Azərbaycan Respublikası Səhiyyə Nazirliyi

İCBARİ TİBBİ SIĞORTA

TƏBİB Tibbi Ərazi Bölmələrini İdarəetmə Birliyi

Azərbaycan Kardiologiya Cəmiyyəti

KARDİOMETABOLİK VƏ NADİR XƏSTƏLİKLƏR KONQRESİ

20-21 Fevral 2026

Hilton Otel , Bakı

Hipertenzive Nefropatiya – Kardioloq Nələri Bilməlidir?

Dr. Cəbrayıl Cəbrayılov

20.02.2026


KARDİYOLOG OLMAN ARTIK MİDEMİ BULAN - DIRIYO KORAY...
CAHİL GİBİ Mİ ÇİZEYDİM?..
P
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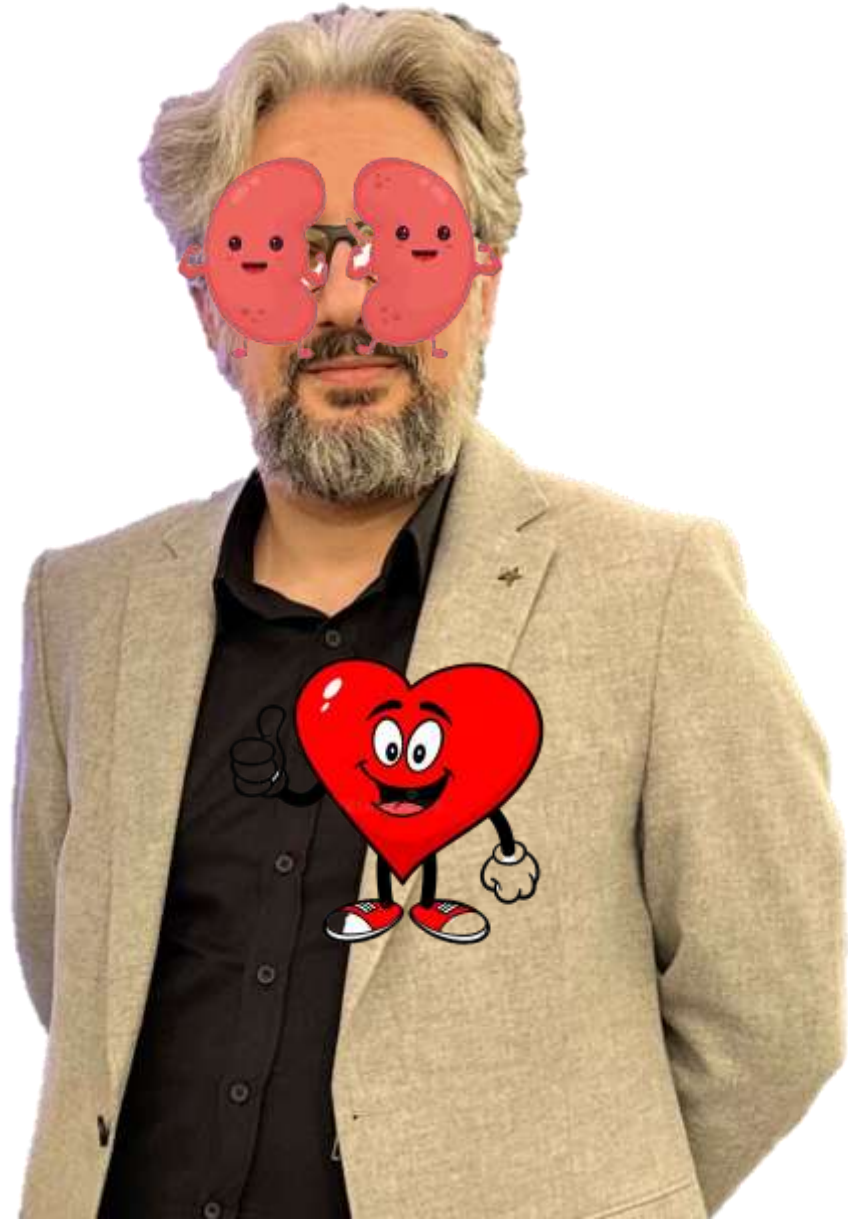


Causes of death by 2050

Mean % change
age-standardized death rate since 2022

A Western Europe
Leading causes 2050

1 Alzheimer's disease	
2 Ischemic heart disease	−52.2%
3 Chronic kidney disease	+35.9%
4 COPD	
5 Lung cancer	
6 Stroke	−48.8%
7 Lower respiratory infect	
8 Colorectal cancer	
9 Hypertensive heart disease	
10 Pancreatic cancer	
11 Atrial fibrillation	
12 Prostate cancer	
13 Falls	
14 Nonrheum valv diseases	
15 Breast cancer	
16 Diabetes	−27.1%
17 Urinary diseases	
18 Parkinson's disease	
19 Bladder cancer	
20 Liver cancer	

Life expectancy
84.3 years

B Central Europe
Leading causes 2050

1 Ischemic heart disease	−51.1%
2 Stroke	−52.5%
3 Lung cancer	
4 Alzheimer's disease	
5 Hypertensive heart disease	
6 Colorectal cancer	
7 Lower respiratory infect	
8 COPD	
9 Chronic kidney disease	+22.9%
10 Pancreatic cancer	
11 Diabetes	−26.6%
12 Cardiomyopathy	
13 Prostate cancer	
14 Breast cancer	
15 Cirrhosis liver	
16 Atrial fibrillation	
17 Falls	
18 Parkinson's disease	
19 Bladder cancer	
20 Brain cancer	

