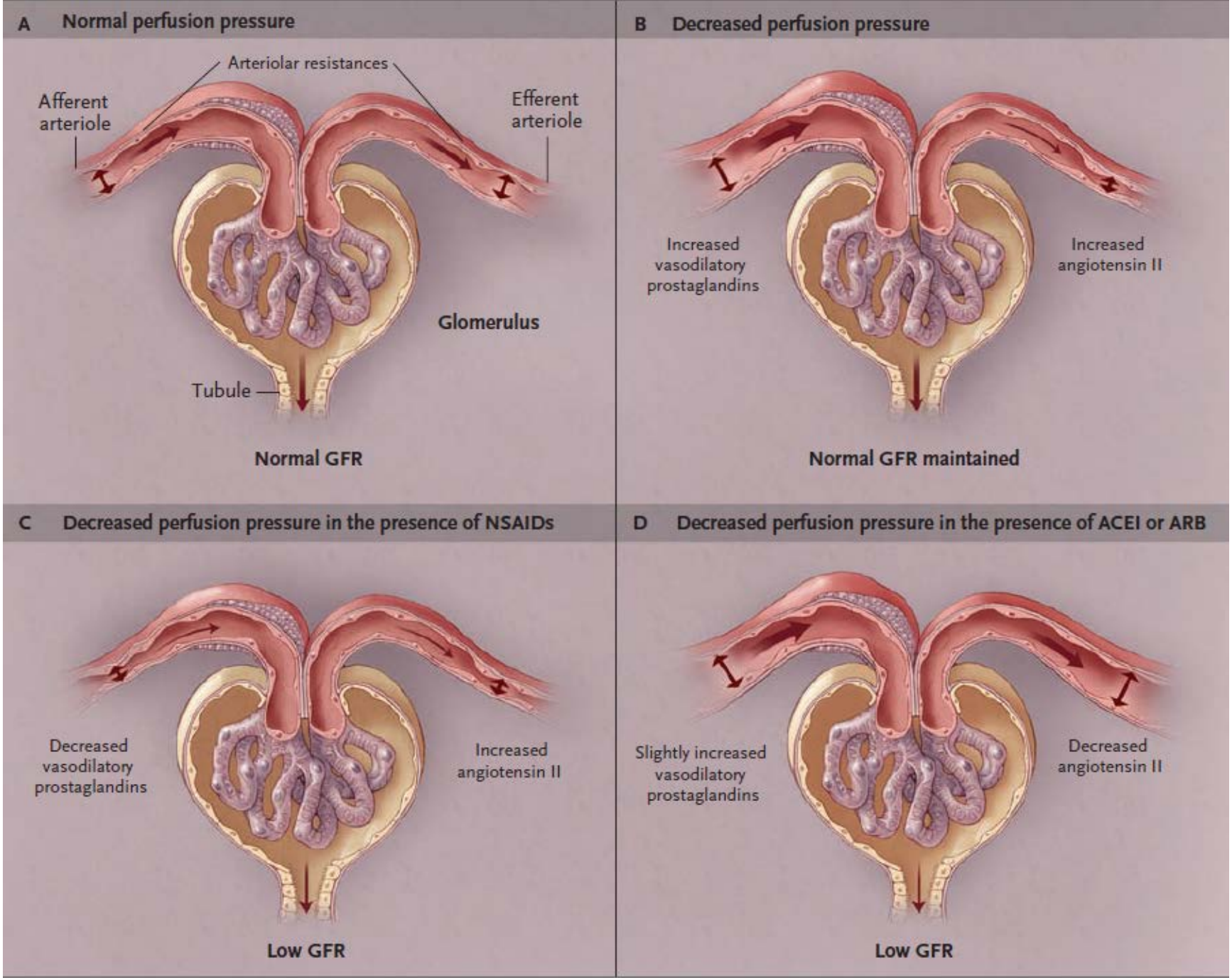
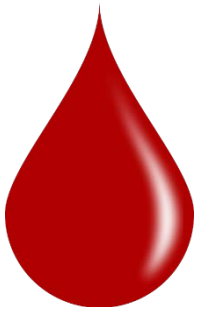


Abuelo et al, N Engl J Med 2018

- Mujer 86 años
- PA 105/55 mmHg
- Irbesartan/hidroclortiazida 300/25 x1
- Atorvastatina 20 x1
- Omeprazol 20 x1
- Calcio+Vit D

