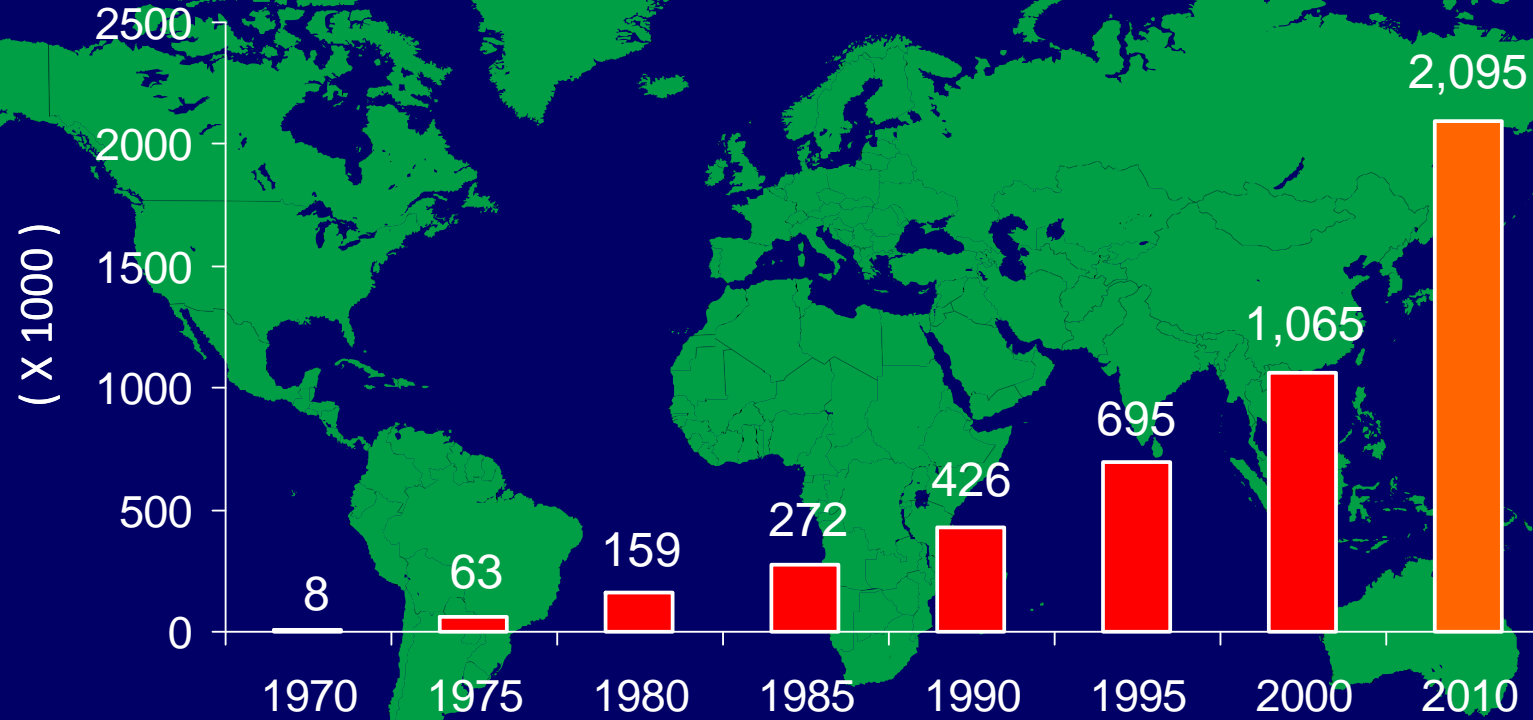


*Erken Tanı Hayat Kurtarır:*  
**Kronik Böbrek Yetersizliğinde**  
**Erken Tanı**

Prof. Dr. Tefvik Ecdcr  
İstanbul Tıp Fakültesi  
İç Hastalıkları Anabilim Dalı  
Nefroloji Bilim Dalı

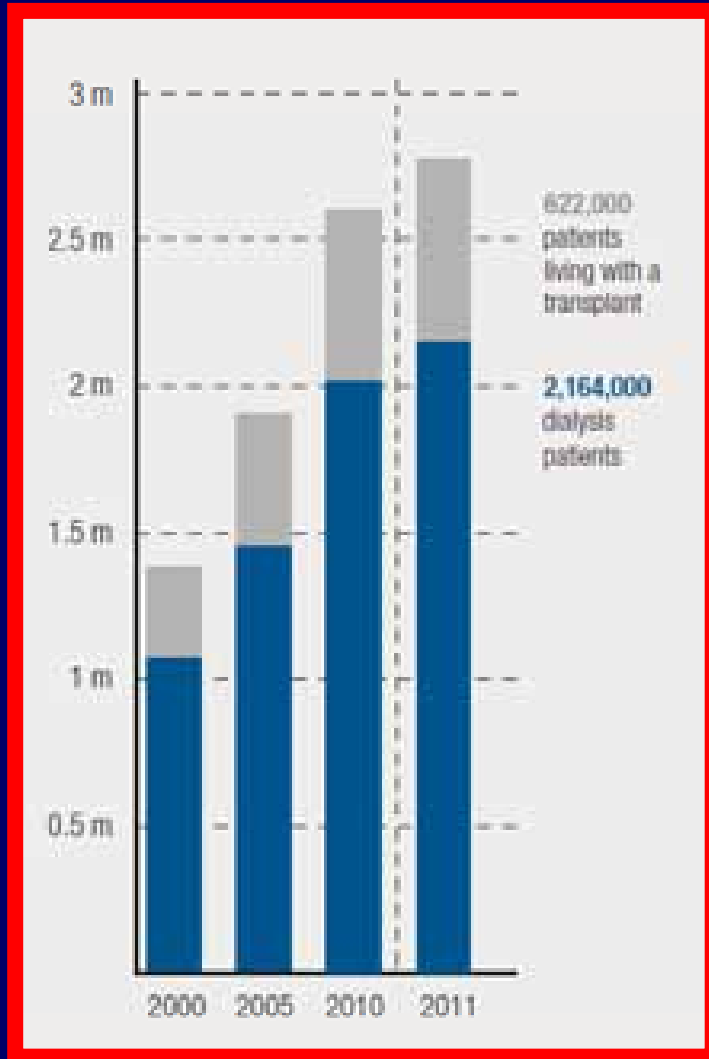
# Dünyadaki Diyaliz Hastaları

## Kronik Böbrek Hastalığı Epidemisi



Lysaght: J Am Soc Nephrol 13: S37-S40, 2002

# Dünyadaki Son Dönem Böbrek Hastaları



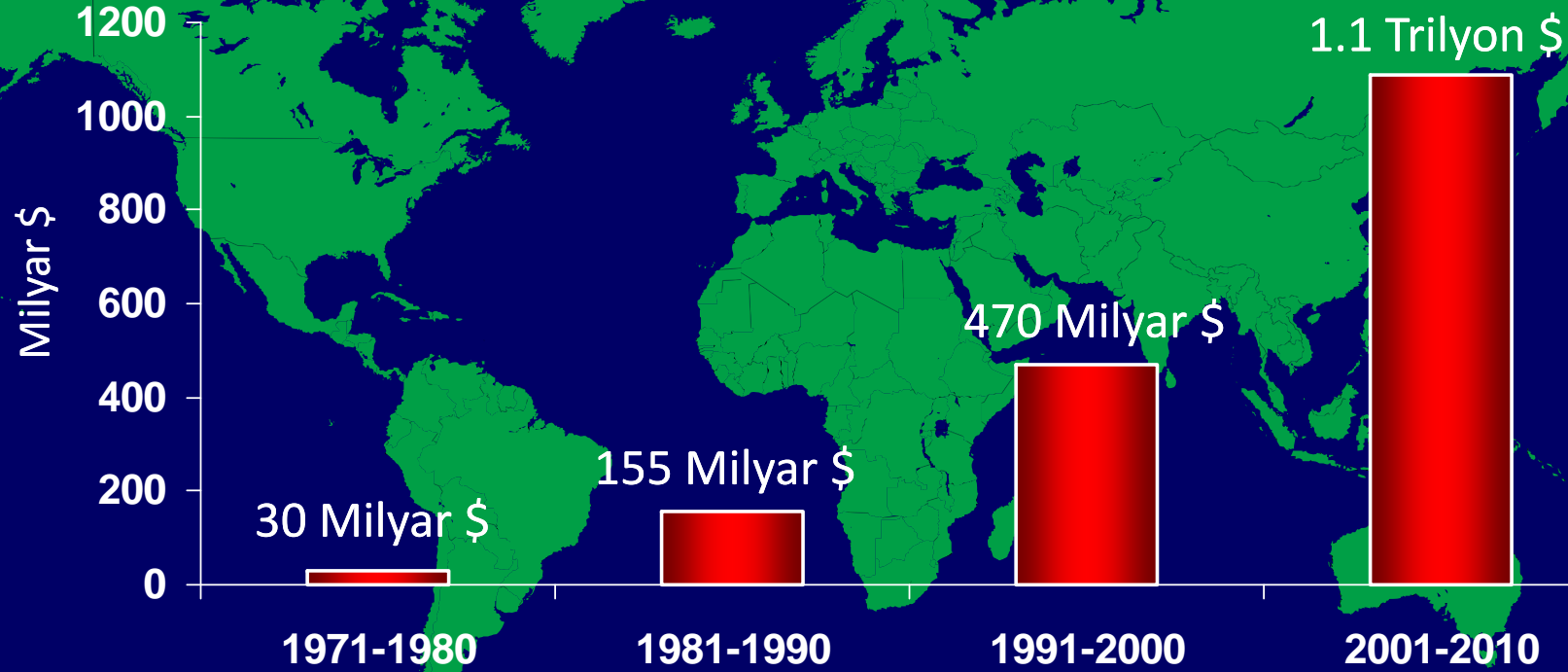
<b>ESRD Patients</b>	<b>2,786,000</b>
thereof HD	1,929,000
thereof PD	235,000
thereof Tx	622,000

**World Population** 7.0 billion

## Annual Growth Rates

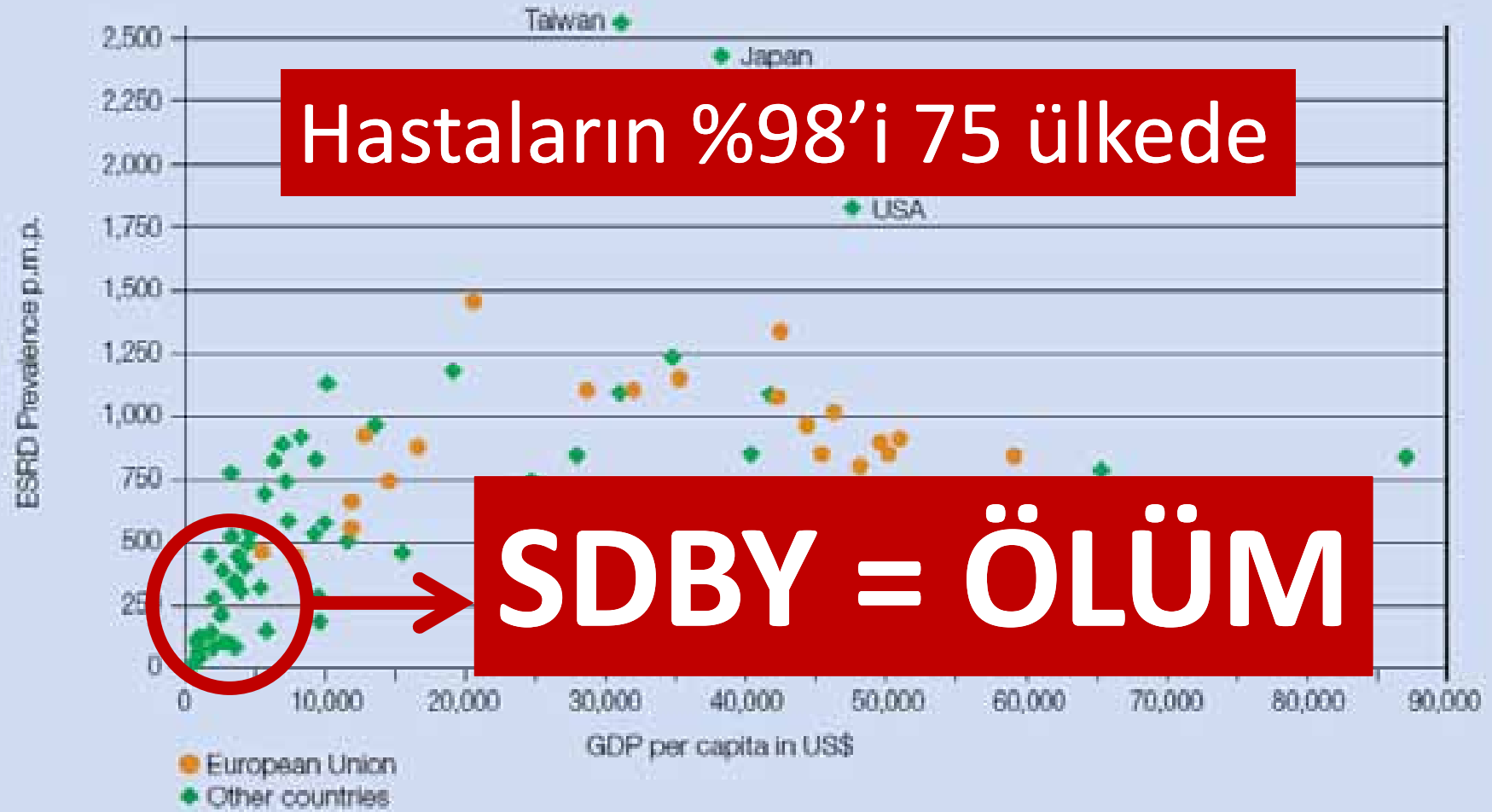
World population	1.1%
ESRD	6-7%
HD	6-7%
PD	7-8%
Tx	4-5%