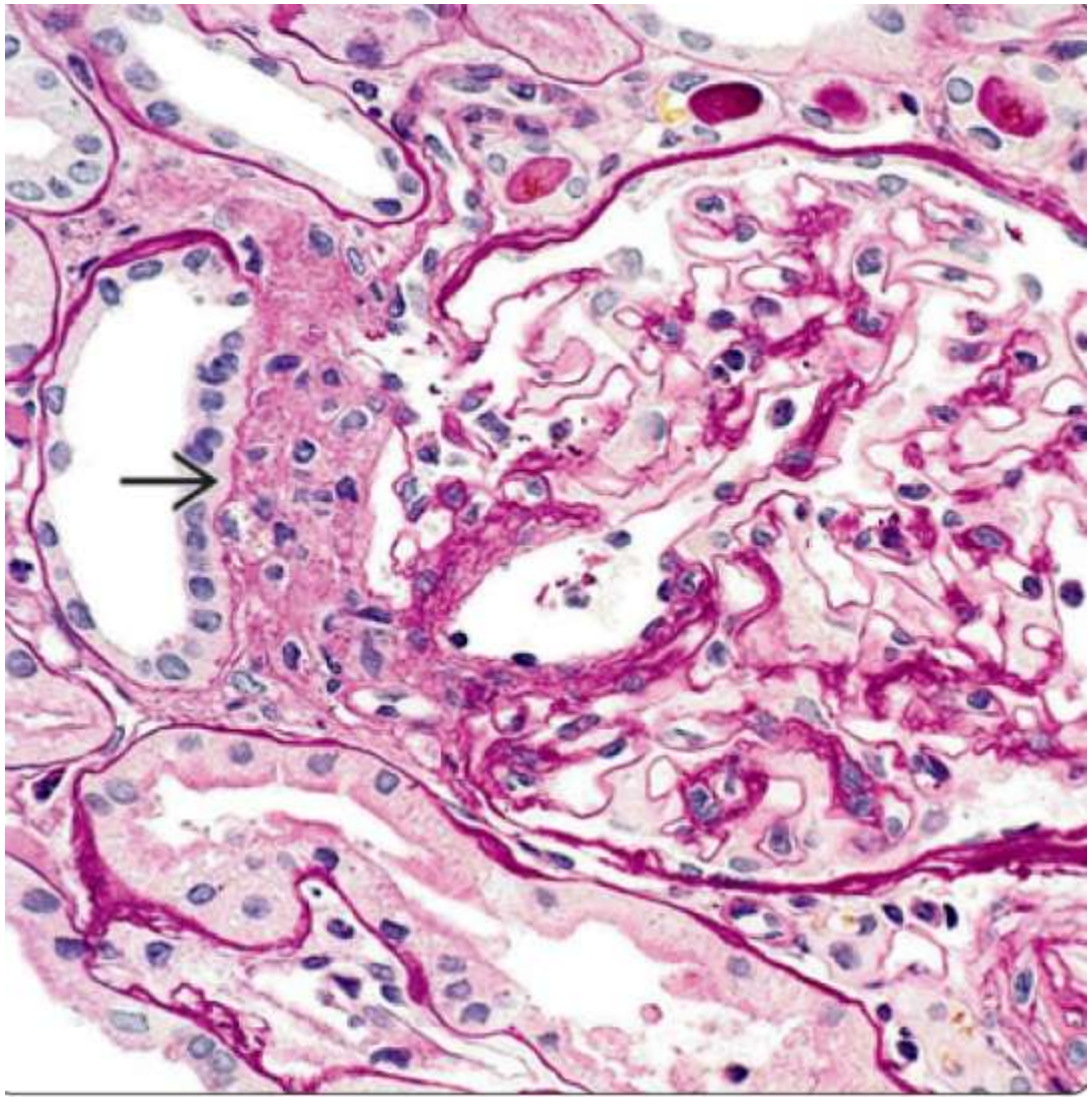
Life expectancy
80.6 years

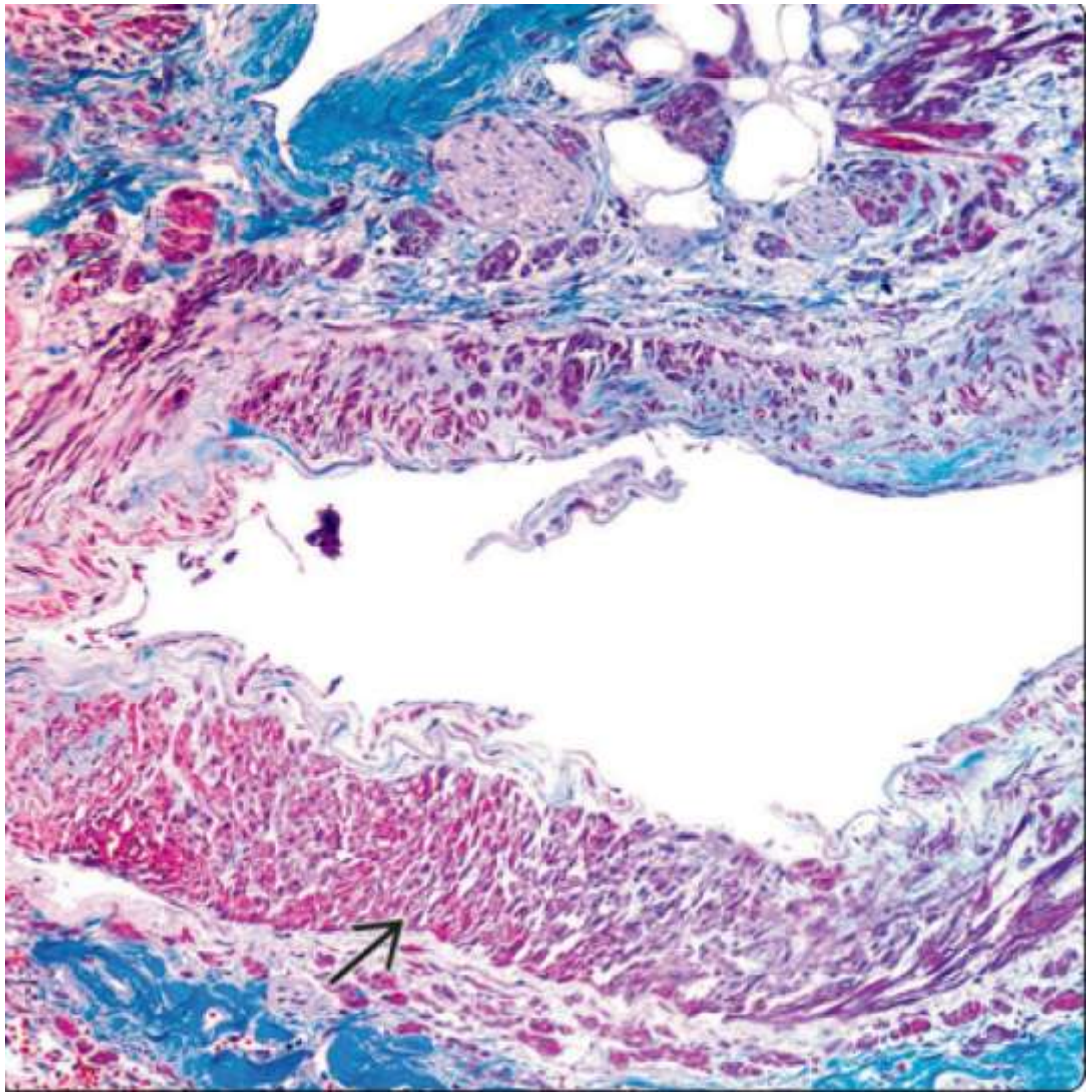
C Eastern Europe
Leading causes 2050

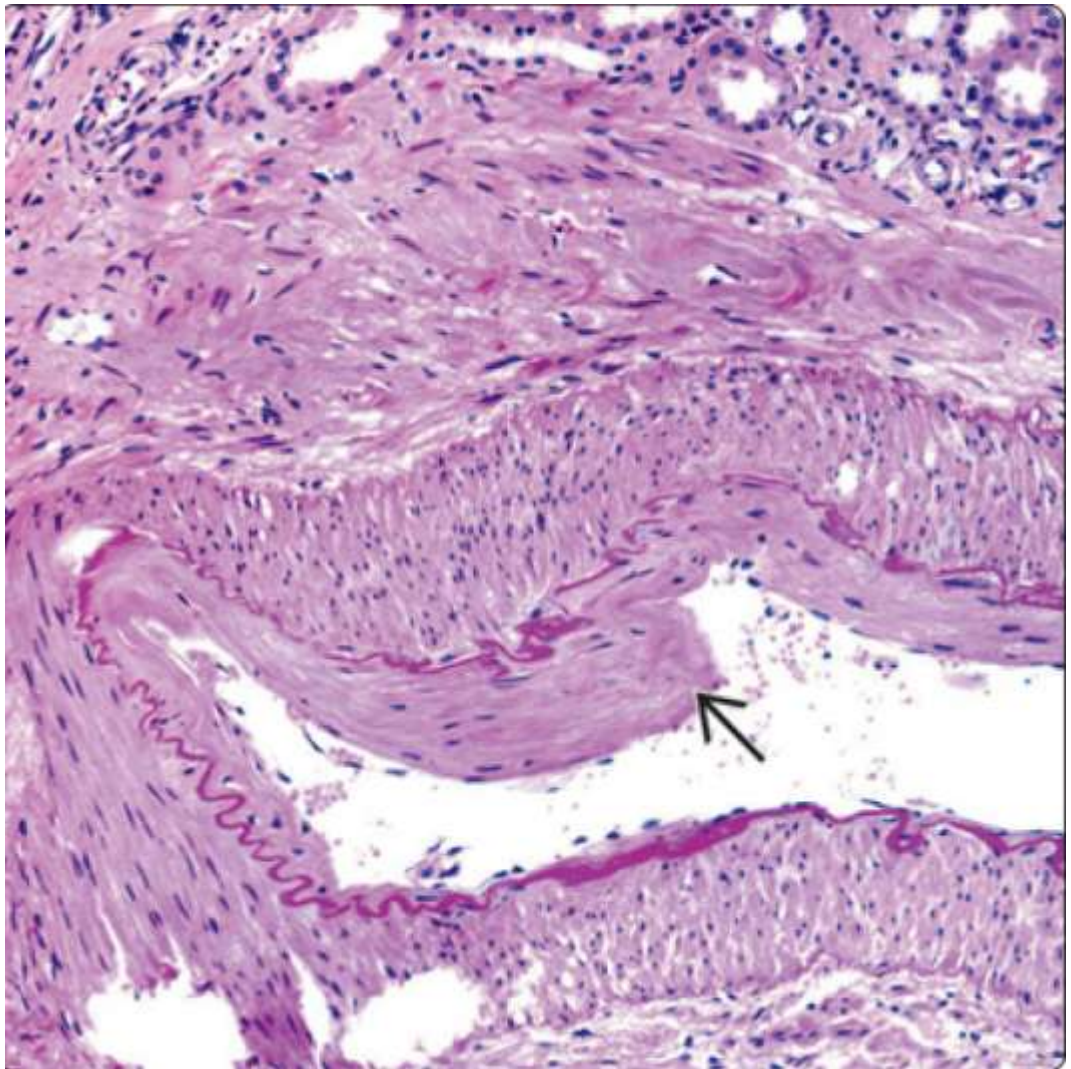
1 Ischemic heart disease	−47.9%
2 Stroke	−51.6%
3 Alzheimer's disease	
4 Colorectal cancer	
5 Lung cancer	
6 COPD	
7 Cirrhosis liver	
8 Cardiomyopathy	
9 Pancreatic cancer	
10 Urinary diseases	
11 Hypertensive heart disease	
12 Diabetes	−34.0%
13 Self-harm	
14 Breast cancer	
15 Prostate cancer	
16 Stomach cancer	
17 Atrial fibrillation	
18 Chronic kidney disease	+40.2%
19 Lower respiratory infect	
20 Vascular intestinal	