- Asegurar no AINEs
- Bajar ARA2/tiazida



- Nueva analítica con:
  - Función renal
  - Calcio
  - Sedimento
  - Proteinuria
  - Proteinograma
  - Cadenas ligeras libres

- PA 135/70 mmHg
- Cr p 1.6 mg/dl
- CPC 0.3
- Calcio normal
- No paraproteínas
- Sedimento anodino

Caso 4

- Hombre 76 años
- Trastorno bipolar tratado con litio en el pasado
- ERC 3aA1, NTIC x litio, de 15 años de evolución, muy estable. Cr p basal 1.5 mg/dl

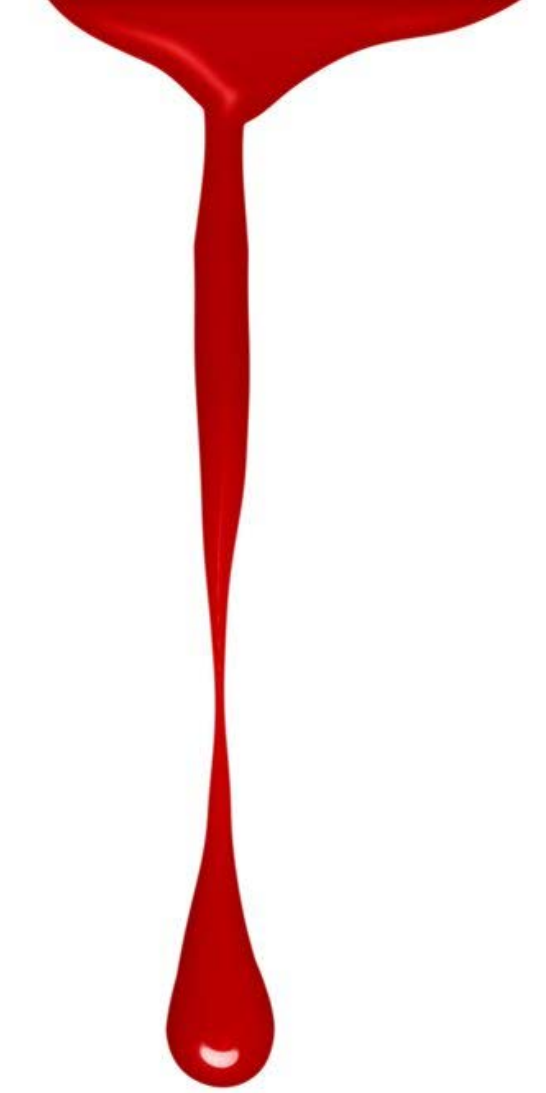
- Medicación psiquiátrica, no litio

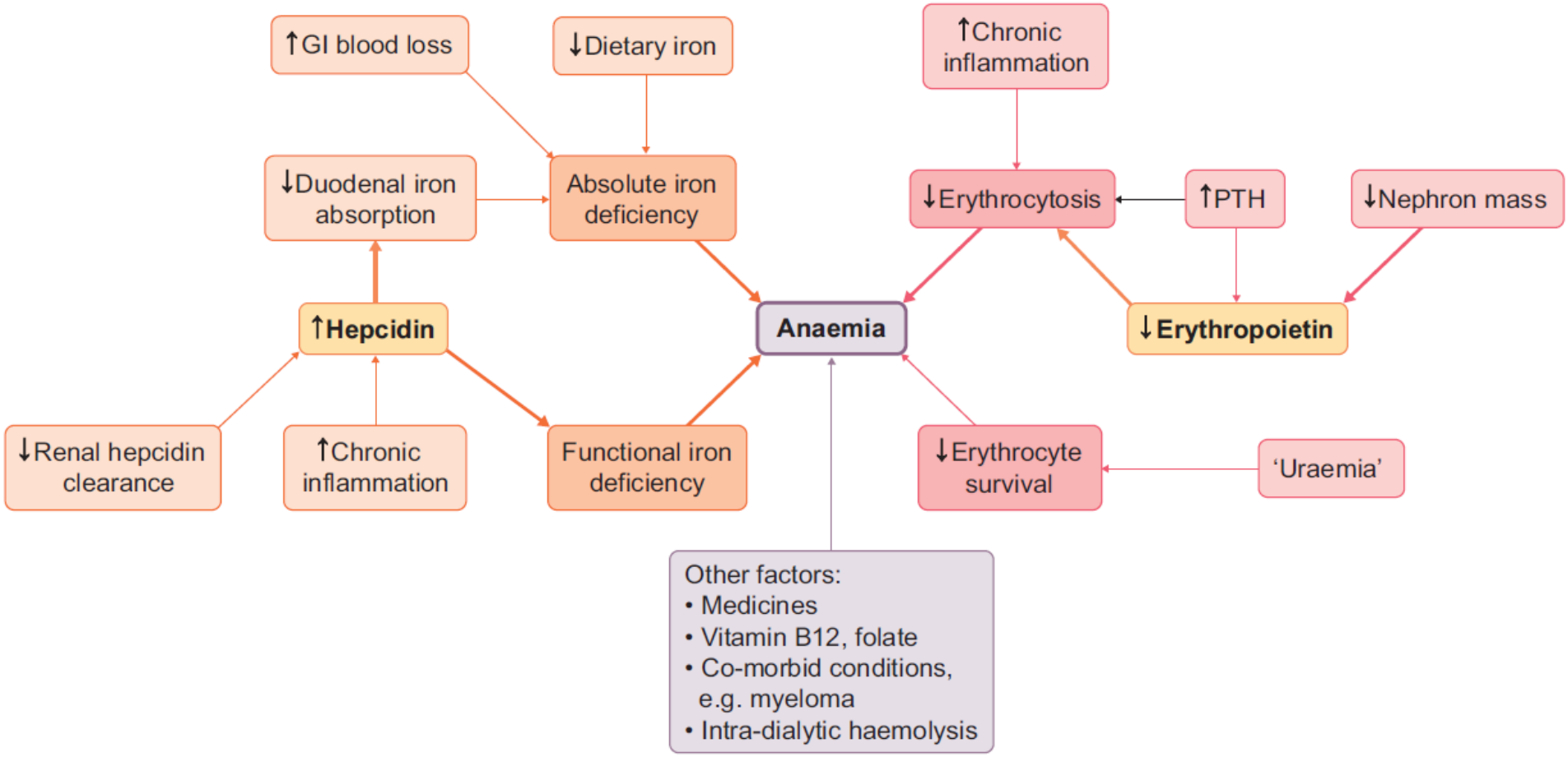
- Consulta por astenia

- PA 95/55 mmHg. No edema.
- Analítica:
  - Glucosa 90 mg/dl
  - Urato 5.9 mg/dl
  - Colesterol LDL 70 mg/dl
  - Hb 8.9 g/dl (previa 12 g/dl 6 meses antes)
  - Cr 1.6 mg/dl, eFG CKD-EPI ml/min
  - Na y K normal
  - CAC 10 mg/g

Anemia en ERC

¿Cuál es el origen de la anemia?
¿Qué hacemos?





Etiología de la anemia en ERC

Geddes CC. Nephrol Dial Transplant 2018

Diagnóstico de la anemia en ERC

- Historia y exploración física dirigidas

- Hemograma, reticulocitos
- Ferritina e IST(ferropenia si <100 ng/ml y <15-20%)
- B12, folato
- PCR

- SOH, colonoscopia
- Proteinograma, cadenas ligeras libres

- Función renal estable
- Hb 12 a 8.9 g/dl

¿Anemia de origen renal ?

- Estreñimiento

- Analítica:
  - Hb 8.7 g/dl
  - Retic. “normales”
  - Ferritina 270 ng/ml
  - IST 5%
  - B12 y folato normal
  - PCR 16 mg/dl
  - Proteinograma y CLL normal