# Dünyadaki Diyaliz Hastalarının Maliyeti

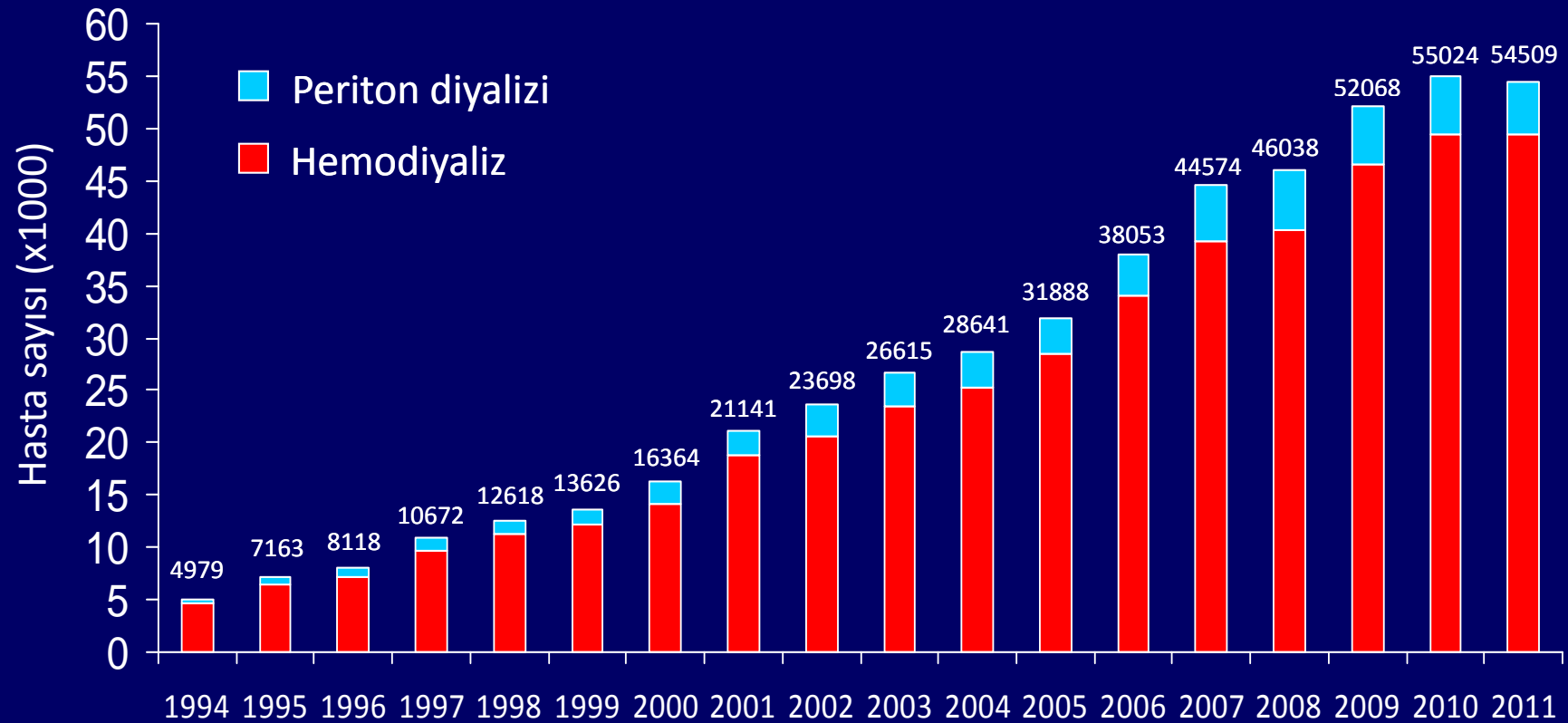


Lysaght: J Am Soc Nephrol 13: S37-S40, 2002

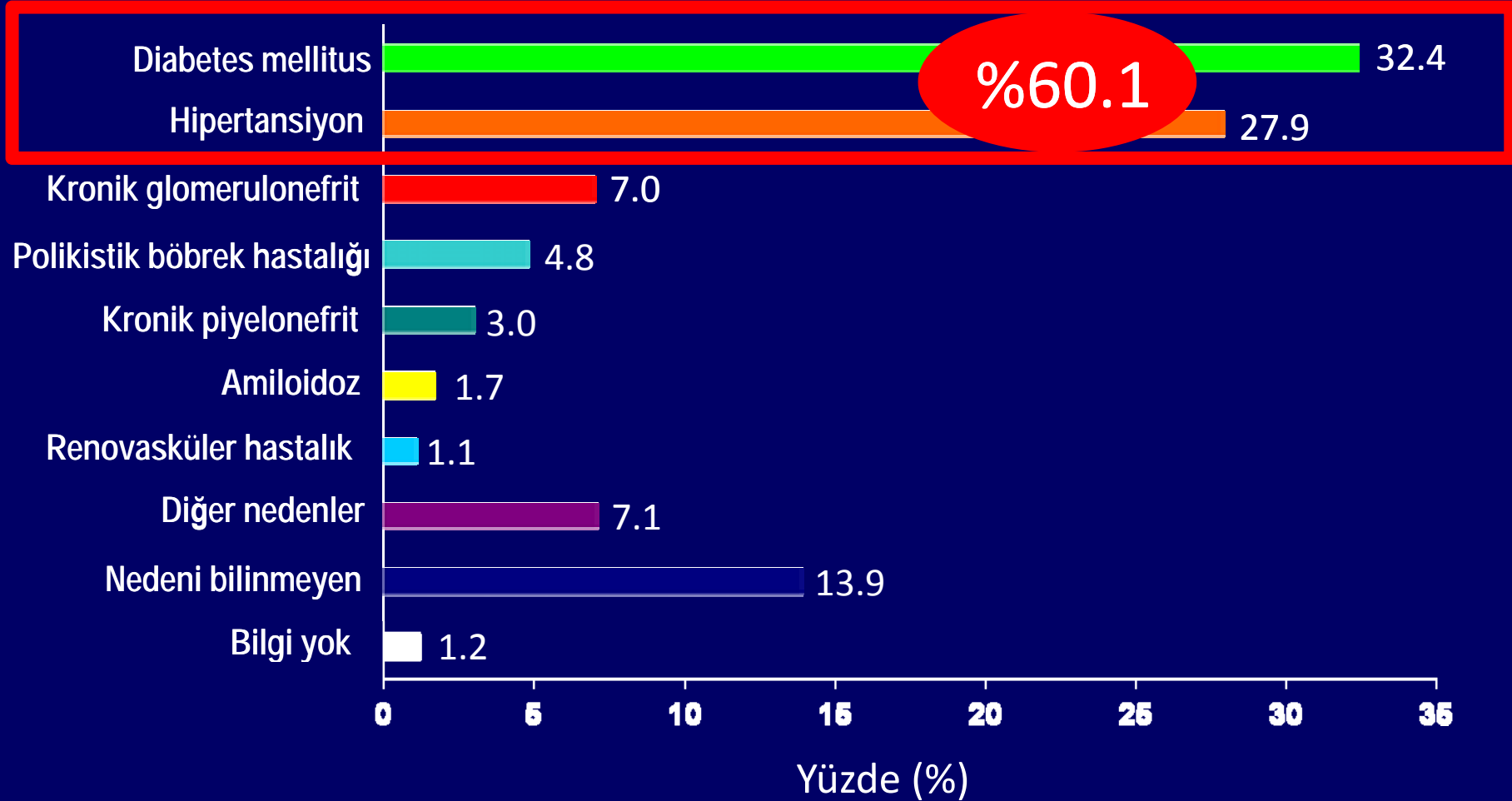
# Ekonomik Durum ve SDBY Hastaları



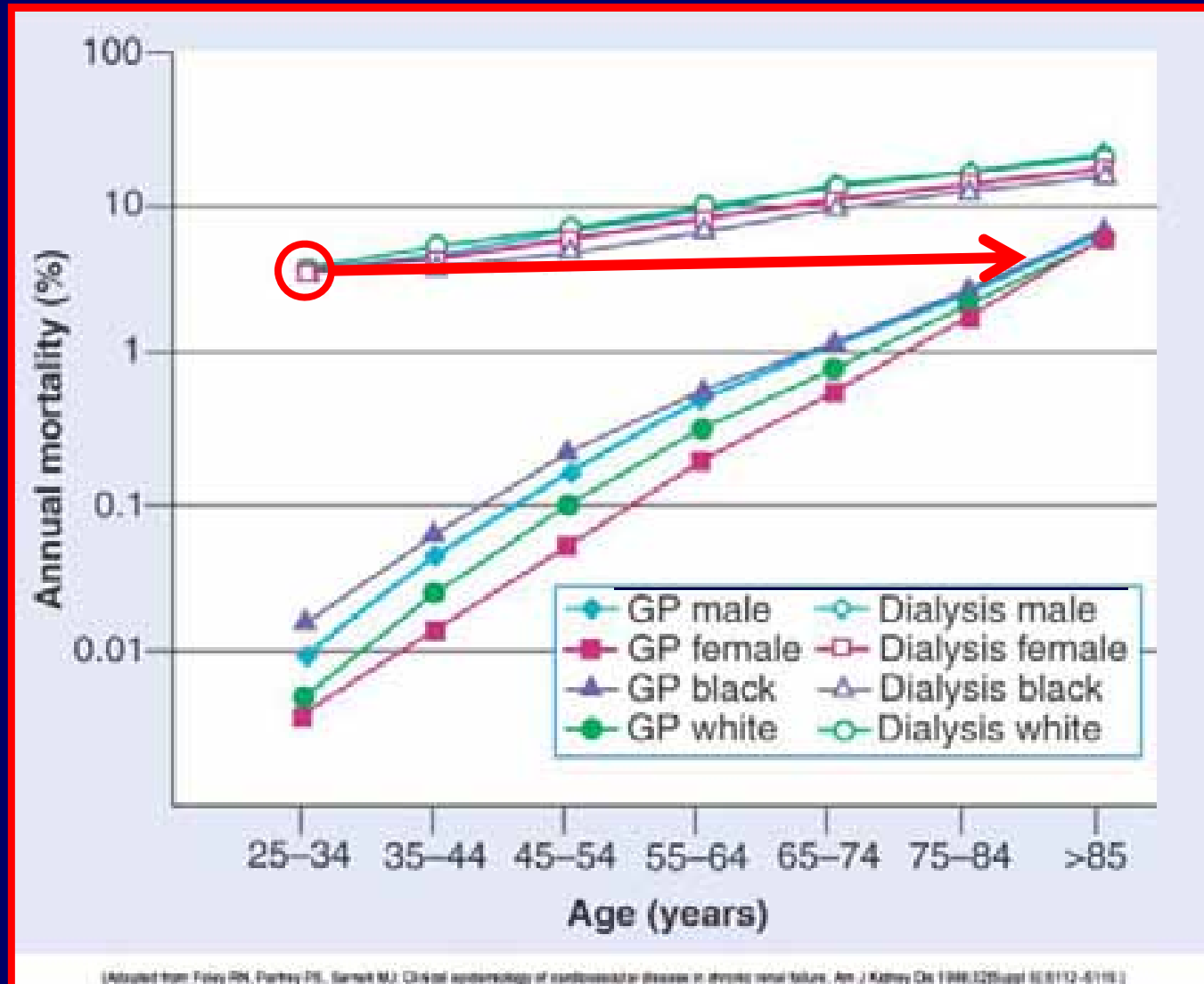
# Türkiye'de Diyaliz Hastalarının Prevalansı



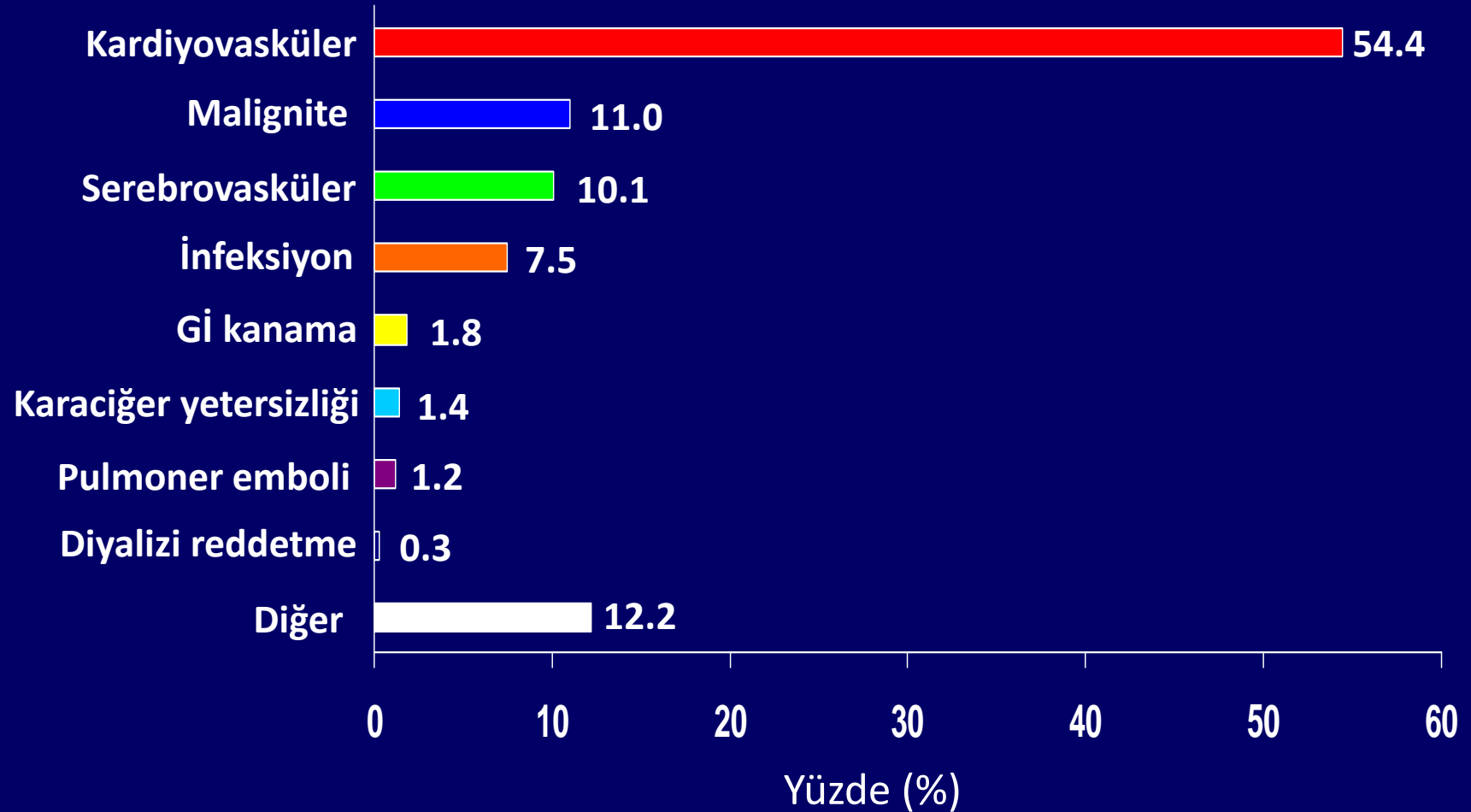
# Türkiye'de Hemodiyaliz Hastalarında Etyoloji