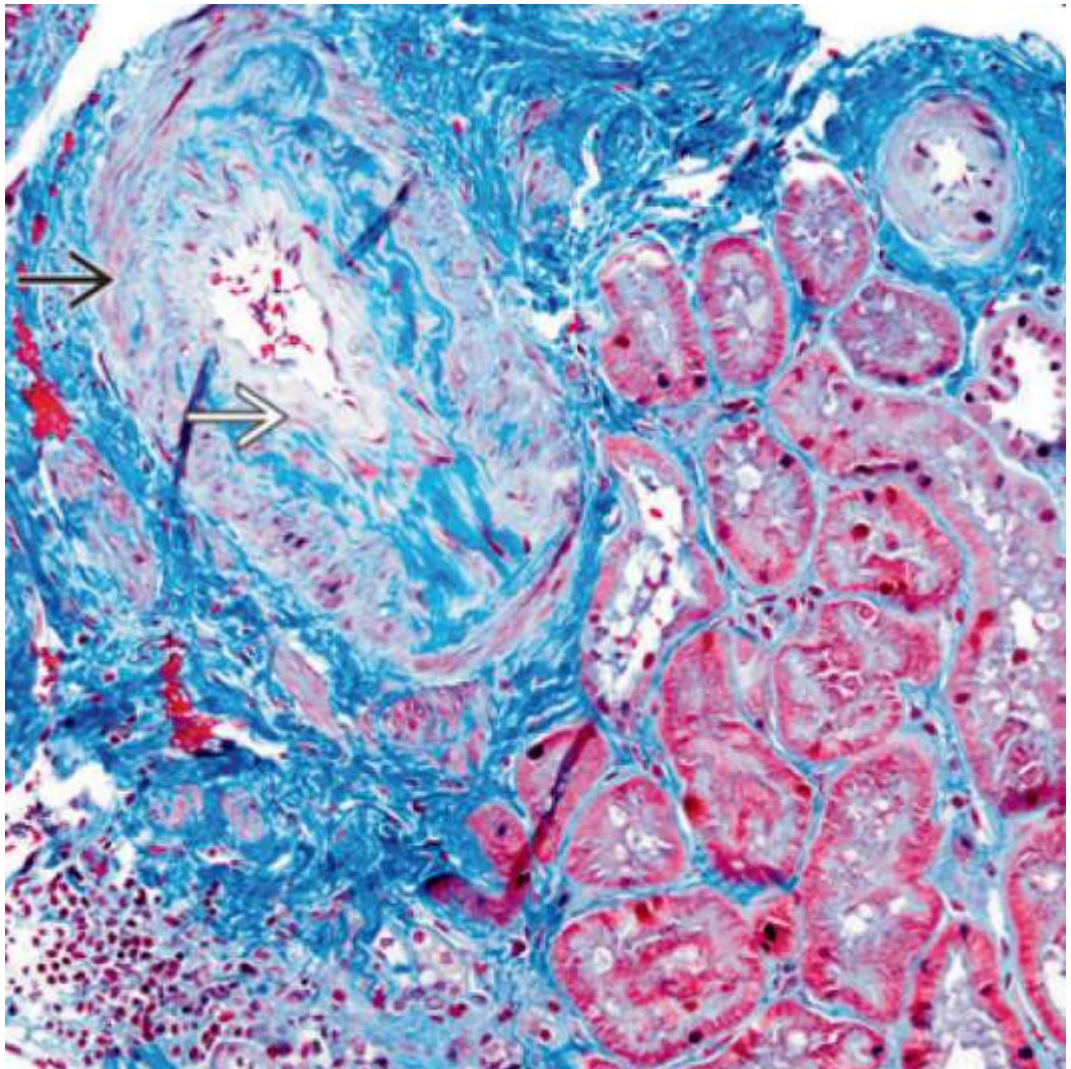
Life expectancy
78.3 years

Nephrol Dial Transplant, 2026, Vol. 41, No. 2









- Böyrək qan axımında azalma
- Total nefron sayında azalma
- Geriyə qalan nefronlarda hipertrofiya
- Qlomerullarda hiperfiltrasiya və intraqlomerulyar təzyiq artışı
- İkincili Fokal Seqmental Qlomeruloskleroz

CKD is classified based on: • Cause (C) • GFR (G) • Albuminuria (A)				Albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–299 mg/g 3–29 mg/mmol	≥300 mg/g ≥30 mg/mmol
GFR categories (mL/min/1.73 m²) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 3
	G2	Mildly decreased	60–89	Screen 1	Treat 1	Treat and refer 3
	G3a	Mildly to moderately decreased	45–59	Treat 1	Treat 2	Treat and refer 3
	G3b	Moderately to severely decreased	30–44	Treat 2	Treat and refer 3	Treat and refer 3
	G4	Severely decreased	15–29	Treat and refer* 3	Treat and refer* 3	Treat and refer 4+
	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+

Low risk (if no other markers of kidney disease, no CKD)

Moderately increased risk

High risk

Very high risk

Table 2. Incidence and Risk of Cardiovascular Events in HOPE Study Participants With and Without Baseline Microalbuminuria by Randomized Group*

	Placebo						Ramipril					
	%						%					
Variables	With MA	Without MA	Crude Risk (95% CI)	*P* Value	Adjusted Risk (95% CI)†	*P* Value	With MA	Without MA	Crude Risk (95% CI)	*P* Value	Adjusted Risk (95% CI)†	*P* Value
All participants												
MI, stroke, or CV death	26.4	15.2	1.73 (1.52-1.98)	<.01	1.75 (1.49-2.05)	<.001	19.6	12.4	1.58 (1.35-1.85)	<.01	1.42 (1.18-1.71)	<.001
All-cause mortality	20.3	9.8	2.07 (1.77-2.42)	<.01	1.92 (1.59-2.31)	<.001	15.7	8.9	1.77 (1.48-2.12)	<.01	1.52 (1.23-1.88)	<.001
CHF hospitalization	6.9	2.5	2.77 (2.06-3.73)	<.01	2.42 (1.70-3.45)	<.001	6.9	2.0	3.47 (2.54-4.73)	<.01	2.59 (1.78-3.77)	<.001
Diabetes history												
MI, stroke, or CV death	28.6	15.3	1.87 (1.55-2.25)	<.01	1.84 (1.46-2.31)	<.001	21.1	12.6	1.68 (1.35-2.10)	<.01	1.44 (1.11-1.86)	.006
All-cause mortality	20.8	10.6	1.96 (1.56-2.46)	<.01	1.85 (1.41-2.43)	<.001	16.3	7.9	2.05 (1.57-2.68)	<.01	1.64 (1.21-2.22)	.002
CHF hospitalization	8.2	2.5	3.24 (2.11-4.96)	<.01	4.51 (2.55-7.96)	<.001	8.9	2.6	3.46 (2.29-5.23)	<.01	2.91 (1.79-4.73)	<.001
No diabetes history												
MI, stroke, or CV death	23.3	15.2	1.53 (1.25-1.88)	<.01	1.60 (1.27-2.02)	<.001	17.4	12.3	1.41 (1.11-1.80)	.005	1.31 (0.99-1.73)	.06
All-cause mortality	19.7	9.5	2.09 (1.65-2.63)	<.01	1.86 (1.42-2.43)	<.001	14.9	9.4	1.60 (1.22-2.09)	<.01	1.36 (1.01-1.85)	.04
CHF hospitalization	5.0	2.5	2.04 (1.26-3.30)	.004	1.41 (0.81-2.45)	.2	4.2	1.7	2.49 (1.45-4.28)	<.01	1.94 (1.03-3.64)	.04