- SOH+

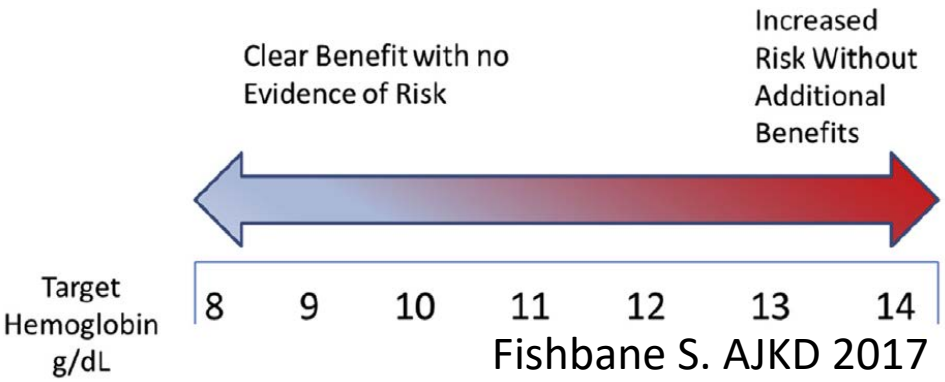
Iwmuro et al. Ecancermedicalscience 2015

Tratamiento de la anemia en ERC

- Ferroterapia (en función de la cifra de Hb, sintomatología, status funcional)
  - Hierro oral
    - Tolerancia / eficacia
    - Insuficiencia cardiaca
  - Hierro iv

Tratamiento de la anemia en ERC

- Eritropoyetina



Fishbane S. AJKD 2017

- Iniciar si Hb < 10 g/dl (para objetivo 11-11.5 g/dl). En determinados pacientes el objetivo podría ser mayor o podría ser aceptable Hb 9-10 g/dl.
- Precaución en pacientes con daño vascular
- Restringir en neoplasias activas

Caso 5

- 86 años
- Independiente, activo, pasa las tardes en el casino de su pueblo con otros jubilados
- HTA, dislipemia
- Cardiopatia isquémica, IAM a los 75 años, tratado con angioplastia
- Un ingreso por ICC
- ERC 4 A2 x nefroangiosclerosis, de 15 años de evolución, lentamente progresiva. Cr p basal 2.5-2.8 mg/dl, eFG≈20 ml/min, K 4.7 mEq/L
- Valsartan 160 x1, Torasemida 10 x1, Bisoprolol 2.5 x1
- Atorvastatina 40 x1, AAS 100 x1
- Acaba de trasladarse de Cuenca

- PA 140/60 mmHg. Normohidratado.
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 8 mg/dl
  - Colesterol LDL 65 mg/dl
  - Hb 10 g/dl
  - Cr 3 mg/dl, eFG CKD-EPI 18 ml/min
  - K 4.7 mEq/L
  - CAC 40 mg/g

ERC 4

- Cr 3 mg/dl
- eFG CKD-EPI 18 ml/min

¿Cuál es la actitud adecuada ante este paciente?

¿Debe remitirse a Nefrología?

- PA 140/60 mmHg.
- Analítica:
  - Urato 8 mg/dl
  - Col-LDL 65 mg/dl
  - Cr 3 mg/dl
  - eFG 18 ml/min
  - K 4.7 mEq/L
  - CAC 40 mg/g

¿Podemos hacer algo para ralentizar la progresión y mejorar su RCV?

- Valsartan 160 x1
- Torasemida 10 x1
- Bisoprolol 2.5 x1
- Atorvastatina 40 x1
- AAS 100 x1

¿Es adecuada su medicación?

- Hb 10 g/dl
- Cr 3 mg/dl
- eFG 18 ml/min
- K 4.7 mEq/L

¿Hemos de añadir EPO?

Caso 6

- Mujer 89 años
- Dependiente, prácticamente no sale de casa
- HTA, dislipemia, artrosis, ictus 2015
- ERC 4-5 A2 x enfermedad renal diabética, de 15 años de evolución, lentamente progresiva.
- Cr p basal 2.7 mg/dl, eFG- CKD-EPI 15 ml/min
- K 5.8-6 mEq/L,
- CAC≈200 mg/g
- Amlodipino 10 mgx1, Valsartan 160 x1
- Omeprazol 20 x1
- AAS 300 x1
- Visita programada

- PA 160/60 mmHg.
- Edema MMII hasta rodilla
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 8 mg/dl
  - Colesterol LDL 130 mg/dl
  - Hb 10 g/dl. Ferritina 60 ng/ml, IST 16%
  - Cr 2.8 mg/dl, eFG CKD-EPI 14 ml/min
  - K 6.1 mEq/L
  - CAC 280 mg/g

ERC 5

¿Cuál es la actitud adecuada ante esta paciente?
¿Debe remitirse a Nefrología?