# SDBY ve Kardiyovasküler Mortalite



# Türkiye'de Hemodiyaliz Hastalarında Ölüm Nedenleri



### Brief Report

### Late diagnosis of chronic renal failure and mortality on maintenance dialysis

R. Sesso and A. G. Belasco

Division of Nephrology, Department of Medicine and Clinical Epidemiology Unit, Escola Paulista de Medicina, Universidade Federal de São Paulo, Brazil

- Kronik diyaliz tedavisine başlan 184 hasta
- Diyabetik hastalar dahil edilmedi.
- Erken tanı grubu: Diyaliz tedavisine başlamadan >3 ay önce tanı konan hastalar
- Geç tanı grubu: Diyaliz tedavisine başlamadan <1 ay önce tanı konan hastalar

Characteristic	Late diagnosis (n = 106)	Early diagnosis (n = 78)
Median (range) age (years)	47 (16-92)	45 (16-84)
Sex, female/male (n)	45/61	33/45
Race, white/non-white (n)	47/59	39/39
Income (US \$/mo.)	273 (0-1667)	352 (0-3505)
Primary diagnosis (n (%))		
Undetermined	42 (40.0)	24 (30.8)
Hypertension	34 (32.4)	21 (26.9)
Glomerulonephritis	7 (4.8)	15 (19.2)
Interstitial nephritis	5 (4.8)	5 (6.4)
Other	17 (16.0)	13 (16.7)
Predialysis		
Duration of diagnosis (mo.)	0 (0-0.4)*	13.5 (3-206)
Duration of symptoms (mo.)	2 (2-24)†	6 (0-67)
Ambulatory follow-up (mo.)	0 (0-0.8)*	13 (1-120)§
Use of a low-protein diet (n (%))	0 (0)*	35 (44.9)
Referral by a nephrologist (n (%))	8 (7.5)*	36 (46.2)
Initial type of dialysis (n (%))		
Haemodialysis	78 (73.6)	49 (62.8)
CAPD	3 (2.8)	4 (5.1)
IPD	25 (23.6)	25 (32.1)
Comorbid factors (n (%))		
Cardiac insufficiency	11 (10.4)	10 (12.8)
Myocardial infarction/angina	4 (3.7)	6 (7.7)
Cerebral vascular disease	7 (6.6)	6 (7.7)
Peripheral vascular disease	3 (2.8)	6 (7.7)
Malignant disease	10 (9.4)	5 (6.4)
Pulmonary infection	19 (17.9)†	4 (5.1)
Mean (SE) systolic BP (mmHg)	172 (4)‡	161 (4)
Mean (SE) diastolic BP (mmHg)	106 (2)	104 (2)

*Brief Report***Late diagnosis of chronic renal failure and mortality on maintenance dialysis**

R. Sesso and A. G. Belasco

Division of Nephrology, Department of Medicine and Clinical Epidemiology Unit, Escola Paulista de Medicina, Universidade Federal de São Paulo, Brazil

**Nephrology  
Dialysis  
Transplantation**

- Kronik diyaliz tedavisine başlan 184 hasta
- Diyabetik hastalar dahil edilmedi.
- Erken tanı grubu: Diyaliz tedavisine başlamadan >3 ay önce tanı konan hastalar
- Geç tanı grubu: Diyaliz tedavisine başlamadan <1 ay önce tanı konan hastalar

Parameter	Late diagnosis (n=106)	Early diagnosis (n=78)
Bicarbonate (mEq/l)	15.5 (0.6)	15.9 (0.7)
Potassium (mEq/l)	5.5 (0.1)†	4.9 (0.1)
Urea (mg/dl)	304 (11)*	234 (11)
Creatinine (mg/dl)	14.1 (0.7)*	10.7 (0.7)
Ccr (ml/min)	4.4 (0.5)†	6.4 (0.5)
Calcium (mg/dl)	8.0 (0.1)	8.2 (0.2)
Phosphorus (mg/dl)	6.1 (0.2)‡	5.5 (0.2)
Albumin (g/dl)	3.1 (0.1)	3.1 (0.1)
Hematocrit (%)	23 (0.5)	24 (0.8)

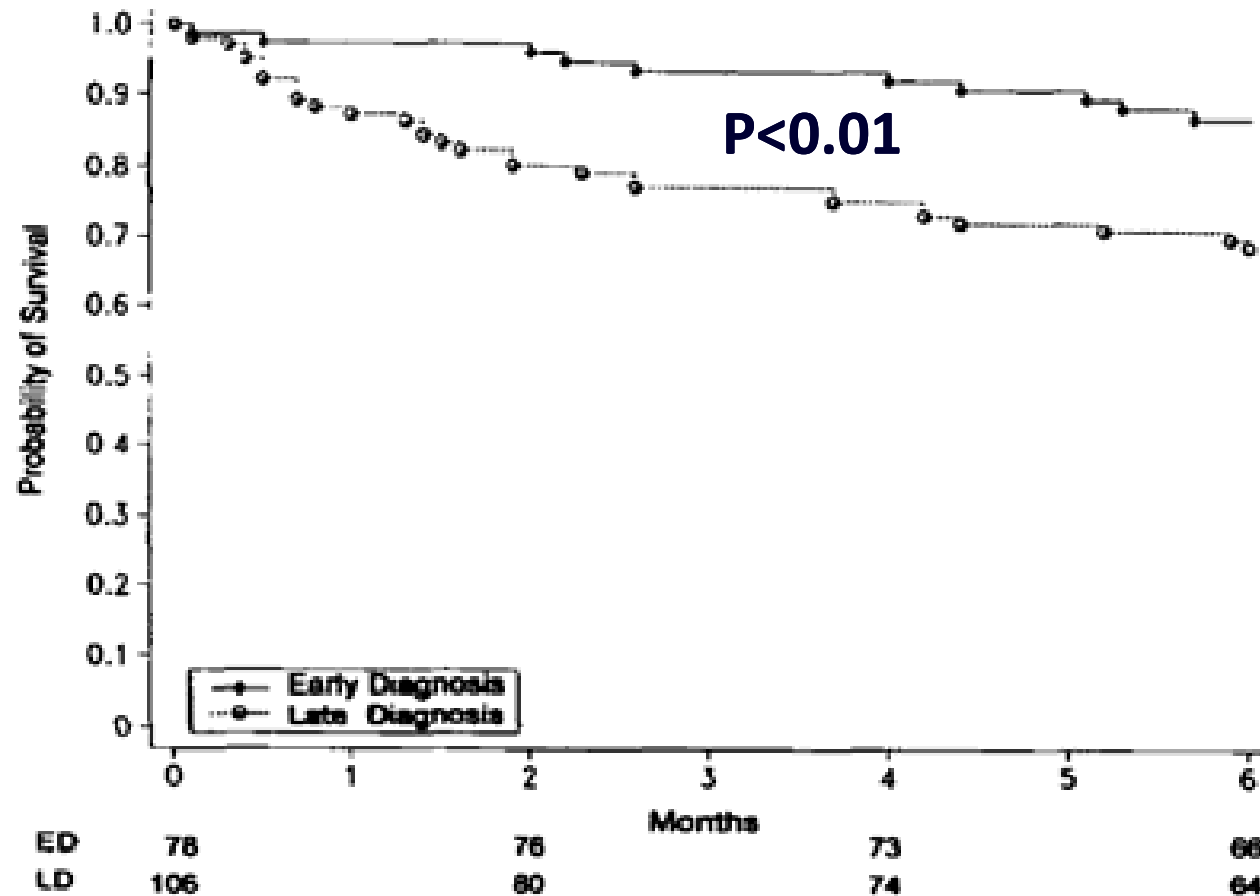
Values are expressed as mean (SE). P value: \* < 0.001, † < 0.01, ‡ = 0.05 comparing the late and early diagnosis groups. Values for creatinine clearance (Ccr) were available for 58 and 60 patients in the late and early diagnosis groups respectively.

*Brief Report*

**Late diagnosis of chronic renal failure and mortality on maintenance dialysis**

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*Brief Report*

**Late diagnosis of chronic renal failure and mortality  
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Universidade Federal de São Paulo, Brazil

**Table 3. Multivariate proportional hazards regression model for patient death**

Variable	Hazard ratio	95% CI
Late <i>versus</i> early diagnosis	2.05	0.93-4.54
Age (years)		
30-60 <i>versus</i> ≤30	7.03	0.94-52.78
>60 <i>versus</i> ≤30	20.61	2.62-162.00*
Pulmonary infection	3.05	1.40-6.63†
Serum albumin, g/dl	2.14	1.01-4.59‡
≤3.0 <i>versus</i> >3.0		

Other variables included in the model but that were not statistically significant: cardiovascular disease, malignant disease, blood pressure and serum urea.

CI, confidence interval.

P value: \* <0.001, † <0.01, ‡ <0.05.

# The Timing of Specialist Evaluation in Chronic Kidney Disease and Mortality

Kraig S. Kinchen, MD, MSc; John Sadler, MD; Nancy Fink, MPH; Ronald Brookmeyer, PhD; Michael J. Klag, MD, MPH; Andrew S. Levey, MD; and Neil R. Powe, MD, MPH, MBA

**Background:** Care for chronic renal failure involves management of complications and preparation for possible dialysis. Patients often are not evaluated by nephrologists in a timely manner.

**Objective:** To identify factors associated with late evaluation by a nephrologist and to assess whether late evaluation is associated with worse survival once patients develop end-stage renal disease (ESRD).

**Design:** National prospective cohort study.

**Setting:** 81 dialysis facilities throughout the United States.

**Patients:** 828 patients with new-onset ESRD.

**Measurements:** Time from first evaluation by a nephrologist to initiation of dialysis, classified as late (<4 months), intermediate (4 to 12 months), or early (>12 months); rate of death, from initiation of dialysis to an average of 2.2 years of follow-up; and demographic, clinical, and laboratory characteristics.

**Results:** After adjustment for potential confounders, late evaluation was more common among black men than white men (44.8% vs. 24.5%;  $P < 0.05$ ), uninsured patients than insured

patients (56.7% vs. 29.0%;  $P < 0.05$ ) and patients with severe comorbid disease than those with mild comorbid disease (35.0% vs. 23.0%;  $P < 0.05$ ). Compared with patients who had early evaluation, the risk for death was greater among patients evaluated late and was graded (hazard ratio, 1.3 [95% CI, 0.87 to 2.06] for patients with intermediate evaluation and 1.8 [CI, 1.21 to 2.61] for those with late evaluation) after adjustment for dialysis method, demographic characteristics, and socioeconomic status in Cox proportional hazards regression analysis. After additional adjustment for such factors as the presence and severity of comorbid conditions, the association remained graded (hazard ratio, 1.2 [CI, 0.73 to 1.82] for patients evaluated at an intermediate point and 1.6 [CI, 1.04 to 2.39] for those evaluated late).

**Conclusions:** Late evaluation of patients with chronic renal failure by a nephrologist is associated with greater burden and severity of comorbid disease, black ethnicity, lack of health insurance, and shorter duration of survival.

*Ann Intern Med.* 2002;137:479-486.