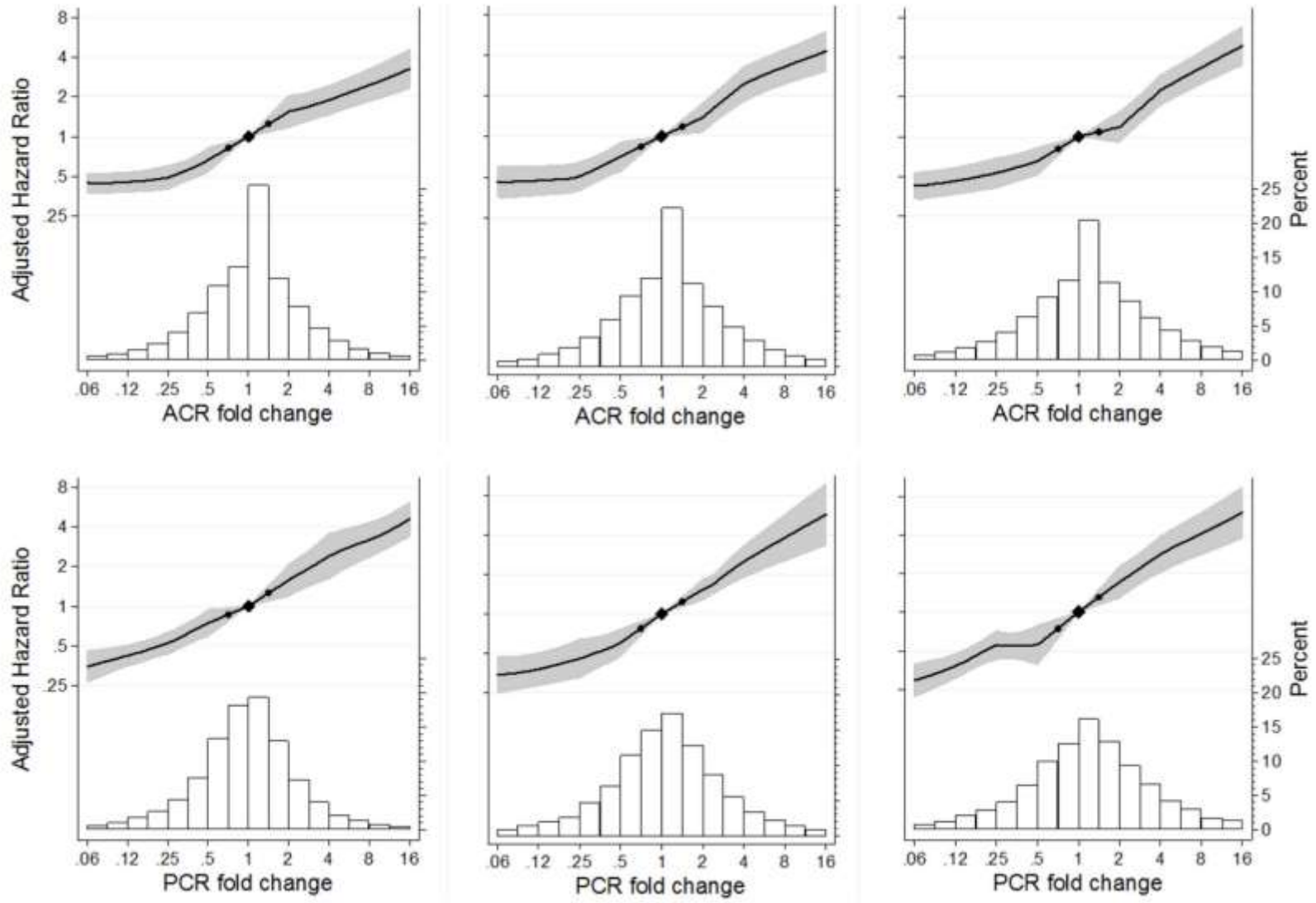
*Time-to-event analyses using Cox regression were done to calculate the risk for cardiac events and total mortality. CV indicates cardiovascular; MI, myocardial infarction; and CHF, congestive heart failure.

†Adjusted for age, sex, smoking status, hypertension, dyslipidemia, diabetes status, abdominal obesity, and serum creatinine concentration in all participants and also for diabetes duration, use of oral agents or insulin, and glycated hemoglobin in patients with diabetes.

Published in final edited form as:
Lancet Diabetes Endocrinol. 2019 February ; 7(2): 115–127. doi:10.1016/S2213-8587(18)30313-9.

Change in albuminuria and subsequent risk of end-stage kidney disease: An individual participant-level consortium meta-analysis of observational studies

Josef Coresh, MD, PhD,
Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD

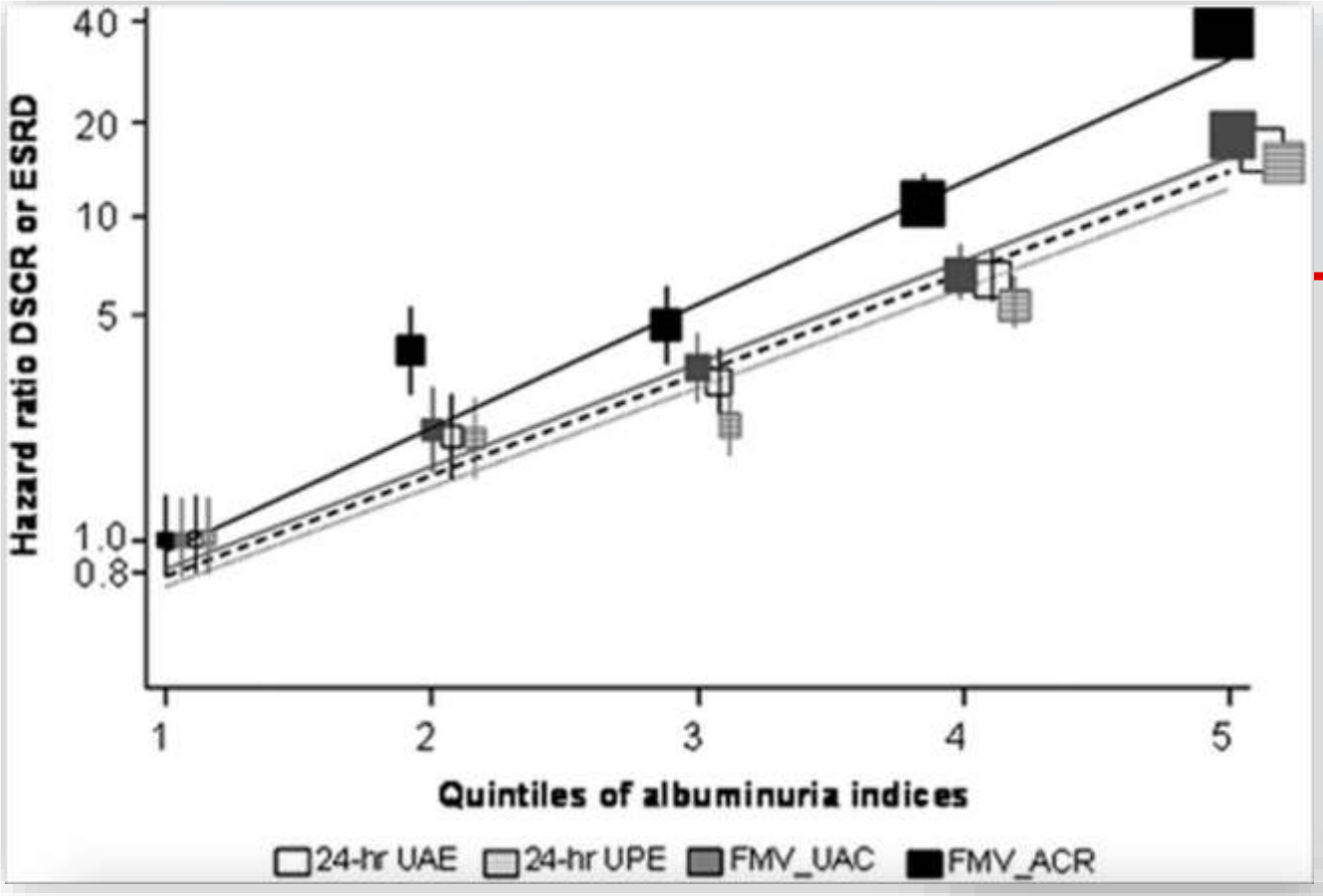

Adjusted Hazard Ratio
8
4
2
1
.5
.25
.06 .12 .25 .5 1 2 4 8 16
ACR fold change
Percent
25
20
15
10
5
0
PCR fold change

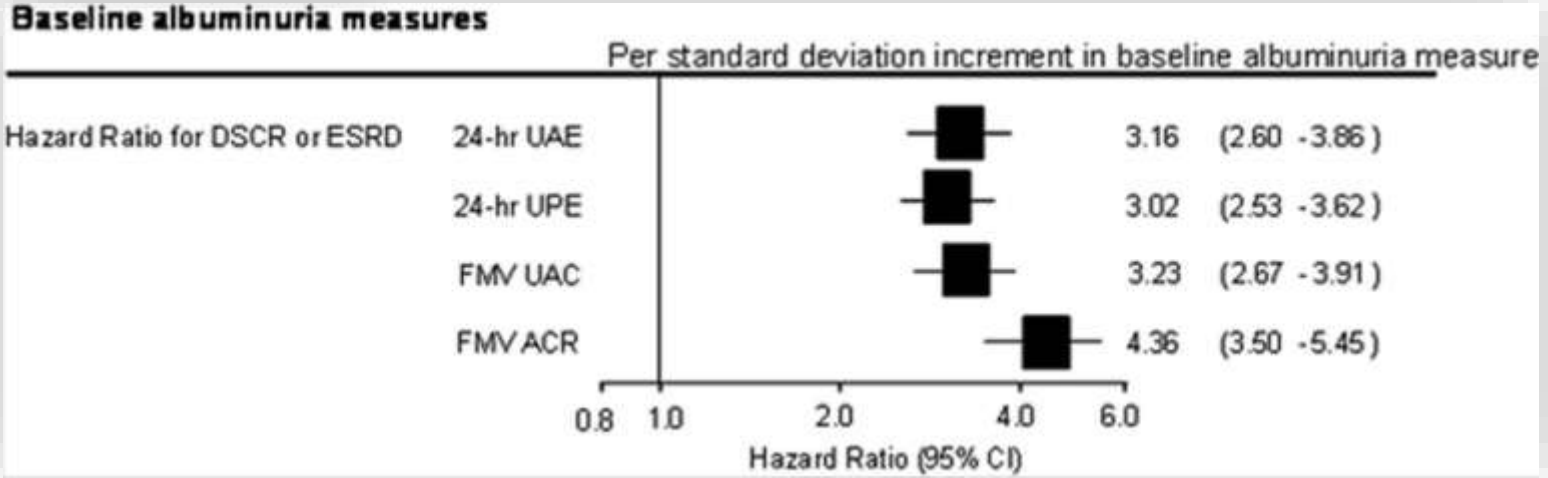
Proteinuriyanı necə ölçək?