¿Es adecuada su medicación?
¿Podemos mejorar su calidad de vida?

- PA 160/60 mmHg. Edema MMII hasta rodilla
- Analítica:
  - Urato 8 mg/dl, Colesterol LDL 130 mg/dl
  - Hb 10 g/dl. Ferritina 58 ng/ml, IST 16%
  - Cr 2.8 mg/dl, eFG14 ml/min, K 6.1 mEq/L
  - CAC 280 mg/g

➢ Amlodipino 10 mgx1
➢ Valsartan 160 x1
➢ Omeprazol 20 x1
➢ AAS 300 x1

- PA 160/60 mmHg. Edema MMII hasta rodilla
- Analítica:
  - Urato 8 mg/dl, Colesterol LDL 130 mg/dl
  - Hb 10 g/dl. Ferritina 58 ng/ml, IST 16%
  - Cr 2.8 mg/dl, eFG14 ml/min, K 6.1 mEq/L
  - CAC 280 mg/g

- Otro-dipino 5-10 mgx1
- Valsartan 80 x1
- Torasemida 5
- AAS 300 x1/2
- Hierro oral, iv, EPO?
- Omeprazol ??
- Estatina ?
- Alopurinol?

Caso 7

- Mujer 72 años
- HTA
- Ocasionales cefaleas y lumbalgias que trata con paracetamol
- Depresión
- ERC 3aA1 x nefroangiosclerosis, de 4 años de evolución, estable, en seguimiento por AP. En última analítica 6 meses antes Cr p 1.2 mg/dl, eFG 45 ml/min, CAC 20 mg/g, Hb 12.7 g/dl
- Manidipino 20 mgx1, Irbesartan 300 x1, Antidepresivos
- Consulta por astenia, pérdida de peso y lumbalgia que no cede con paracetamol y le impide el descanso nocturno

- PA 180/95 mmHg. Normohidratada
- No AINEs
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 8 mg/dl
  - Colesterol LDL 120 mg/dl
  - Hb 9 g/dl (previa 12.7 g/dl)
  - Cr 2,3 mg/dl (previa 1.2 mg/dl)
  - CAC 60 mg/g

FRA
sobre ERC

¿Por qué?
¿Qué hacemos?

¿AINE?

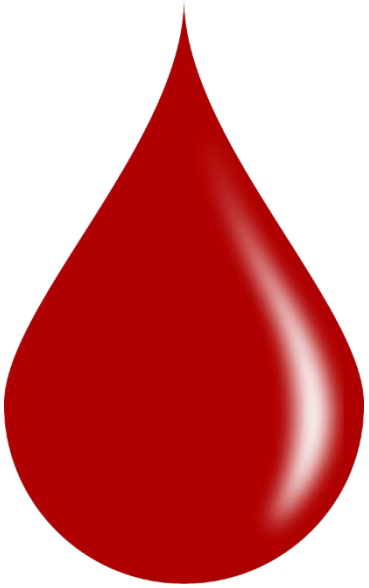
- FRA/subagudo inopinado
- Anemia
- Sdme constitucional