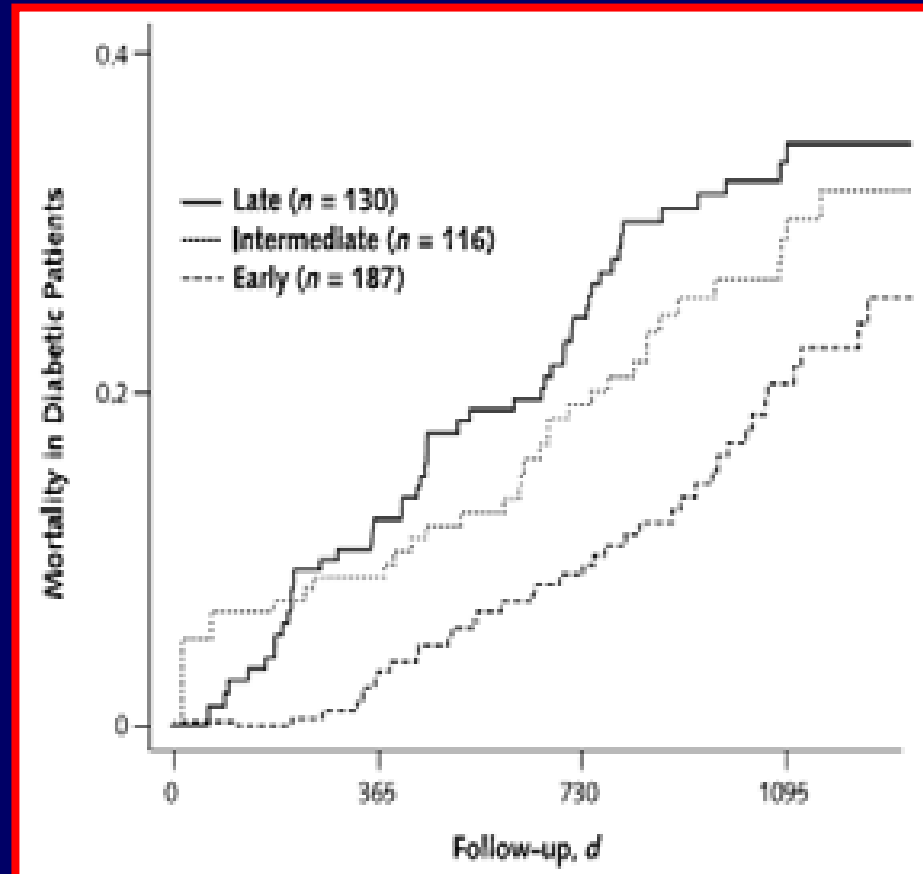
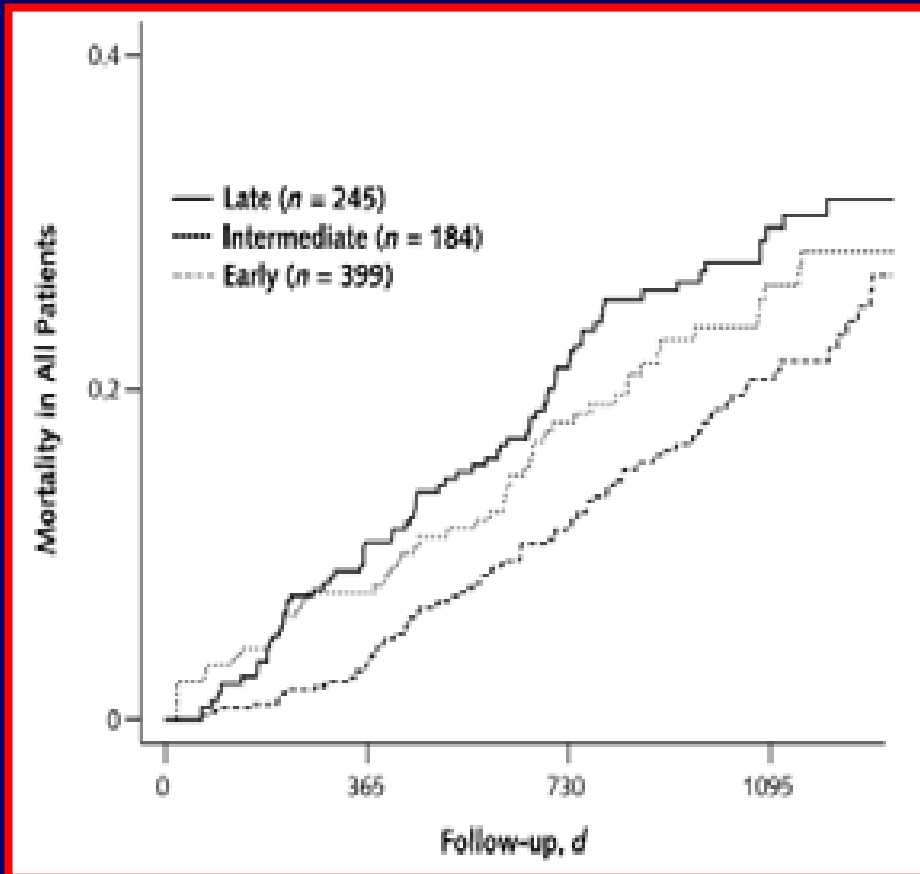
[www.annals.org](http://www.annals.org)

For author affiliations, see end of text.

See editorial comment on pp 542-543.

# The Timing of Specialist Evaluation in Chronic Kidney Disease and Mortality

Nefrolog muayenesi ile diyalize başlangıç zamanı arasındaki süre:  
*Erken*: >12 ay; *Orta*: 4 – 12 ay; *Geç*: <4 ay



# 60,000 SDBY Hastası

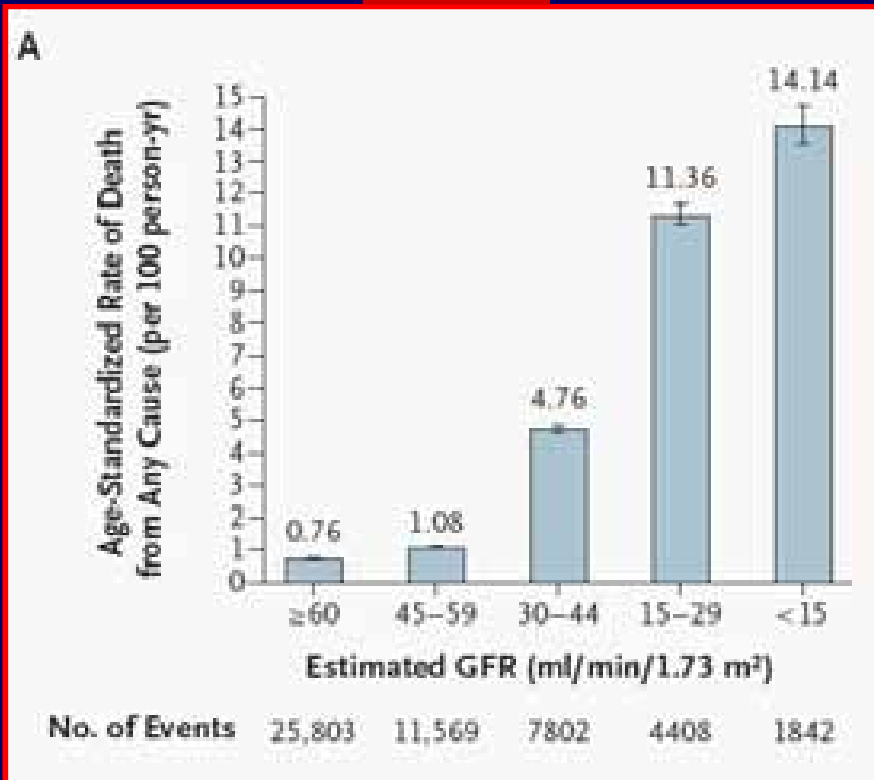
Nephrol Dial Transplant (2011) 26: 1862–1871  
 doi:10.1093/ndt/gfr267

Chronic renal disease status	Hypertension		Diabetes mellitus		Dyslipidaemia		Obesity		Metabolic syndrome	
	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)	%	OR (95% CI)
General population	32.7		12.7		76.3		20.1		31.3	
No CKD	31	reference	10.1	reference	75.8	reference	20	reference	29.8	reference
CKD (any stage) <sup>a</sup>	56.3	2.86 (2.54–3.22)	26.6	3.22 (2.77–3.74)	83.4	1.60 (1.37–1.86)	29.2	1.65 (1.45–1.88)	46	2.01 (1.77–2.27)
Stage 1 CKD <sup>b</sup>	34.8	1.19 (0.98–1.45)	16.4	1.73 (1.33–2.26)	74.3	0.92 (0.74–1.14)	25.7	1.25 (1–1.55)	31.1	1.06 (0.86–1.31)
Stage 2 CKD <sup>c</sup>	55.1	2.30 (1.76–3)	32.1	2.41 (1.74–3.35)	84.2	1.85 (1.33–2.57)	29.7	1.36 (1.01–1.82)	51.4	2.34 (1.77–3.11)
Stage 3 CKD <sup>c</sup>	79.8	3.21 (2.36–4.36)	32.3	1.01 (0.74–1.38)	92.6	2.36 (1.50–3.70)	34.7	1.26 (0.95–1.68)	57	1.26 (0.94–1.68)
Stage 4 CKD <sup>c</sup>	82.6	1.21 (0.40–3.64)	40.9	1.45 (0.60–3.49)	87.5	0.56 (0.16–1.97)	29.2	0.82 (0.33–2.04)	68.2	1.62 (0.64–4.06)
Stage 5 CKD <sup>c</sup>	92.3	2.53 (0.25–25.38)	45.5	1.20 (0.28–5.18)	91.7	1.57 (0.15–16.94)	33.3	1.14 (0.26–5.09)	66.7	0.93 (0.21–4.18)

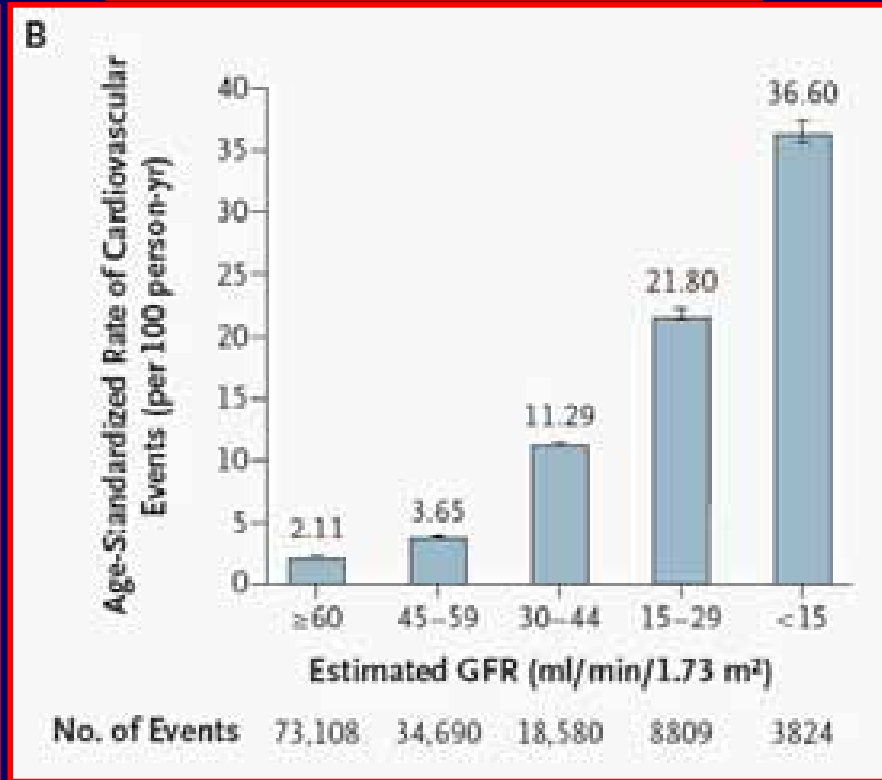
# Kronik Böbrek Hastalığında Morbidite ve Mortalite

The Kaiser Permanente Renal Registry (n=1,120,295)