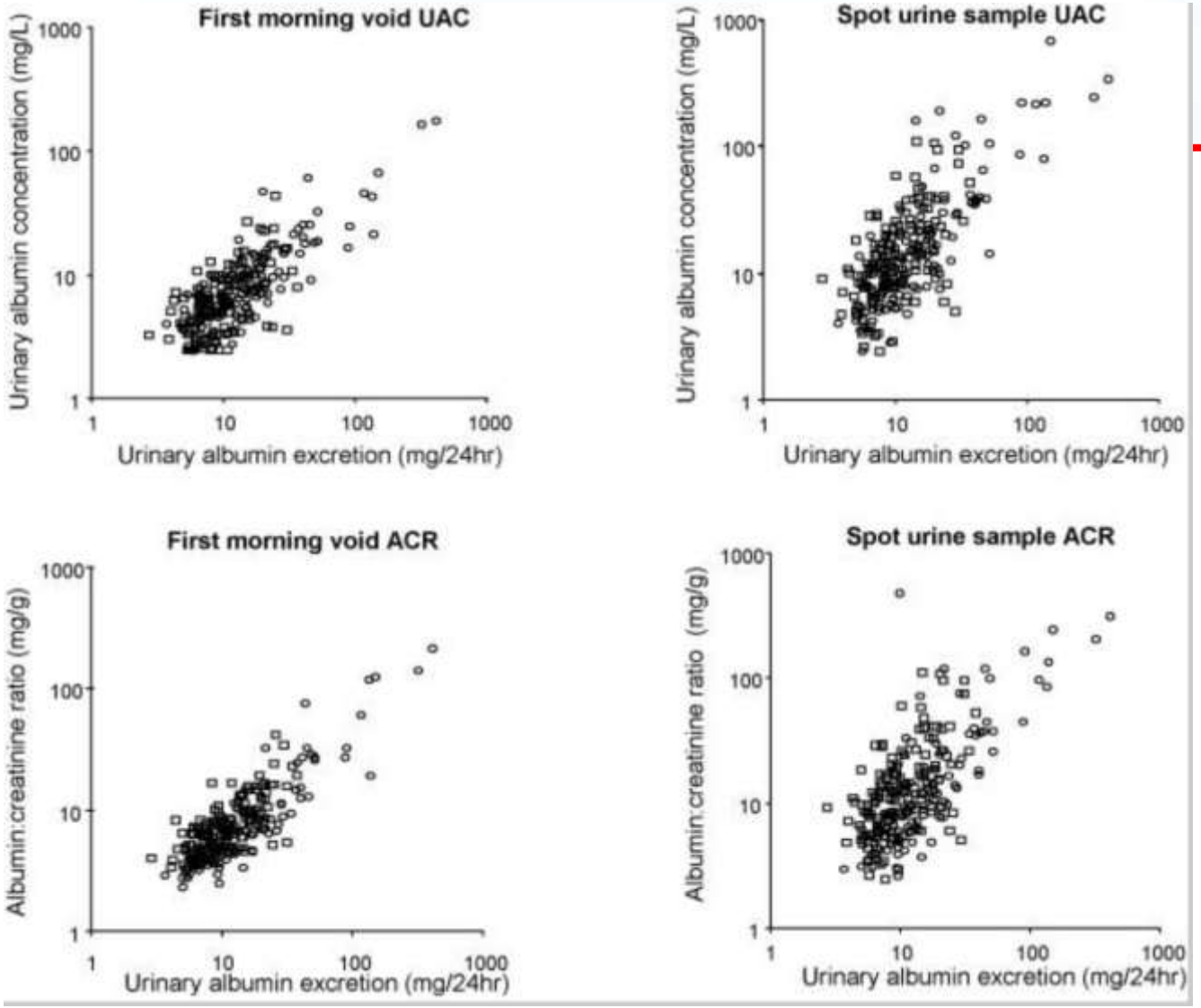
J Am Soc Nephrol. 2010 Aug;21(8):1355–1360. doi: 10.1681/ASN.2010010063

Comparison of Different Measures of Urinary Protein Excretion for Prediction of Renal Events

Hiddo J Lambers Heerspink [*,✉], Ron T Gansevoort [†], Barry M Brenner [‡], Mark E Cooper [§], Hans Henrik Parving [‖], Shahnaz Shahinfar [¶], Dick de Zeeuw [*]


Hazard ratio DSCR or ESRD
40
20
10
5
1.0
0.8
1
2
3
4
5
Quintiles of albuminuria indices
24-hr UAE
24-hr UPE
FMV_UAC
FMV_ACR


Baseline albuminuria measures
Per standard deviation increment in baseline albuminuria measure
Hazard Ratio for DSCR or ESRD
24-hr UAE
24-hr UPE
FMV UAC
FMV ACR
3.16 (2.60 - 3.86)
3.02 (2.53 - 3.62)
3.23 (2.67 - 3.91)
4.36 (3.50 - 5.45)
0.8
1.0
2.0
4.0
6.0
Hazard Ratio (95% CI)



•. Whitte et al. 2009 Feb;20(2):436-43. doi: 10.1681/ASN.2008030292. Epub 2008 Dec 17.

Proteinuriya

Proteinuriya hər zaman rahat baxıla bilinərmi?- **XEYR**

- Sidik yolu infeksiyası
- Hematuriya
- Kəskin böyrək çatmazlığı
- Qlomerulyar patologiyalar

Xəstənin günlük Na alımı məhdudlaşdırılmalıdır

24 saatlıq sidikdə Na - 80 -100 mmol

Günlük 5 qram duz

KDIGO CLINICAL PRACTICE GUIDELINE ON THE MANAGEMENT OF BLOOD PRESSURE IN CHRONIC KIDNEY DISEASE

3.2. Treatment with RAAS inhibitors (RAASi) and other antihypertensives

Recommendation 3.2.1. We suggest starting RAASi (ACEi or ARB) for people with concomitant CKD without diabetes, albuminuria (≥3 mg/mmol, G1-G4, A2, A3), and high BP *(2C)*.

Recommendation 3.2.2. We recommend RAASi (ACEi or ARB) for people with concomitant CKD and diabetes, albuminuria (≥3 mg/mmol), normal or low GFR (G1-G4, A2, A3), and high BP *(1B)*.

Practice Point 3.2.1. RAASi (ACEi or ARB) should be administered using maximally recommended doses to achieve the benefits described because the proven benefits were achieved in trials using this dose.

Recommendation 3.2.3. We suggest RAASi (ACEi or ARB) for people with concomitant CKD and diabetes, eGFR <60 ml/min/1.73 m^2, normal albuminuria, and high BP *(2C)*.

Practice Point 3.2.2. Monitor for changes in blood pressure, serum creatinine, and serum potassium within two to four weeks of initiation or increase in the dose of an ACEi or ARB.

Practice Point 3.2.3. Reduce the dose or discontinue ACEi or ARB in the setting of symptomatic hypotension, uncontrolled hyperkalemia despite medical treatment, or while preparing for imminent kidney replacement therapy.

Practice Point 3.2.4. Mineralocorticoid receptor antagonists are effective for management of refractory hypertension but may cause decline in kidney function or hyperkalemia, particularly among patients with low eGFR.

3.3. Role of dual therapy with RAAS inhibition

Recommendation 3.3.1. We recommend not treating with any combination of ACEi, ARB, and direct renin inhibitor therapy in patients with CKD with or without diabetes *(1B)*.