- Vasculitis
- Mieloma
- Obstrucción

IC preferente
Nefrología

UMED

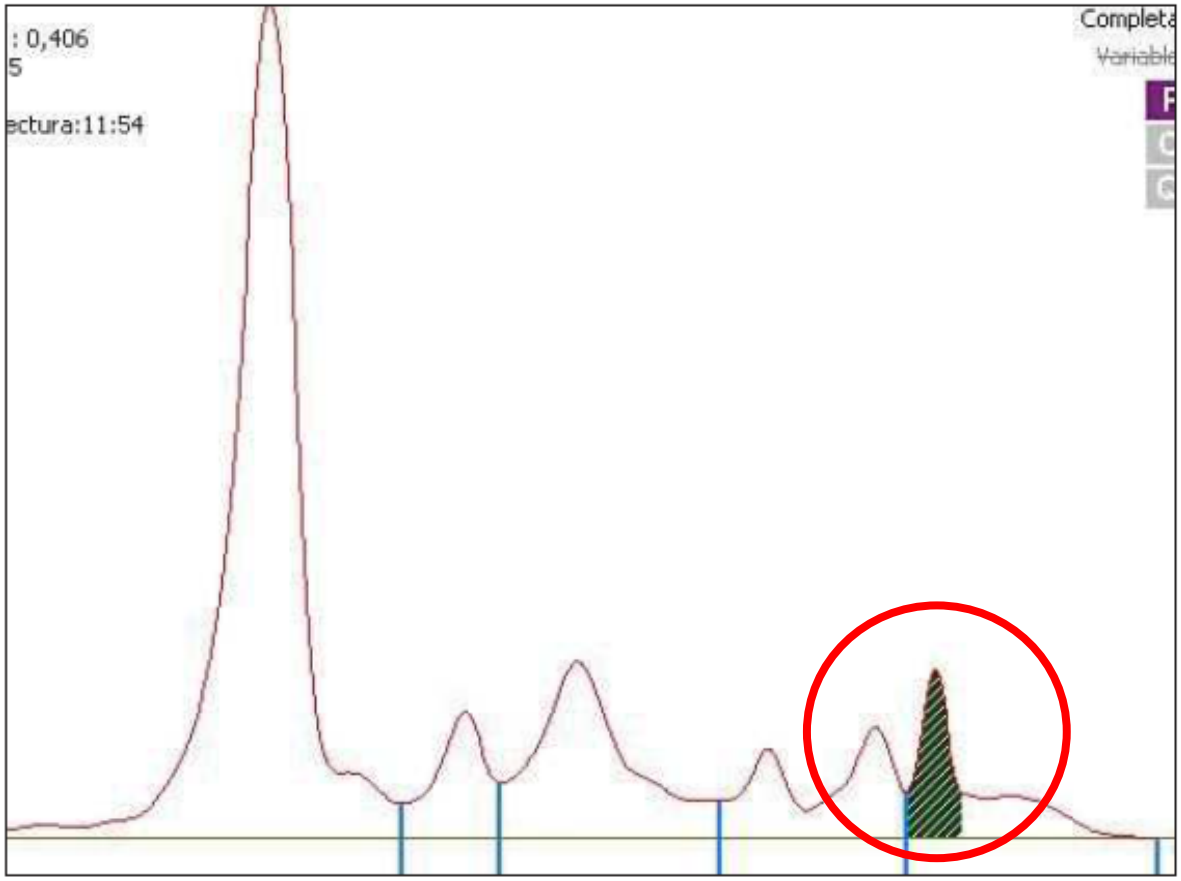
Analítica rápida



- Glucosa 98 mg/dl
- Cr 2,4 mg/dl, Urea 100 mg/dl
- Urato 9 mg/dl
- Hb 8,9 g/dl. Perfil férrico normal
- Reticulocitos bajos
- Na/K 140/5 mEq/L
- Ca 11 mg/dl, P 5,6 mg/dl

- Sedimento inactivo
- Proteinuria tira 30 mg/dl
- CPC 5,7 (CAC 60 mg/g)

IMAGEN PROTEINOGRAMA



Proteínas Específicas

Cociente cadenas ligeras totales Kappa/Lambd *	0,27		1,3 - 2,7
Cadenas ligeras libres Kappa suero	36,60	mg/L	
Cadenas ligeras libres Lambda suero	22600,00	mg/L	
Cociente cadenas ligeras libres Kappa/Lambda *	0,00		0,26 - 1,65

c KL/LL = 0.001619 EL SISTEMA SOLO ADMITE DOS DECIMALES.

Inmunoelectrofijación suero (interpretación) Componente monoclonal cadenas ligeras lambda

Bioquímica General en Orina

Diuresis emitida. (Volumen/24 horas)	1050	mL	500 - 3000

FUNCIÓN GLOMERULAR

Proteínas totales en orina 24 horas	5,82	g/24 horas	0.00 - 0.25
Proteínas totales en orina	553,9	mg/dL	

Proteínas Específicas

Componente monoclonal % orina	100,00		
UNICA BANDA AISLADA. VERGRAFICO IFIJO.			
Componente monoclonal calculado orina	5820,00	mg/24 horas	
Cadenas ligeras Kappa en orina	1,30	mg/dL	
Cadenas ligeras Kappa en orina de 24 horas	13,00	mg/24horas	
Cadenas ligeras Lambda en orina	403,00	mg/dL	
Cadenas ligeras Lambda en orina de 24 horas	4231,50	mg/24horas	
Cociente cadenas ligeras Kappa/Lambda en or *	0,00	Ratio/Cociente	1,0 - 3,0
C k/l = 0,00322. Acepta dos decimales			
Inmunoelectrofijación orina (interpretación)	Componente/s monoclonal/es cadenas ligeras lambda totales y libres		