Ölüm

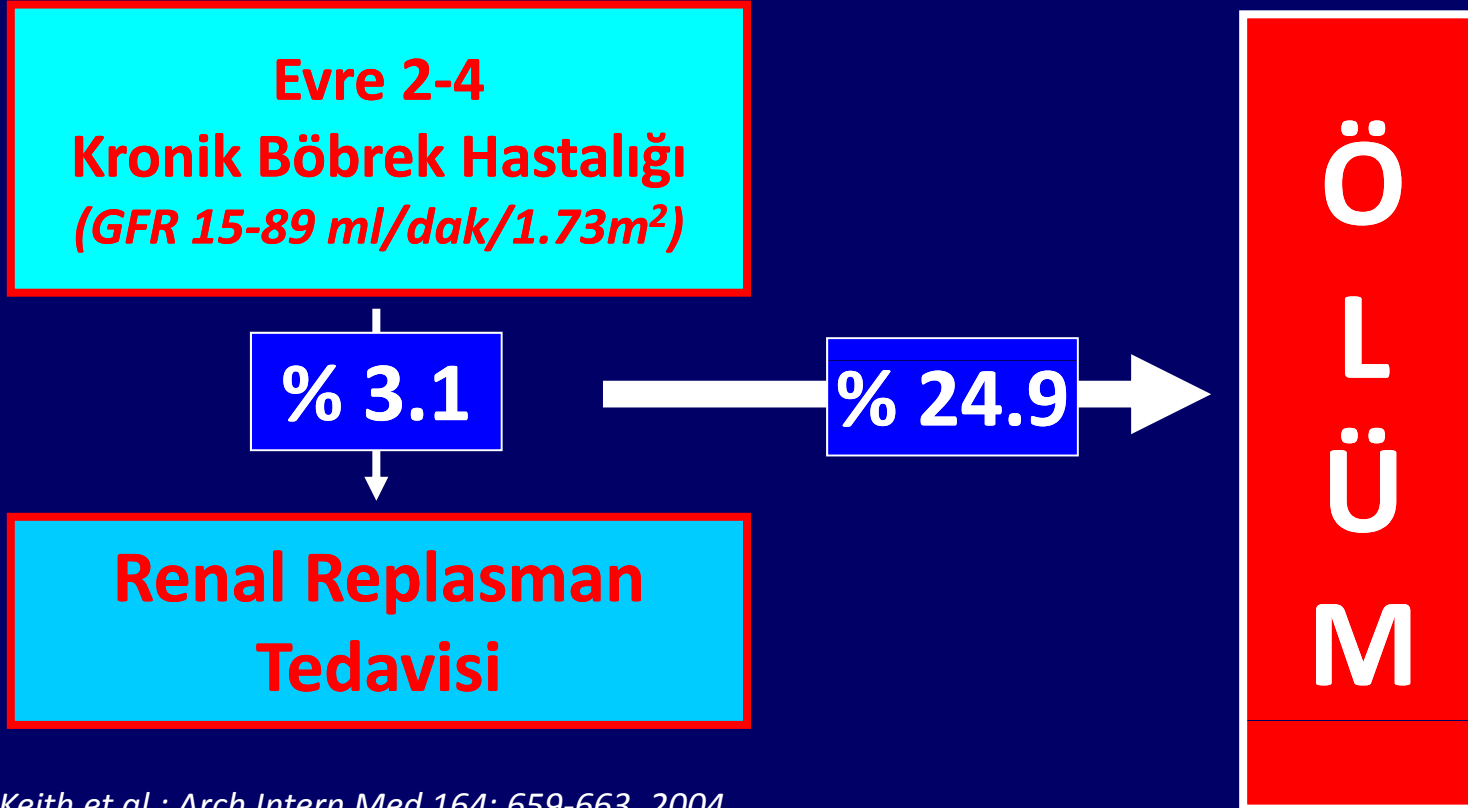


Kardiyovasküler Olaylar



# Kronik Böbrek Hastalığının Doğal Seyri

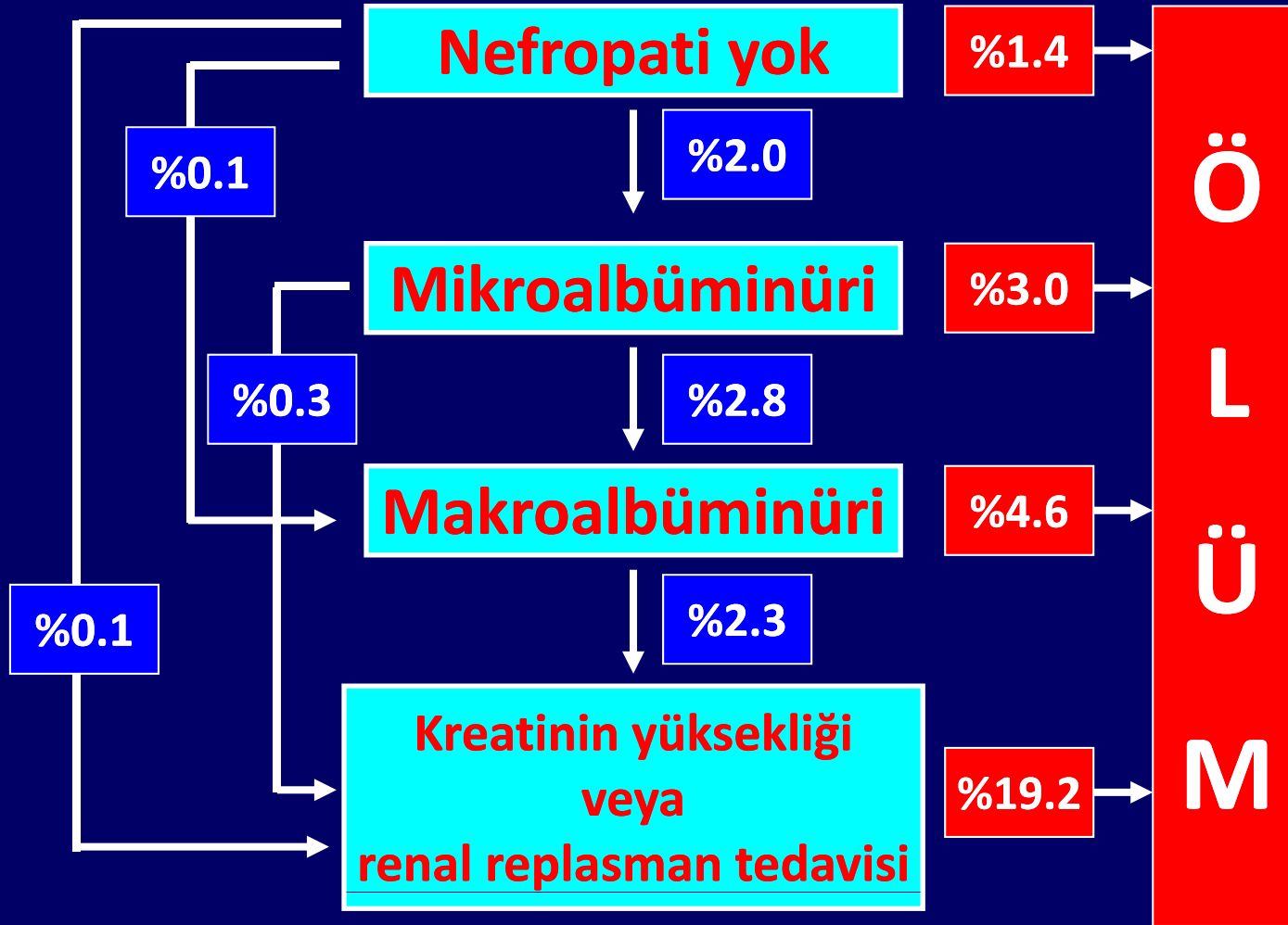
27,998 Hastanın 5.5 Yıllık Takibi



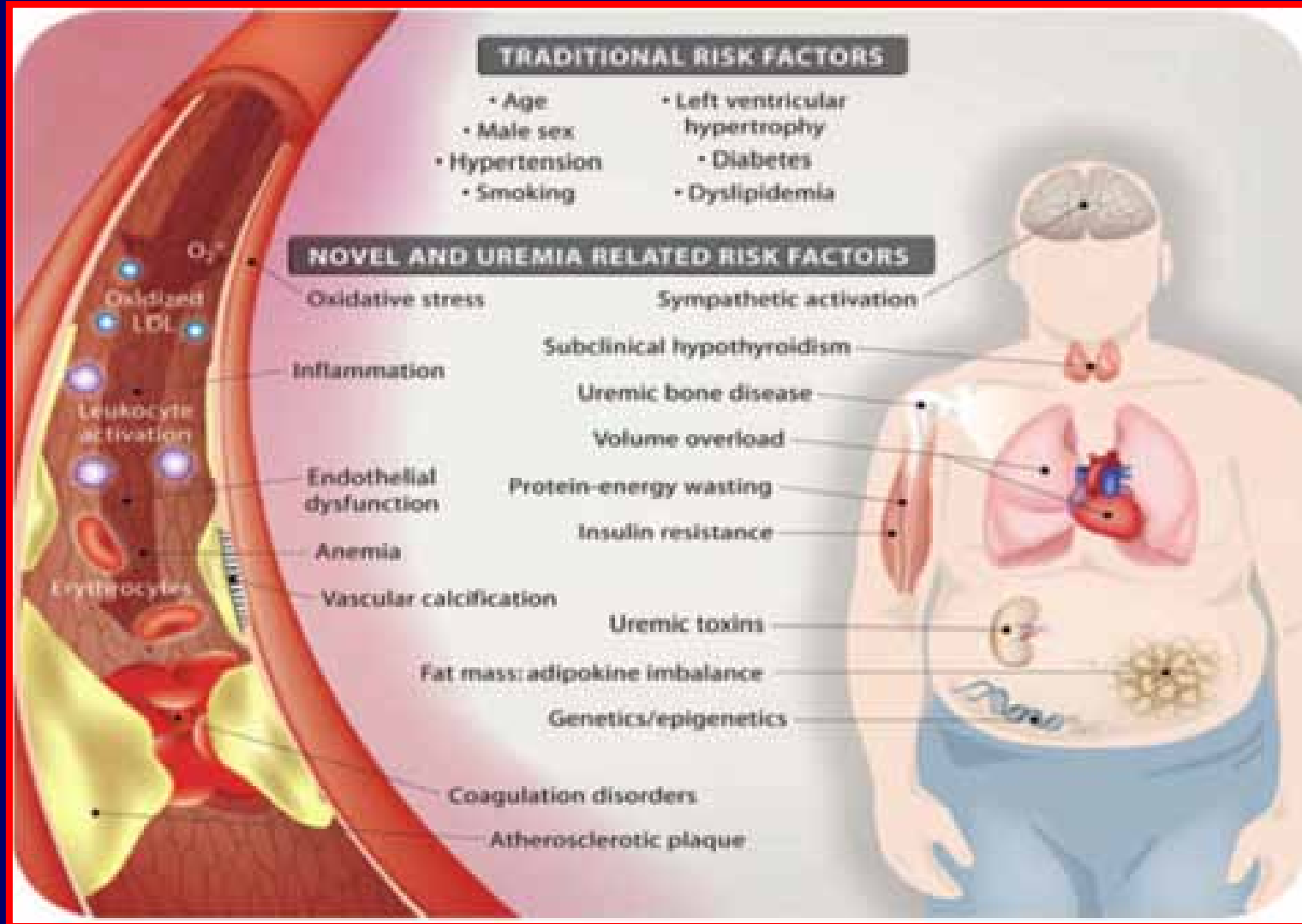
Keith et al.: Arch Intern Med 164: 659-663, 2004

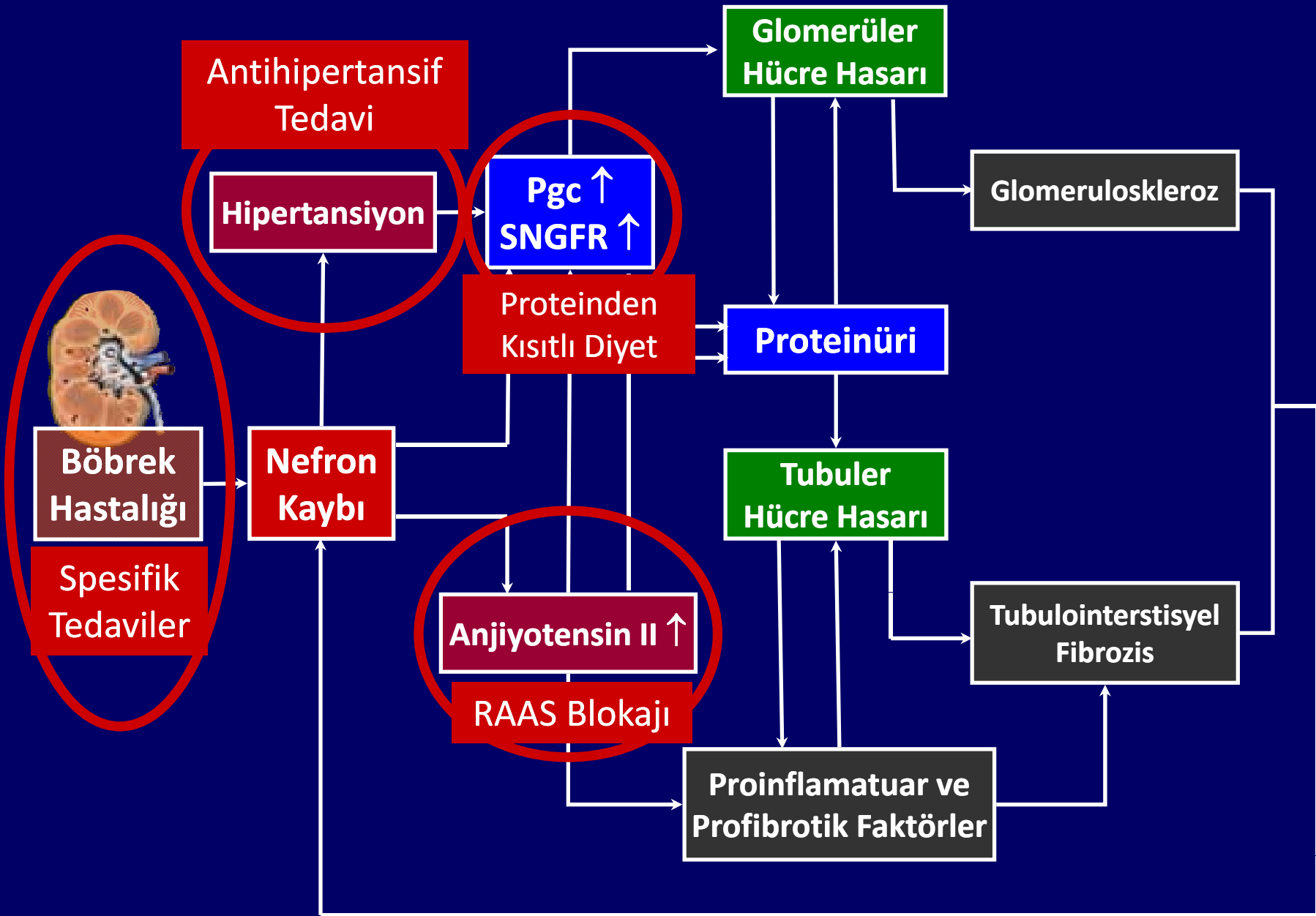
# UKPDS

(United Kingdom Prospective Diabetes Study)