KDIGO CLINICAL PRACTICE GUIDELINE ON THE MANAGEMENT OF BLOOD PRESSURE IN CHRONIC KIDNEY DISEASE

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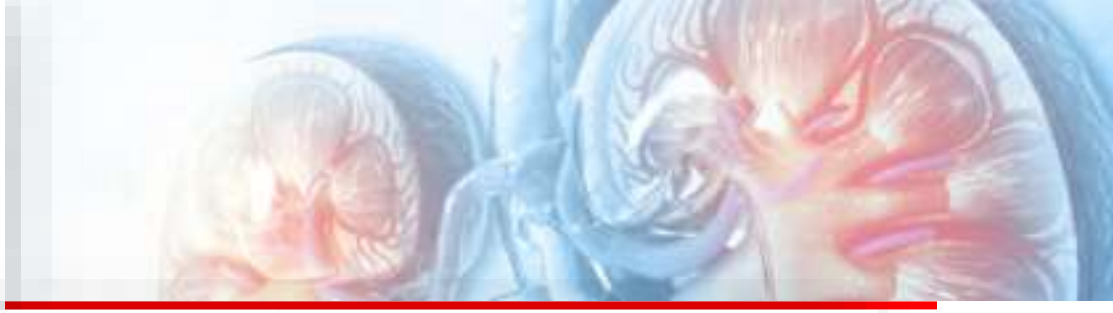
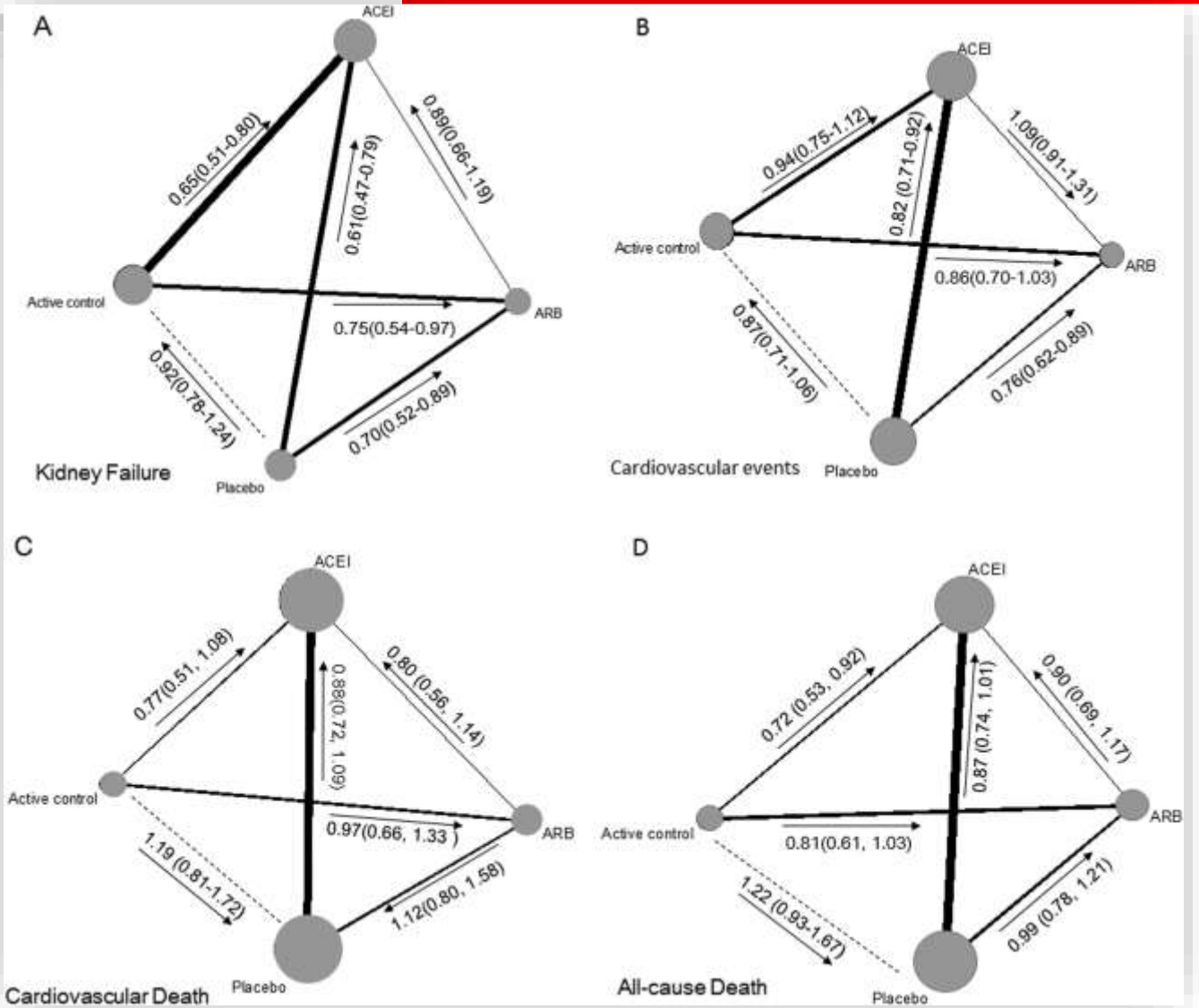
ORIGINAL INVESTIGATION | PATHOGENESIS AND TREATMENT OF KIDNEY DISEASE · Volume 67, Issue 5, P728-741, May 2016

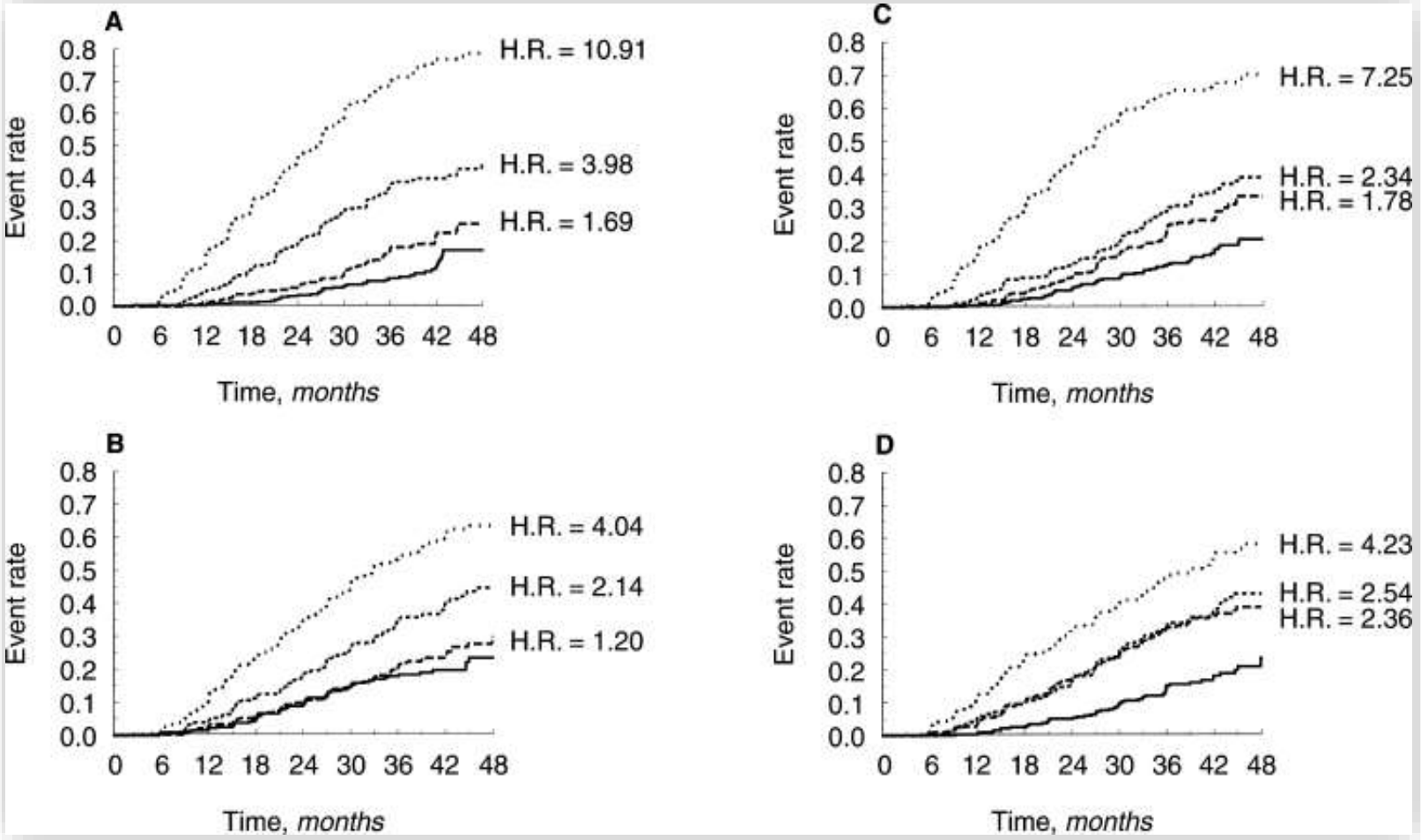
Renin-Angiotensin System Inhibitors and Kidney and Cardiovascular Outcomes in Patients With CKD: A Bayesian Network Meta-analysis of Randomized Clinical Trials

Xinfang Xie, PhD [1,*] · Youxia Liu, PhD [1,*] · Vlado Perkovic, MBBS [2] · ... · Jicheng Lv, MD [1,2] · Hong Zhang, MD, PhD [1] · Haiyan Wang, MD, PhD [1,†] ... Show more





RAAS blokatorları



Keane VW et al the RENAAL study. Kidney Int 2003;63:1499–1507

RAAS blokatorları

- RAAS blokatorları icazə verilən və xəstənin tolere edəbiləcəyi maksimal dozada verilməlidir.