Imagen Inmunofijación Orina

Caso 8

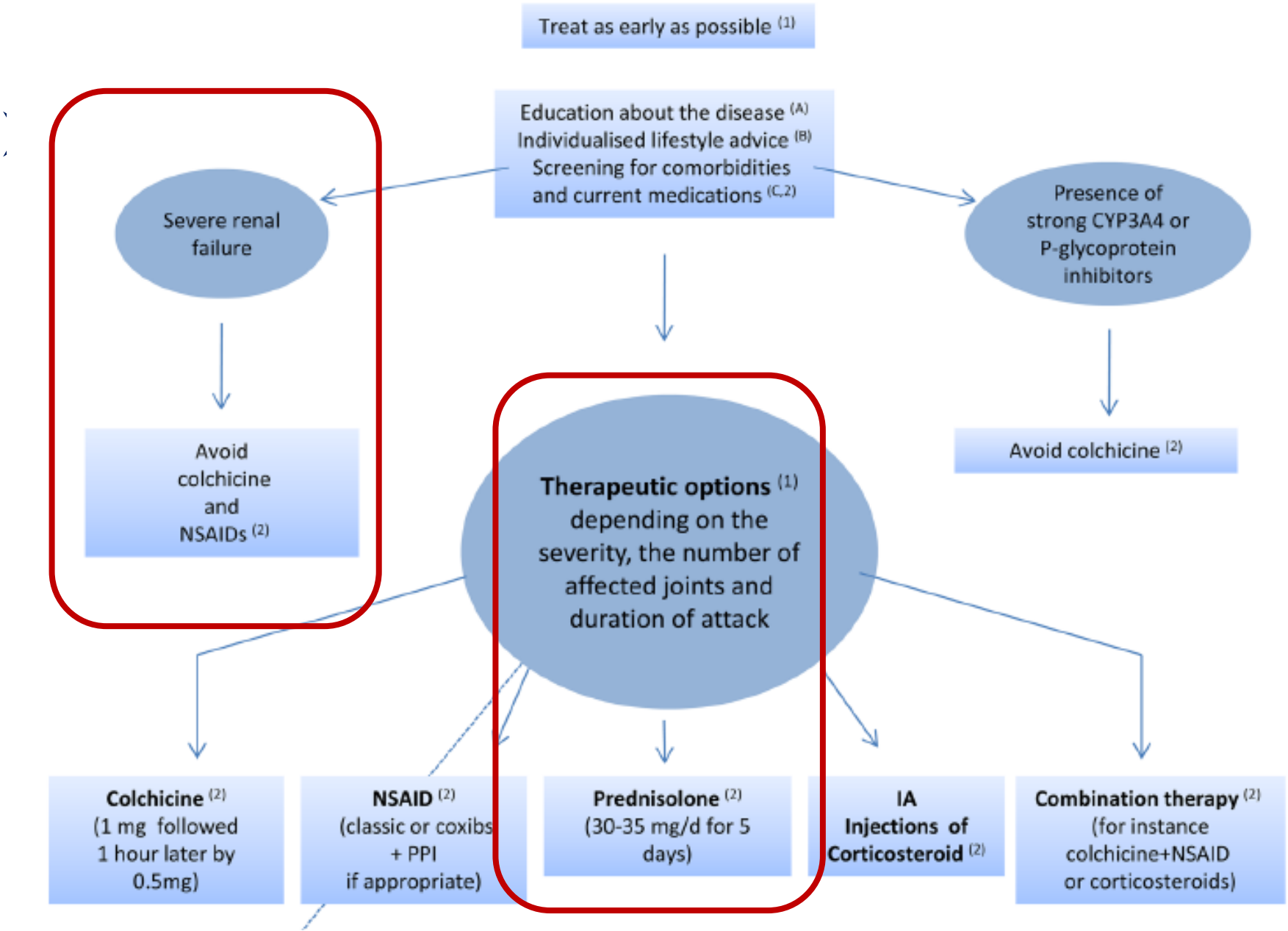
- Hombre de 82 años
- Consumo habitual de alcohol
- HTA, dislipemia y sobrepeso
- Hiperuricemia y gota en el pasado, sin tratamiento
- Monorreno quirúrgico por litiasis
- HBP
- ERC 4 A2 x NTIC, de 10 años de evolución, sin seguimiento. En última analítica 2 años antes Cr p 2.6 mg/dl, eFG CKD-EPI 22 ml/min, CAC 250 mg/g, Urato 8.9 mg/dl, Hb 12 g/dl
- Doxazosina 8 mgx1, Candesartan HCT 32/25 x1,
- Consulta por artritis, sugestiva de gota