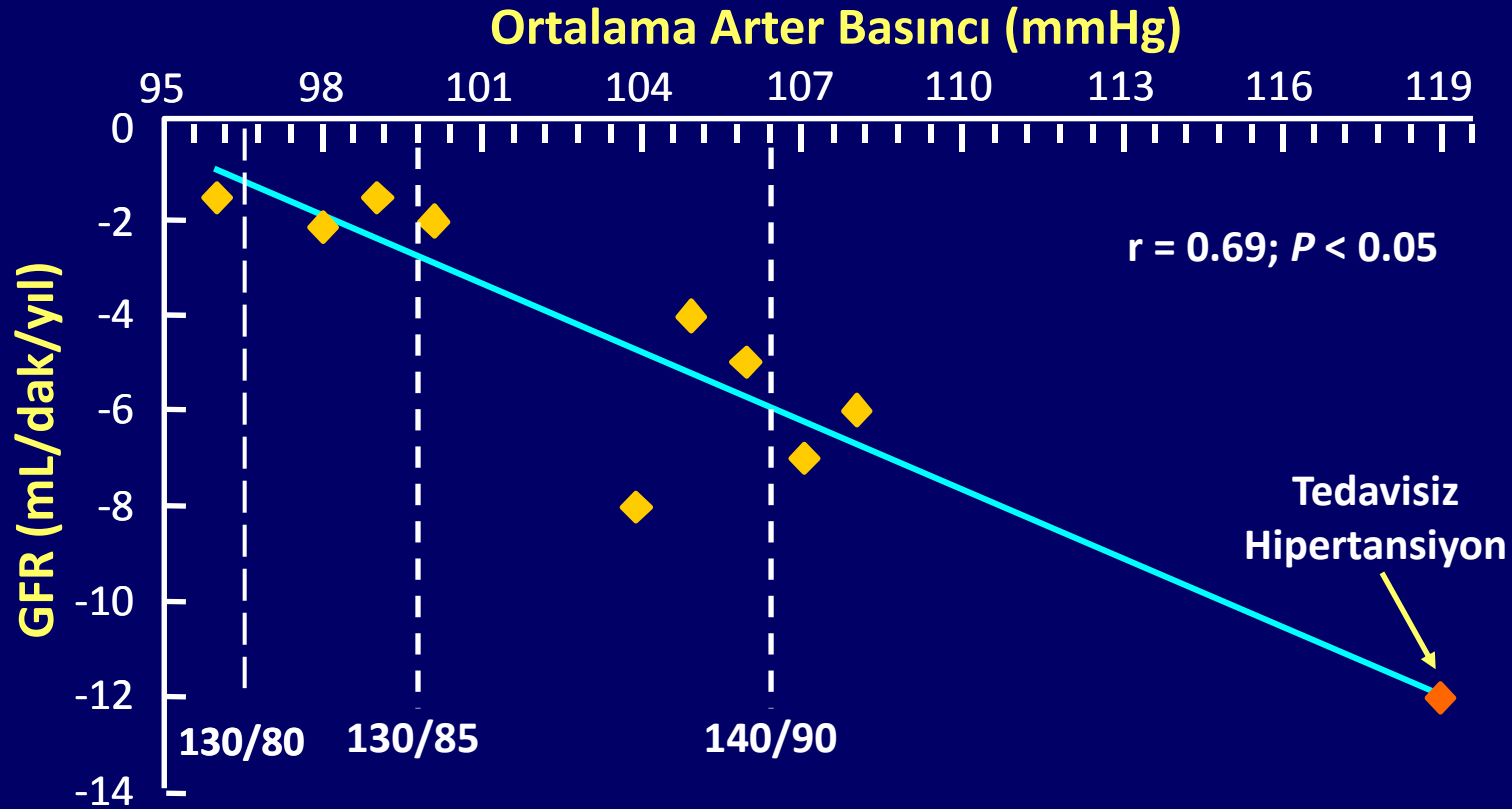


# Kronik Böbrek Hastalığında Geleneksel ve Yeni KV Risk Faktörleri





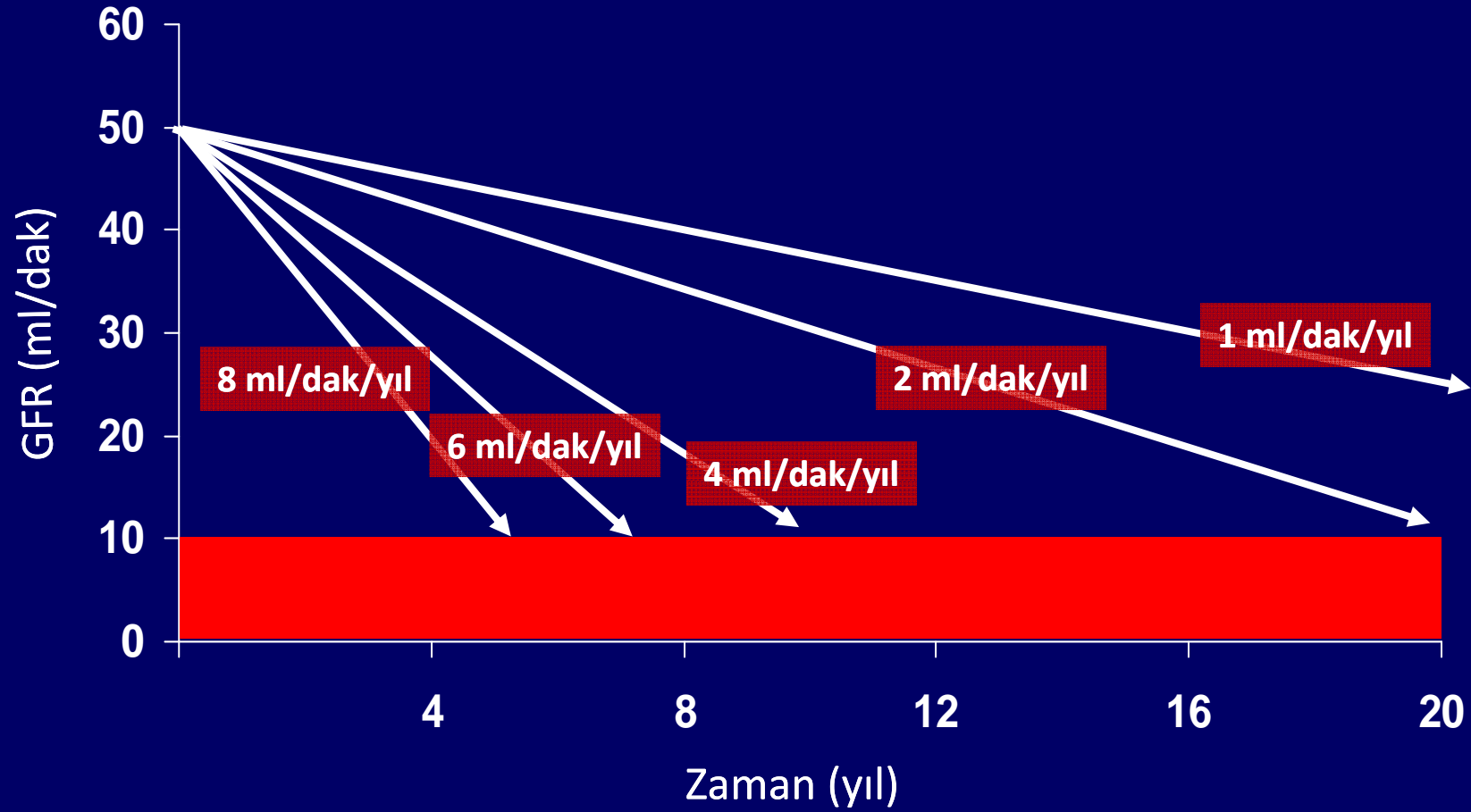
# Klinik Çalışmalarda Ulaşılan Kan Basıncı Düzeyleri ile GFR Azalması Arasındaki İlişki



Parving HH, et al. Br Med J. 1989.  
Viberti GC, et al. JAMA. 1993.  
Klahr S, et al. N Eng J. Med 1994.  
Hebert L, et al. Kidney Int. 1994.  
Lebovitz H, et al. Kidney Int. 1994.

Maschio G, et al. N Engl J Med. 1996.  
Bakris GL, et al. Kidney Int. 1996.  
Bakris GL. Hypertension. 1997.  
The GISEN Group. Lancet. 1997.

# Böbrek Hastalığının İlerleme Hızı



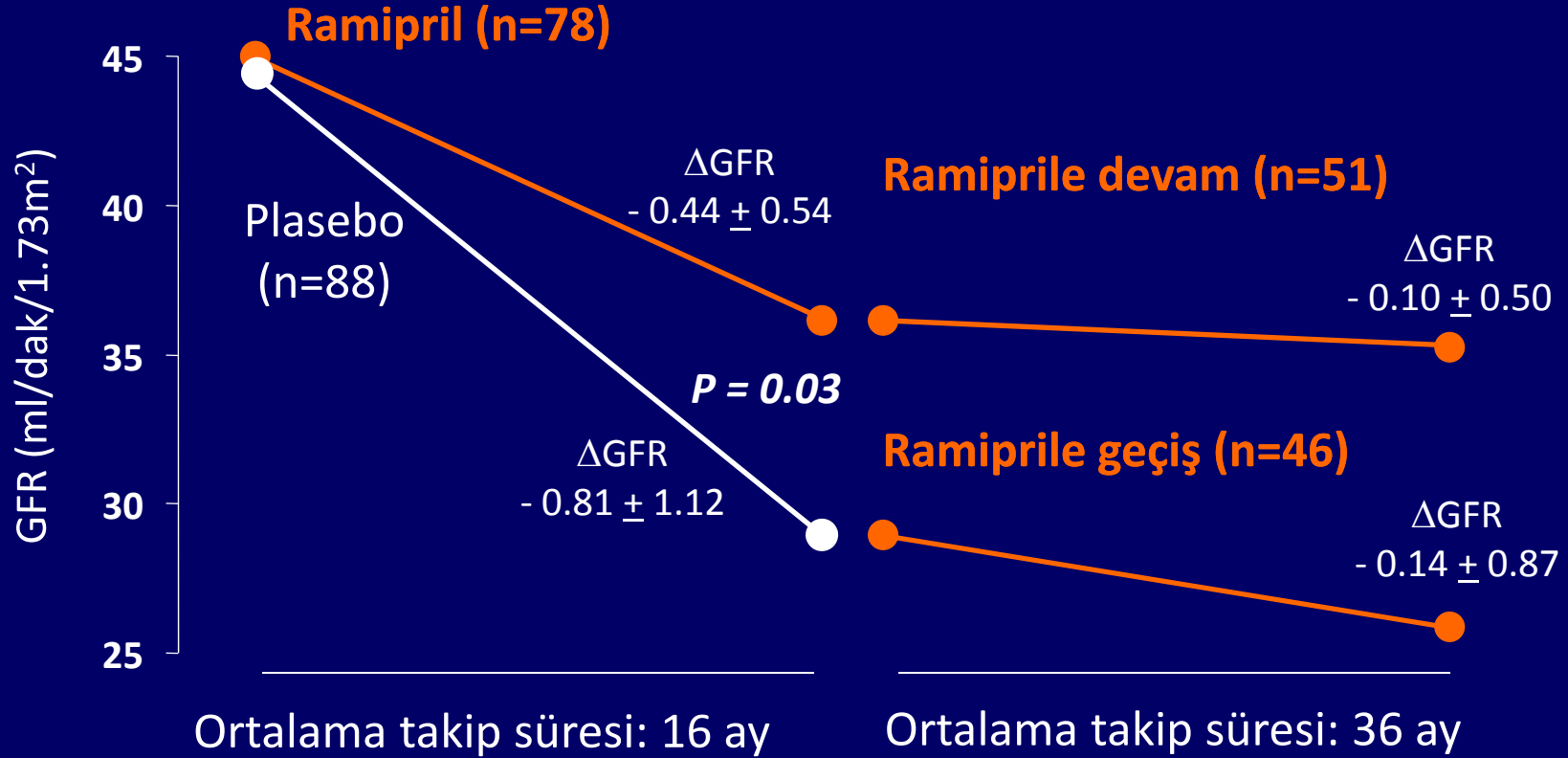
# Kronik Böbrek Hastalığında RAS Blokerleri ile Progresyonun Yavaşlatılması

Lewis (1993)	Tip 1 diyabete bağlı nefropatisi olan hastalar (n=409) (kreatinin <2.5 mg/dl, proteinüri >500 mg/gün)	Kaptopril / plasebo
AIPRI (1996)	KBH (glomerülonefrit, interstisyel nefrit, PBH, diyabetik nefropati (n=583) (CrCl <60 ml/dak)	Benazepril / plasebo
REIN (1997)	Diyabet dışı nedenlere bağlı nefropatisi olan hastalar (n=166) (proteinüri $\geq$ 3.0 g/gün)	Ramipril / plasebo
Hou (2006)	Diyabet dışı nedenlere bağlı nefropatisi olan hastalar (n=422) (kreatinin 3.1 – 5.0 mg/dl)	Benazepril / plasebo
RENAAL (2001)	Tip 2 diyabete bağlı nefropatisi olan hastalar (n=1513) (kreatinin 3.1 – 5.0 mg/dl)	Losartan / plasebo
IDNT (2001)	Tip 2 diyabete bağlı nefropatisi olan hastalar (n=1715) (kreatinin 3.1 – 5.0 mg/dl)	İrbesartan / amlodipin / plasebo

# REIN ÇALIŞMASI

(Ramipril Efficacy In Nephropathy)

Prospektif, randomize, çift-kör, plasebo kontrollü çalışma  
Diabet dışı nedenlere bağlı kronik böbrek yetersizliği olan 166 hasta  
Bazal proteinüri  $\geq 3$  g/24 saat



# Effects of a fixed combination of perindopril and indapamide ➔ on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomised controlled trial

ADVANCE Collaborative Group\*

*Lancet 2007; 370: 829-840*

	Randomised treatment	
	Active (n=5569)	Placebo (n=5571)
Age (years), mean (SD)	66 (6)	66 (7)
Female, n (%)	2366 (43%)	2369 (43%)
Age when diabetes first diagnosed (years), mean (SD)	58 (9)	58 (9)
Previous vascular disease		
History of major macrovascular disease, n (%)	1798 (32%)	1792 (32%)
History of myocardial infarction, n (%)	678 (12%)	656 (12%)
History of stroke, n (%)	502 (9%)	520 (9%)
History of major microvascular disease, n (%)	568 (10%)	584 (10%)
History of macroalbuminuria†, n (%)	197 (4%)	204 (4%)
History of microvascular eye disease‡, n (%)	389 (7%)	404 (7%)
Blood pressure control		
Systolic blood pressure (mm Hg), mean (SD)	145 (22)	145 (21)
Diastolic blood pressure (mm Hg), mean (SD)	81 (11)	81 (11)
History of currently treated hypertension, n (%)	3802 (68%)	3853 (69%)
Other major risk factors		
Current smokers, n (%)	804 (14%)	878 (16%)
Serum total cholesterol (mmol/L), mean (SD)	5.2 (1.2)	5.2 (1.2)
Serum HDL cholesterol (mmol/L), mean (SD)	1.3 (0.3)	1.3 (0.4)
Urinary albumin:creatinine ratio (µg/mg), median (IQR)	15 (7 to 40)	15 (7 to 40)
Microalbuminuria, n (%)	1441 (26%)	1421 (26%)
Serum creatinine (µmol/L), mean (SD)	87 (23)	87 (26)
Serum haemoglobin A <sub>1c</sub> concentration (%), mean (SD)	7.5 (1.6)	7.5 (1.6)
Body-mass index (kg/m <sup>2</sup> ), mean (SD)	28 (5)	28 (5)