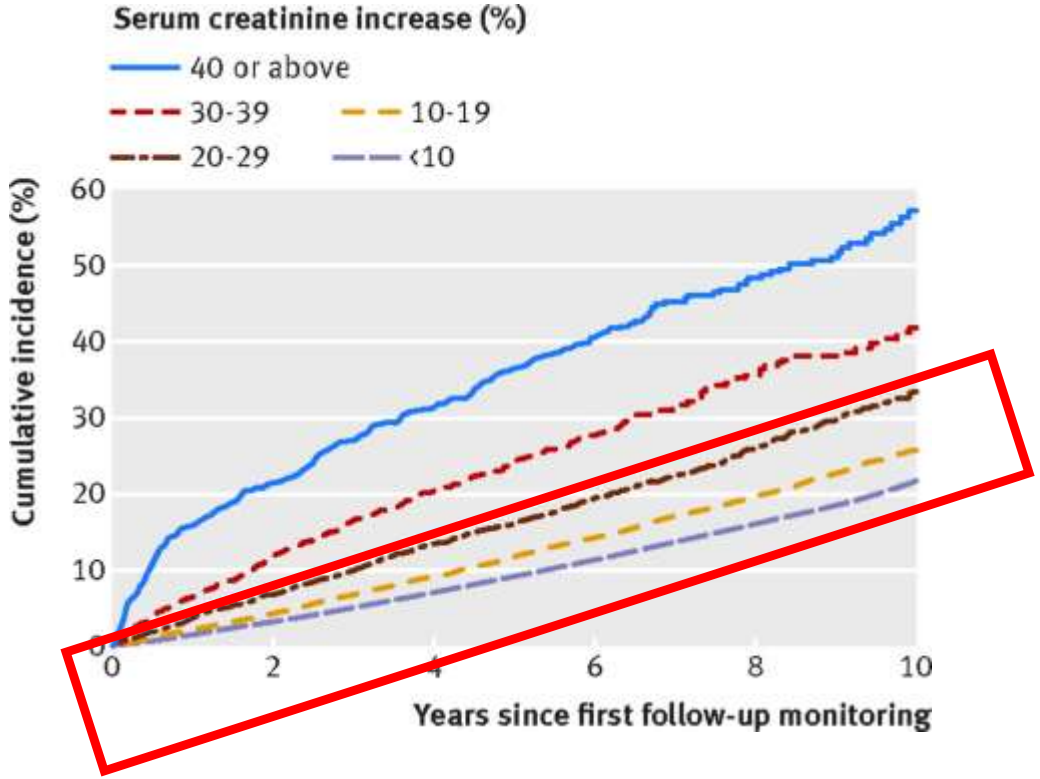
- Müalicə başlandıqdan 2-4 həftə sonra xəstənin qan kalium və kreatinin səviyyəsi kontrol edilməlidir

- Hiperkalemiyanın tənzimlənməsi üçün– RAAS doz azaldılması deyil başqa müalicə strategiyaları tətbiq edilməlidir

Clase CM et al Kidney Int. 2017;91: 683–690
Clase CM et al Kidney Int. 2020;97:42–61..

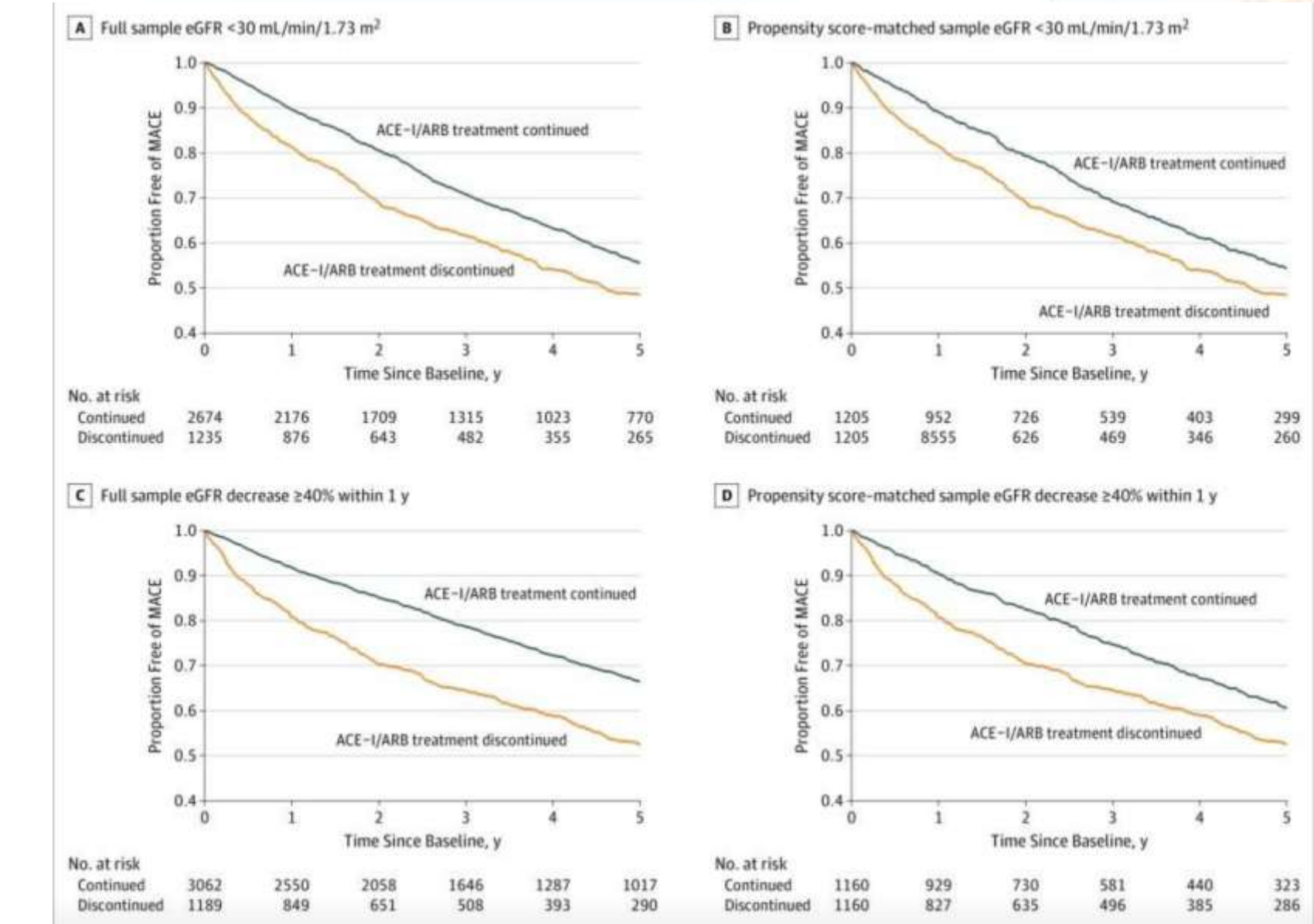
RAAS blokatorları

- Serum kreatinin səviyyəsi <30% artan xəstələrdə RAAS blokatorlarının istifadəsinə davam edilməlidir



Smidt M et al BMJ. 2017;356:j791

RAAS blokatorları



Qiayo et al JAMA Intern Med. 2020;180:718–726.

Kalium Tutucu Diüretiklər

[Intervention Review]

Aldosterone antagonists for preventing the progression of chronic kidney disease

Davide Bolignano[1], Suetonia C Palmer[2], Sankar D Navaneethan[3], Giovanni FM Strippoli[4,5,6,7,8,9]

Aldosteron antoqonistləri yalnızca Diyabetik Nefropatiyada deyil digər səbəbli Xroniki Böyrək Çatışmazlığının irəliləmə sürətində və proteinuriyada azalmaya səbəb olur

Spironolaktonun məsləhət görülən dozası 25-50 mg/gün

Kalium Tutucu Diüretiklər

Ölüm riskində azalma (RR = 0.42, P < 0.0001),
Kardiovaskulyar risklərdə azalma (RR = 0.54, P = 0.008)

Qan kalium konsentrasiyaları nisbi yüksək olsa da müalicə olunmayan qrupla müayisədə hiperkalima riskində artış yoxdur (RR = 1.21, P = 0.31)

frontiers in Medicine

SYSTEMATIC REVIEW
published: 17 March 2022
doi: 10.3389/fmed.2022.828189

Safety and Efficacy of Spironolactone in Dialysis-Dependent Patients: Meta-Analysis of Randomized Controlled Trials

Jing Liu[1], *WanYu Jia*[2] *and Chen Yu*[1]*

[1] Department of Nephrology, Tongji Hospital, Tongji University School of Medicine, Shanghai, China, [2] Department of Pediatrics, Clinical Center of Pediatric Nephrology of Henan Province, The First Affiliated Hospital of Zhengzhou University, Zhengzhou, China

SGLT2 inhibitorları

ORIGINAL ARTICLE

Empagliflozin, Cardiovascular Outcomes, and Mortality in Type 2 Diabetes

Bernard Zinman, M.D., Christoph Wanner, M.D., John M. Lachin, Sc.D., David Fitchett, M.D., Erich Bluhmki, Ph.D., Stefan Hantel, Ph.D., Michaela Mattheus, Dipl. Biomath., Theresa Devins, Dr.P.H., Odd Erik Johansen, M.D., Ph.D., Hans J. Woerle, M.D., Uli C. Broedl, M.D., and Silvio E. Inzucchi, M.D., for the EMPA-REG OUTCOME Investigators