Gota en ERC

¿Cómo tratamos el brote?
¿Y el tratamiento de fondo?

- Analítica:
  - Glucosa 98 mg/dl
  - Urato 8,6 mg/dl
  - Hb 10,7 g/dl.
  - Cr 2,8 mg/dl, eFG CKD-EPI 20 ml/min
  - CAC 460 mg/g
  - Sedimento anodino

2016 EULAR RECOMMENDATION FOR THE MANAGEMENT OF FLARES IN PATIENTS WITH GOUT



ERC 4 A2

- Prednisona 30 mg/día, 5 días y descenso rápido
- Alopurinol empezando por 50-100 mg/día y escalando hasta urato <6 mg/dl
- Colchicina profiláctica?

Caso 9

- Hombre 74 años
- Fumador activo
- HTA de difícil control, dislipemia
- AIT 1 año antes
- HBP
- ERC 3bA1 x nefroangiosclerosis, larga evolución, lentamente progresiva. Cr p basal 1.6 mg/dl, eFG 40 ml/min, CAC 15 mg/g
- Candesartan/hidroclortiazida 16/25 x1
- Torasemida 5 x1
- Amlodipino 10 x1
- Atorvastatina 40 x1
- AAS 100 x1
- Revisión programada

- PA 170/95 mmHg (habitual 165/90-95)
- No edema
- IMC 22%
- Analítica:
  - Glucosa 98 mg/dl
  - Urato 11 mg/dl (previo 7 mg/dl)
  - Colesterol LDL 70 mg/dl, Trig 100 mg/dl
  - Hb 12.9 g/dl
  - Cr 2.8 mg/dl (previa 1.6 mg/dl)
  - Na y K normal
  - CAC 20 mg/g

FRA
sobre ERC

¿Por qué?
¿Qué hacemos?

- Asegurar no AINE
- Signos de alarma?
- Sospecha obstrucción?
- Claudicación? Pulsos?

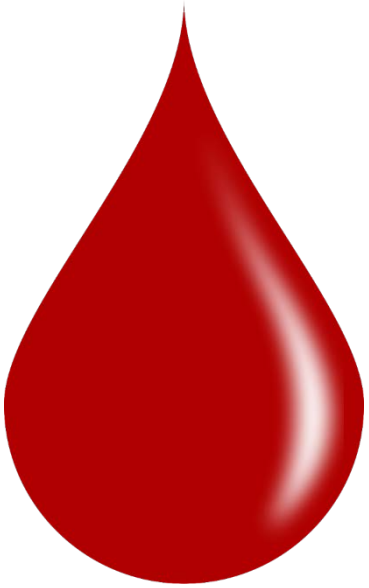
- Candesartan/hidroclortiazida 16/25 x1
- Torasemida 5 x1
- Amlodipino 10 x1
- Atorvastatina 40 x1
- AAS 300 x1

- Bajar Candesartan a 8 mg
- Retirar Tiazida
- Torasemida 5 x1
- Amlodipino 10 x1
- Atorvastatina 40 x1
- AAS 100 x1
- Añadir Doxazosina

IC preferente
Nefrología

UMED

Analítica rápida



- Glucosa 98 mg/dl
- Cr 2,4 mg/dl, Urea 100 mg/dl
- Urato 10 mg/dl
- Hb 12 g/dl.
- Na/K 140/5 mEq/L
- Ca 9,8 mg/dl, P 5,6 mg/dl
- No paraproteínas

- Sedimento inactivo
- Proteinuria tira negativa
- CPC 0,15 (CAC 20 mg/g)