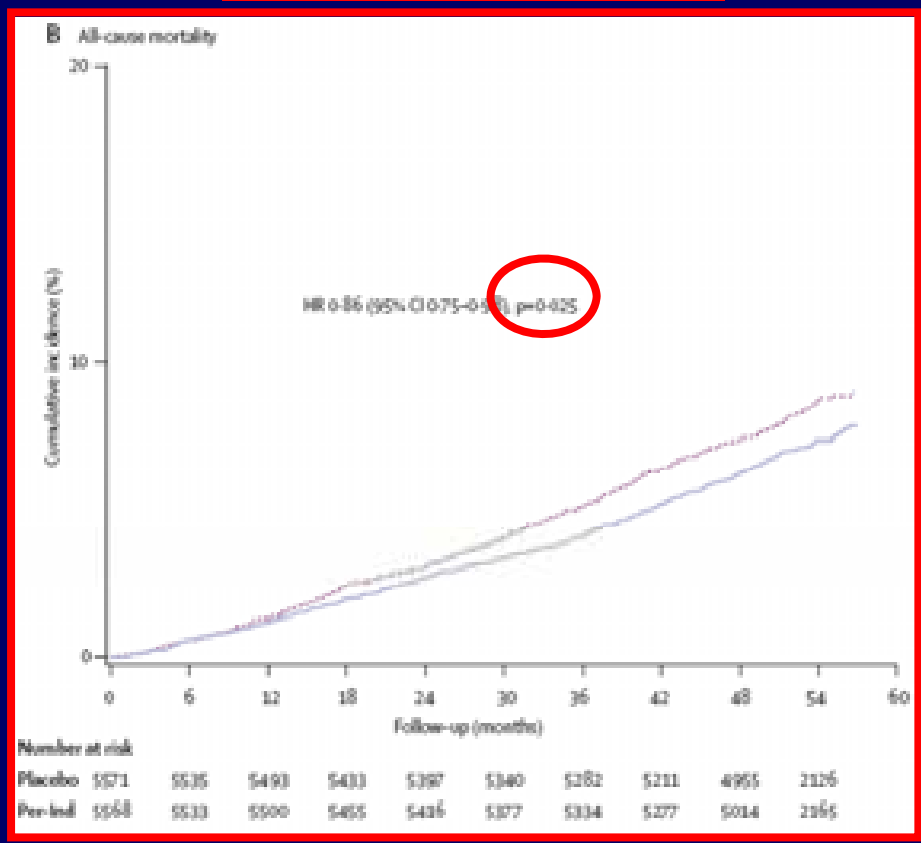
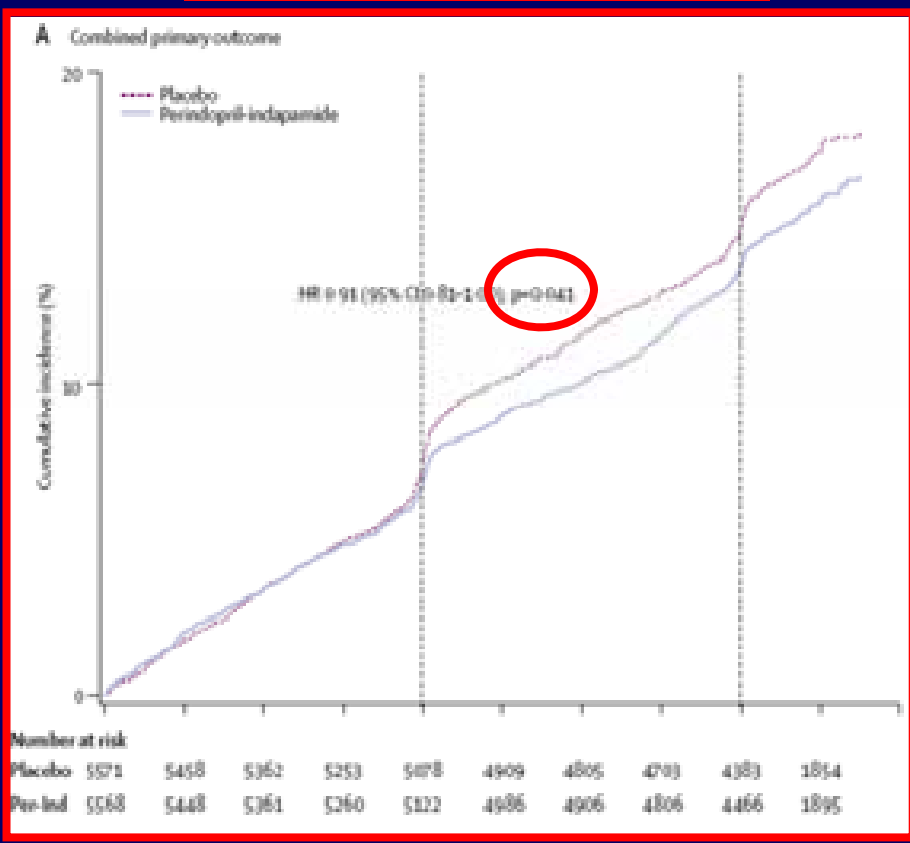
# Effects of a fixed combination of perindopril and indapamide on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomised controlled trial

ADVANCE Collaborative Group\*

*Lancet* 2007; 370: 829-840

## Majör Makrovasküler ve Mikrovasküler Olaylar

## Tüm Nedenlere Bağlı Ölüm



# Effects of a fixed combination of perindopril and indapamide ➔<sup>®</sup> on macrovascular and microvascular outcomes in patients with type 2 diabetes mellitus (the ADVANCE trial): a randomised controlled trial

ADVANCE Collaborative Group\*

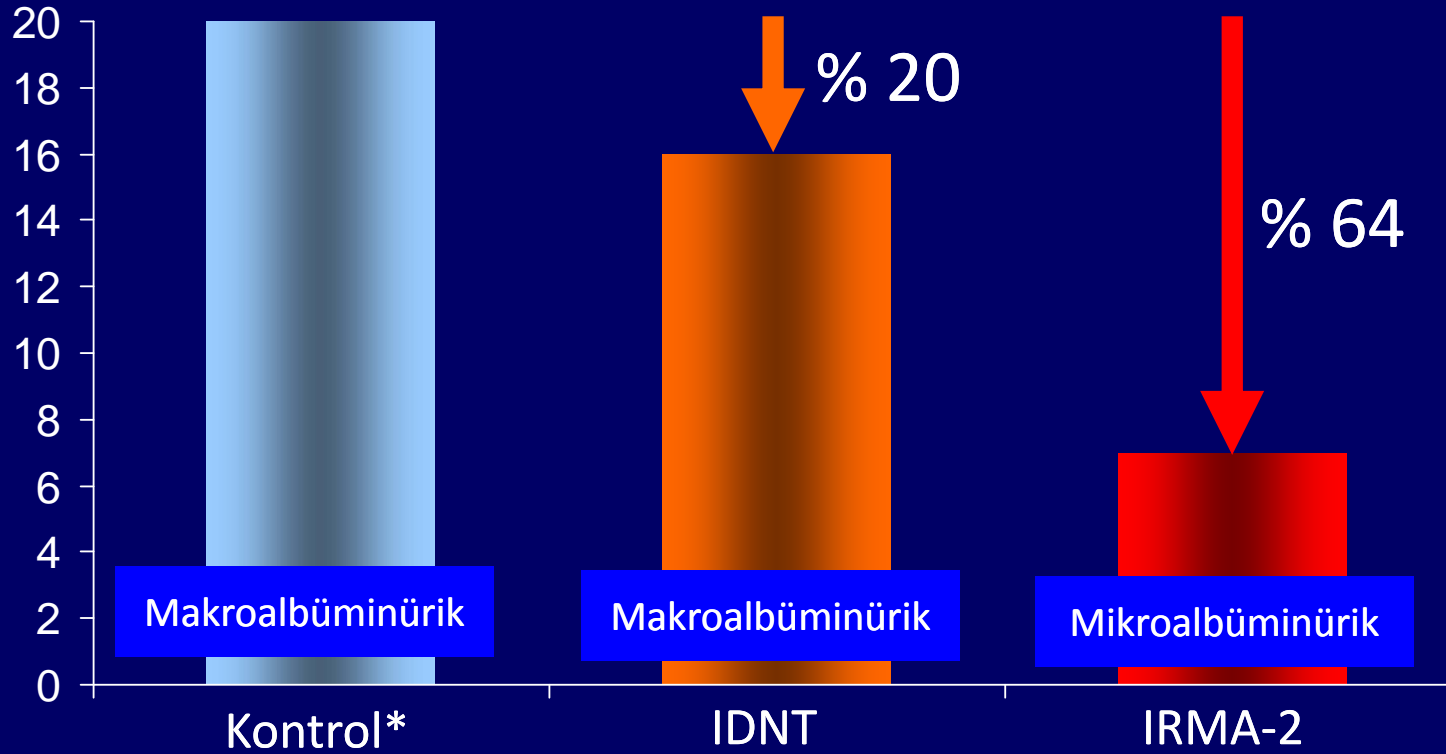
Lancet 2007; 370: 829-840

	Number (%) of patients with event		Favours perindopril-indapamide	Favours placebo	Relative risk reduction (95% CI)
	Perindopril-indapamide (n=5569)	Placebo (n=5571)			
Combined macro+micro	861 (15.5%)	938 (16.8%)		<i>P=0.041</i>	9% (0 to 17)
Macrovascular	480 (8.6%)	520 (9.3%)			8% (-4 to 19)
Microvascular	439 (7.9%)	477 (8.6%)			9% (-4 to 20)
All deaths	408 (7.3%)	471 (8.5%)		<i>P=0.025</i>	14% (2 to 25)
Cardiovascular death	211 (3.8%)	257 (4.6%)		<i>P=0.027</i>	18% (2 to 32)
Non-cardiovascular disease death	197 (3.5%)	212 (3.8%)			8% (-12 to 24)
Total coronary events	468 (8.4%)	535 (9.6%)		<i>P=0.02</i>	14% (2 to 24)
Major coronary events	265 (4.8%)	294 (5.3%)			11% (-6 to 24)
Other coronary events*	283 (5.1%)	324 (5.8%)			14% (-1 to 27)
Total cerebrovascular events	286 (5.1%)	303 (5.4%)			6% (-10 to 20)
Major cerebrovascular events	215 (3.9%)	218 (3.9%)			2% (-18 to 19)
Other cerebrovascular events†	79 (1.4%)	99 (1.8%)			21% (-6 to 41)
Total renal events	1243 (22.3%)	1500 (26.9%)		<i>P&lt;0.0001</i>	21% (15 to 27)
New or worsening nephropathy	181 (3.3%)	216 (3.9%)			18% (-1 to 32)
New microalbuminuria	1094 (19.6%)	1317 (23.6%)		<i>P&lt;0.0001</i>	21% (14 to 27)

**ADVANCE çalışmasında gözlenen faydalar dünyadaki diyabetik popülasyonun sadece yarısına bile uygulansa, 5 yıllık bir süre içinde 1 milyondan fazla ölüm önlenebilir.**

# Tip 2 Diyabette Erken Dönemde RAAS Blokajının Avantajı

## Son Dönem Böbrek Yetersizliği İnsidansı

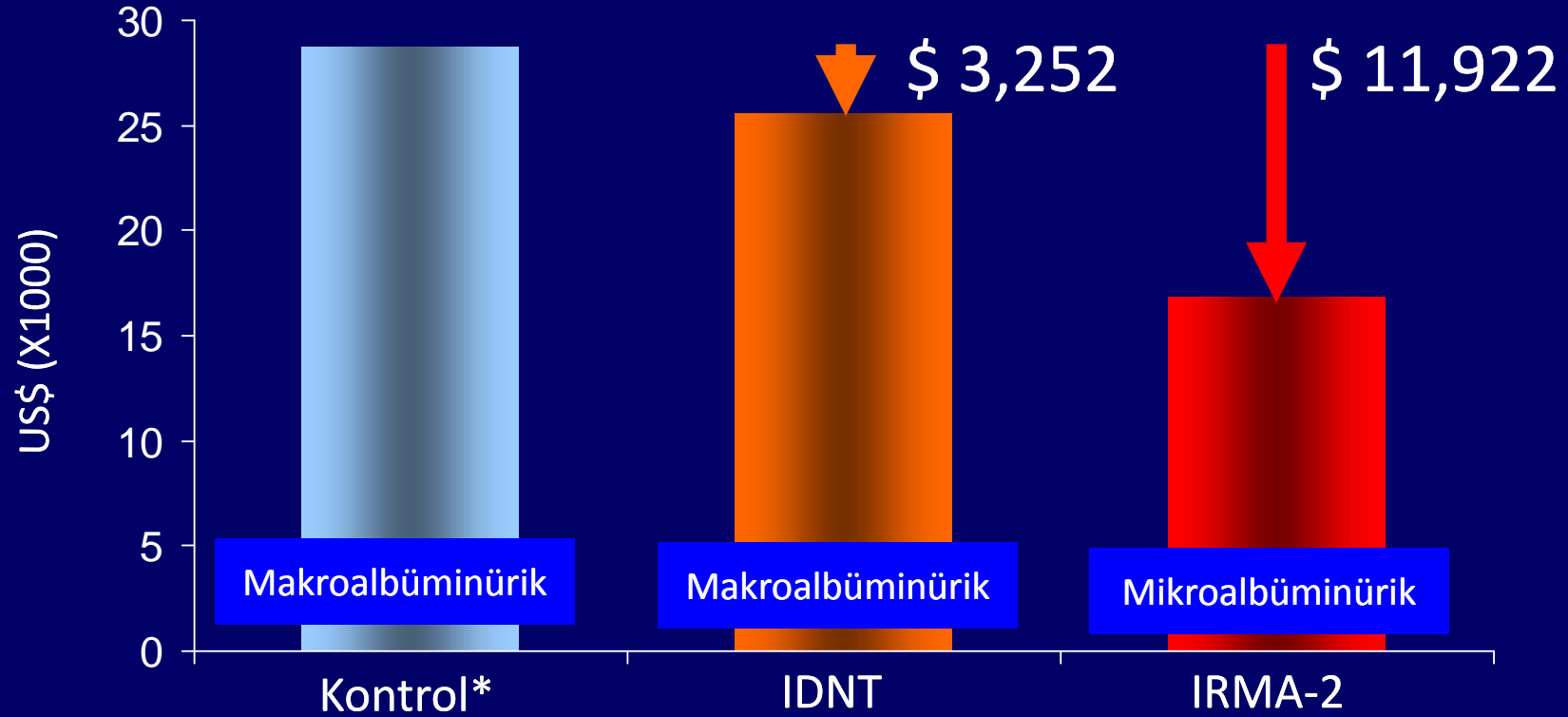


Palmer et al.: *Diabetes Care* 27: 1897-1903, 2004

\*Kontrol: Diğer antihipertansif ilaçlar (ACEI, ARB ve dihidropiridin grubu kalsiyum antagonistleri hariç)