ORIGINAL ARTICLE

Canagliflozin and Cardiovascular and Renal Events in Type 2 Diabetes

Bruce Neal, M.B., Ch.B., Ph.D., Vlado Perkovic, M.B., B.S., Ph.D., Kenneth W. Mahaffey, M.D., Dick de Zeeuw, M.D., Ph.D., Greg Fulcher, M.D., Ngozi Erondu, M.D., Ph.D., Wayne Shaw, D.S.L., Gordon Law, Ph.D., ai, M.D., and David R. Matthews, D.Phil., B.M., B.Ch., the CANVAS Program Collaborative Group*

ORIGINAL ARTICLE

Dapagliflozin and Cardiovascular Outcomes in Type 2 Diabetes

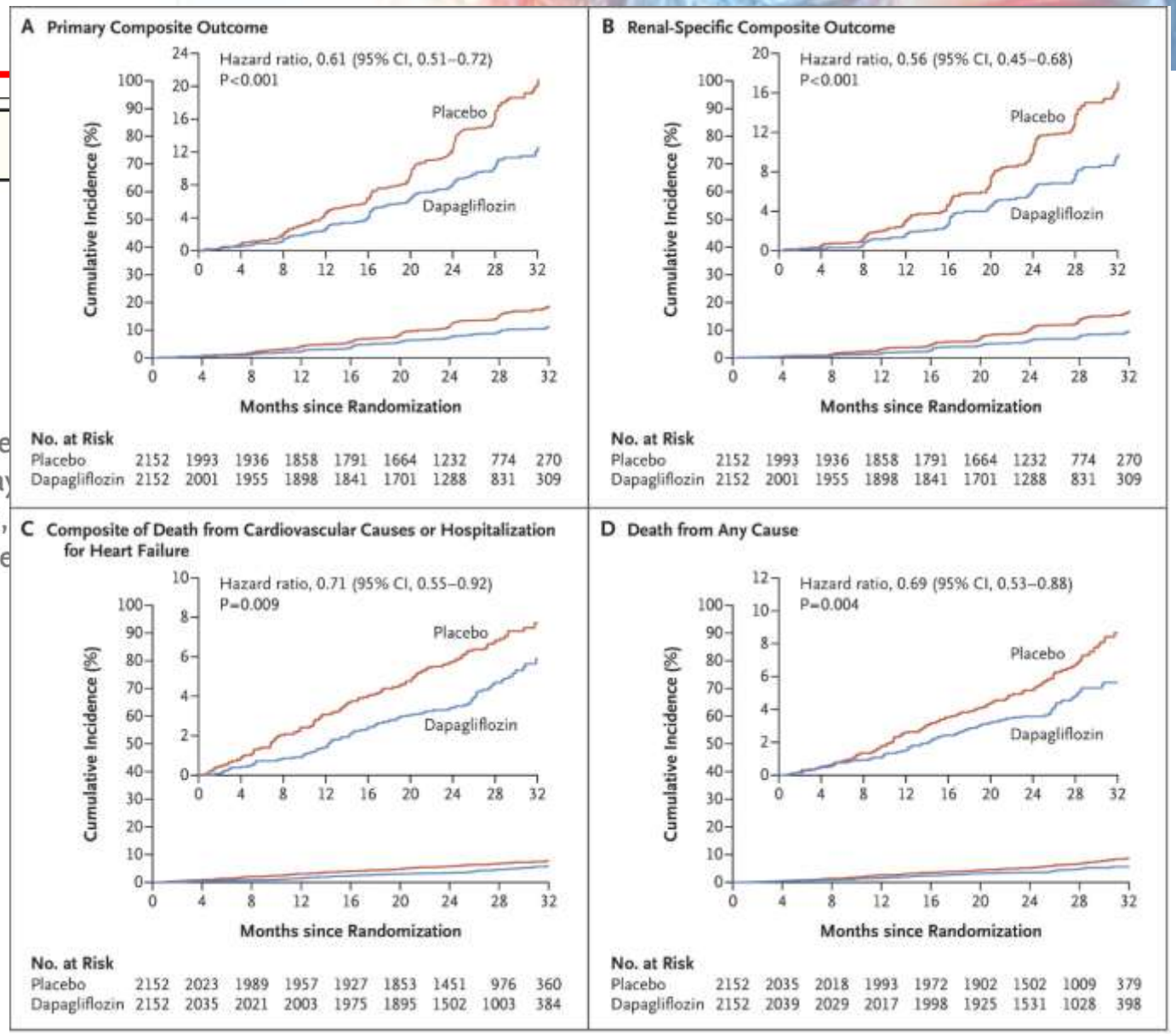
S.D. Wiviott, I. Raz, M.P. Bonaca, O. Mosenzon, E.T. Kato, A. Cahn, M.G. Silverman, T.A. Zelniker, J.F. Kuder, S.A. Murphy, D.L. Bhatt, L.A. Leiter, D.K. McGuire, J.P.H. Wilding, C.T. Ruff, I.A.M. Gause-Nilsson, M. Fredriksson, P.A. Johansson, A.-M. Langkilde, and M.S. Sabatine, for the DECLARE–TIMI 58 Investigators*

SGLT2 inhibitorları

ORIGINAL ARTICLE

Dapagliflozin in Patients with Chronic Kidney Disease

Hiddo J.L. Heerspink, Ph.D., Bergur V. Stefánsson, M.D., Ricardo Correa-Rotter, M.D., Glenn M. Chertow, M.D., Tom Greene, Fan-Fan Hou, M.D., Johannes F.E. Mann, M.D., John J.V. McMurray, Magnus Lindberg, M.Sc., Peter Rossing, M.D., C. David Sjöström, Roberto D. Toto, M.D., Anna-Maria Langkilde, M.D., and David C. Wheeler, for the DAPA-CKD Trial Committees and Investigators*



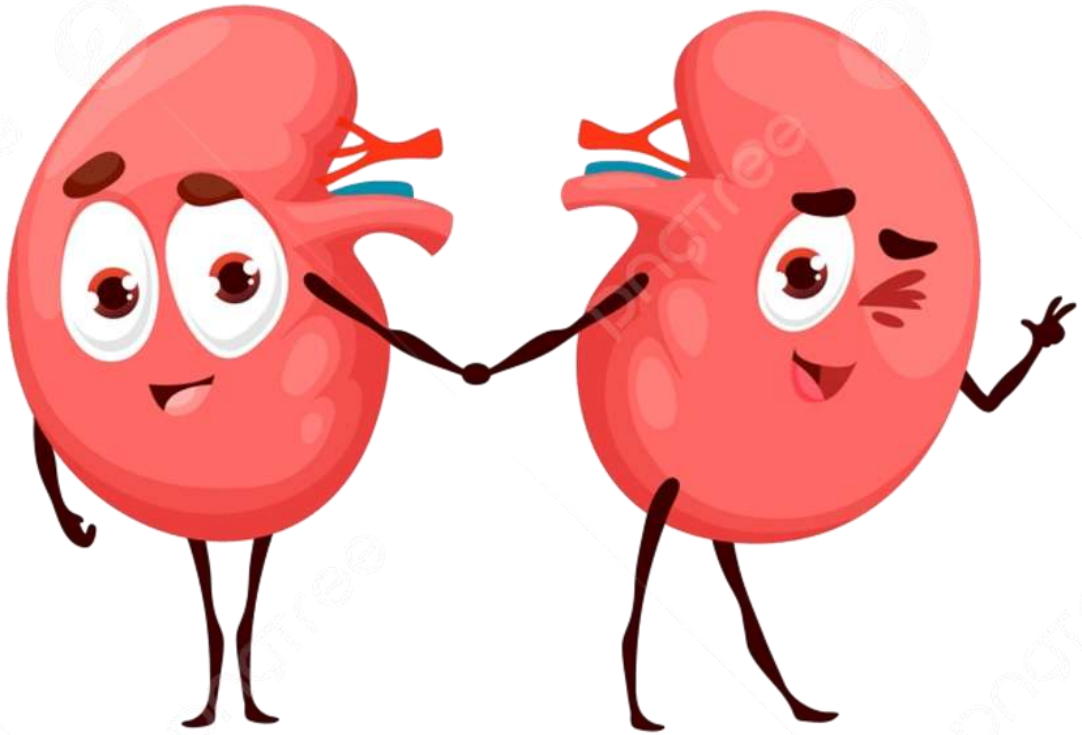
SGLT2 inhibitorları

Recommendation 4.2.1: We recommend treating patients with T2D, CKD, and an eGFR ≥30 ml/min per 1.73 m^2 with an SGLT2i *(1A)*.

Practice Point 4.2.7: Once an SGLT2i is initiated, it is reasonable to continue an SGLT2i even if the eGFR falls below 30 ml/min per 1.73 m^2, unless it is not tolerated or kidney replacement therapy is initiated.

Consensus Statement

- An SGLT2i with proven kidney or cardiovascular benefit is recommended for patients with T2D, CKD, and eGFR ≥20 mL/min/1.73 m^2. Once initiated, the SGLT2i can be continued at lower levels of eGFR.



Səbriniz üçün təşəkkür edirəm