# Tip 2 Diyabette Erken Dönemde RAAS Blokajının Avantajı

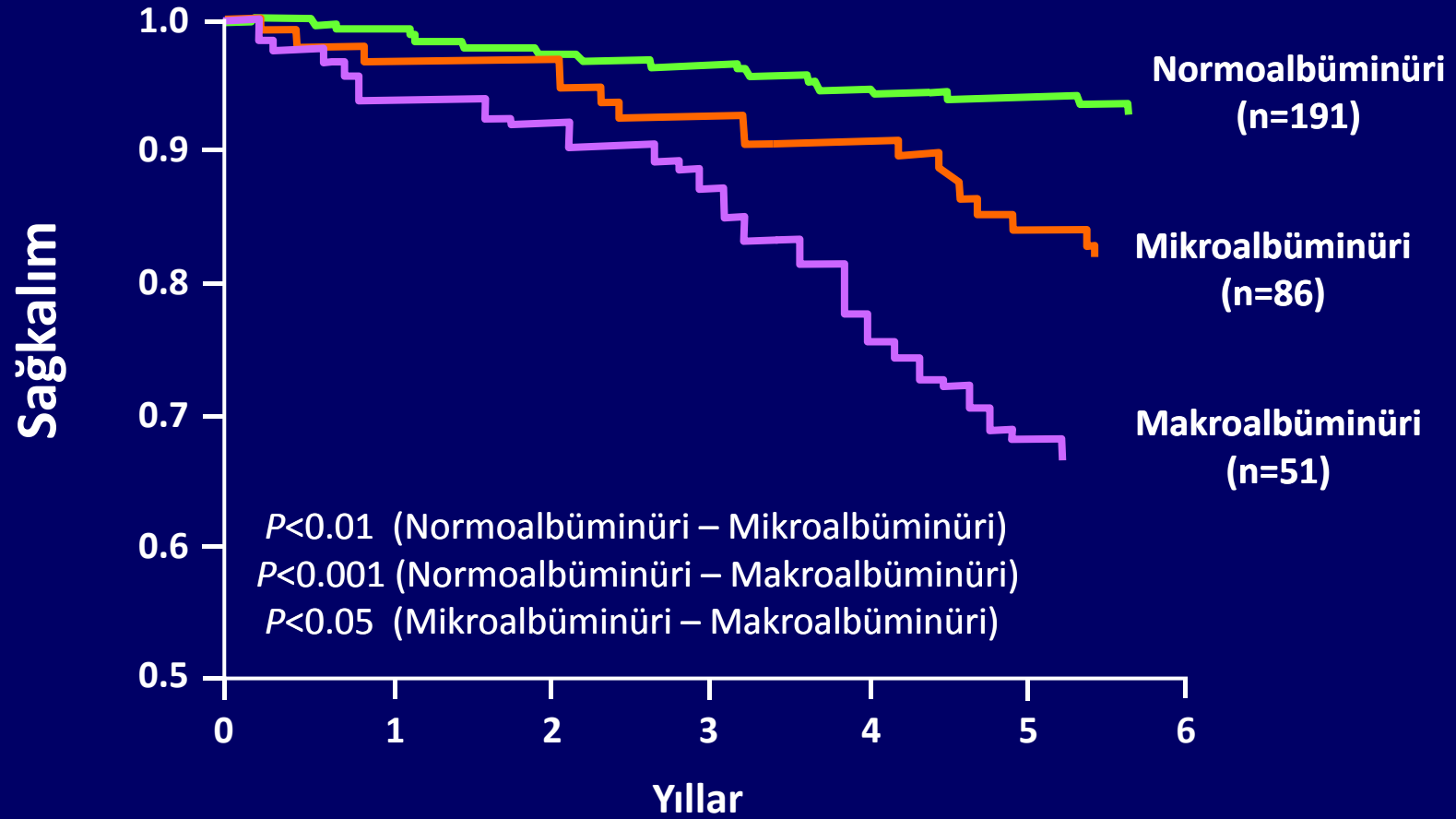
Hasta Başına 25 Yıllık Maliyet



Palmer et al.: Diabetes Care 27: 1897-1903, 2004

\*Kontrol: Diğer antihipertansif ilaçlar (ACEI, ARB ve dihidropiridin grubu kalsiyum antagonistleri hariç)

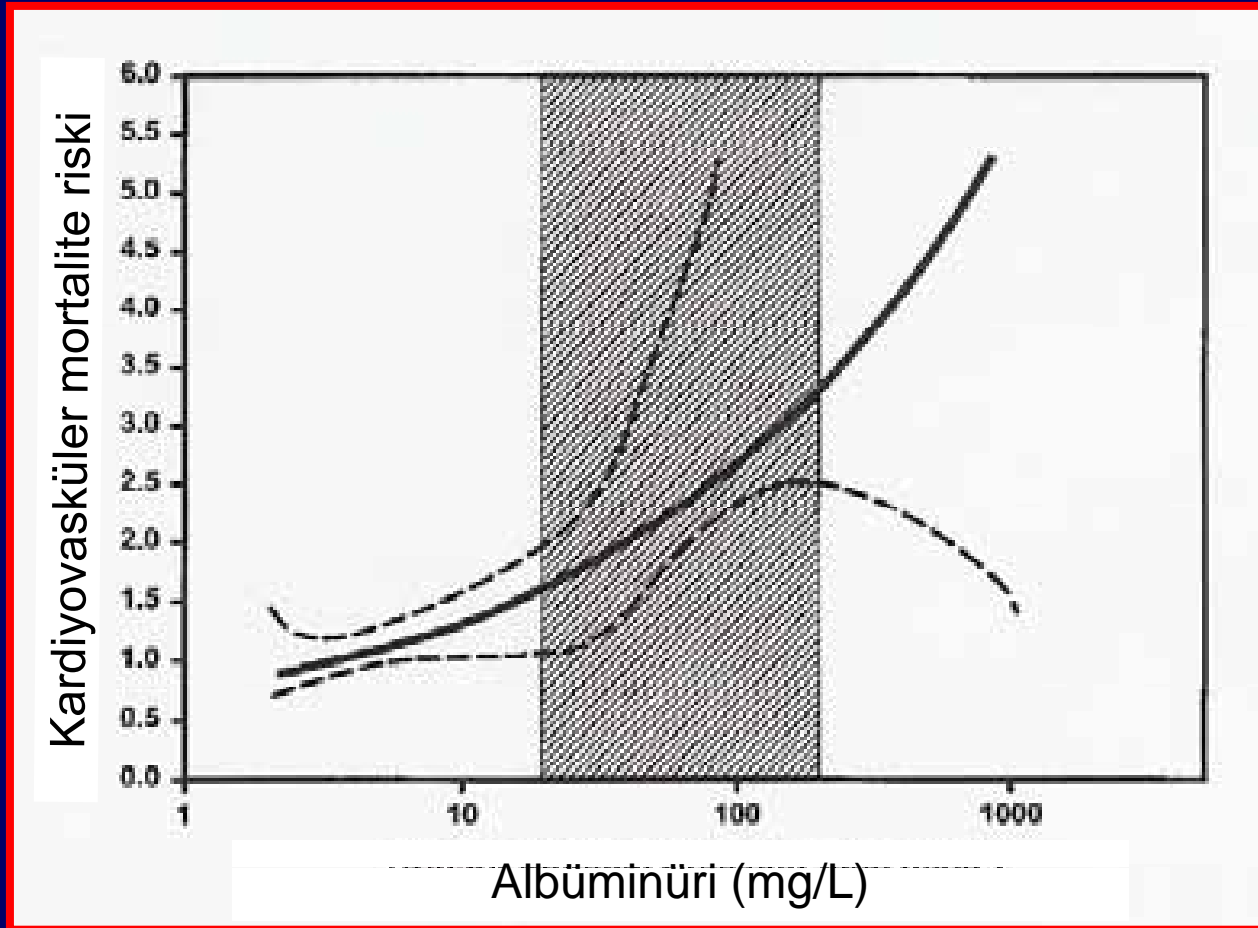
# Tip 2 Diyabette Proteinüri-Mortalite İlişkisi



# PREVEND Çalışması

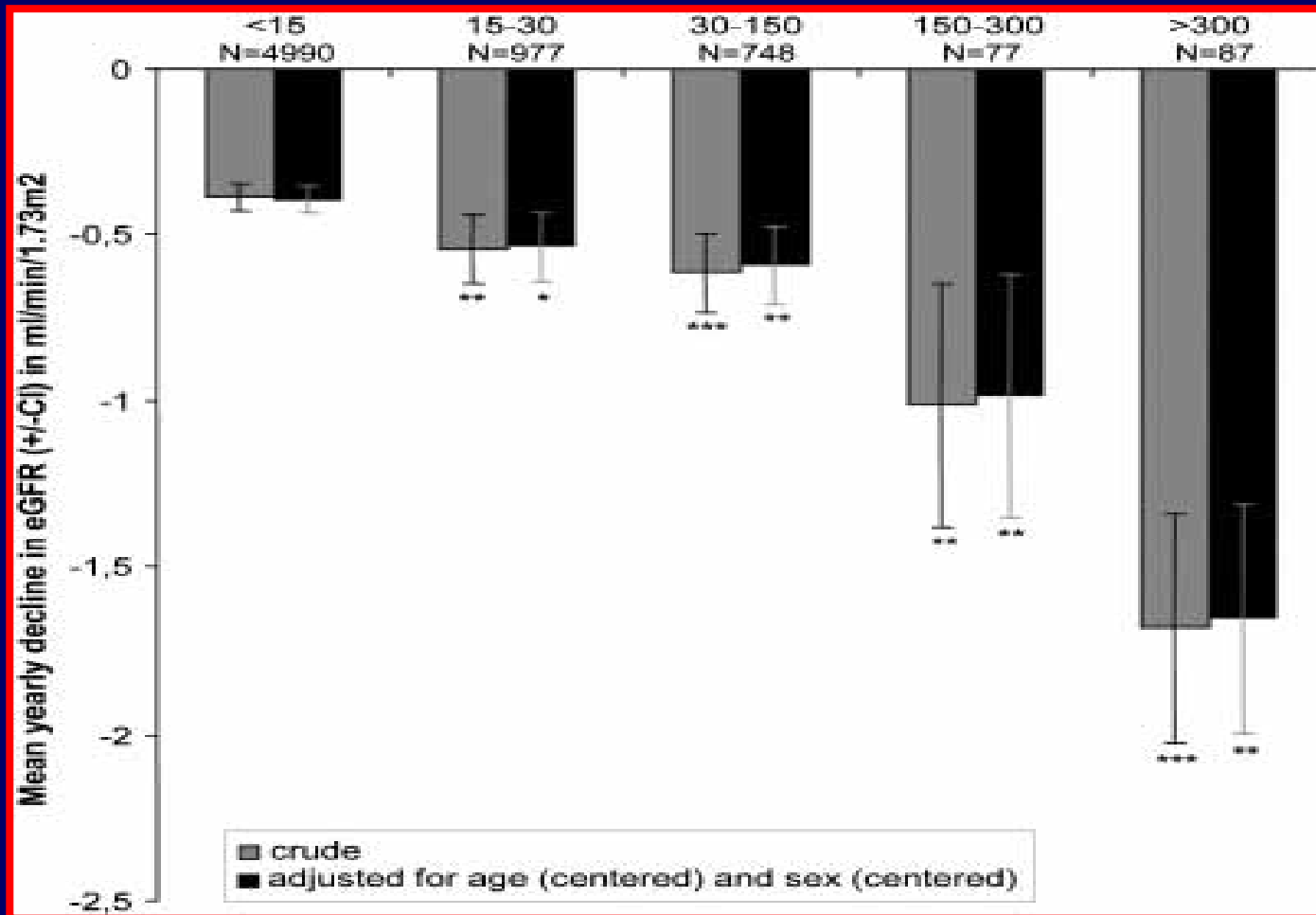
(Prevention of Renal and Vascular Endstage Disease)

n = 40,548



# PREVEND Çalışması

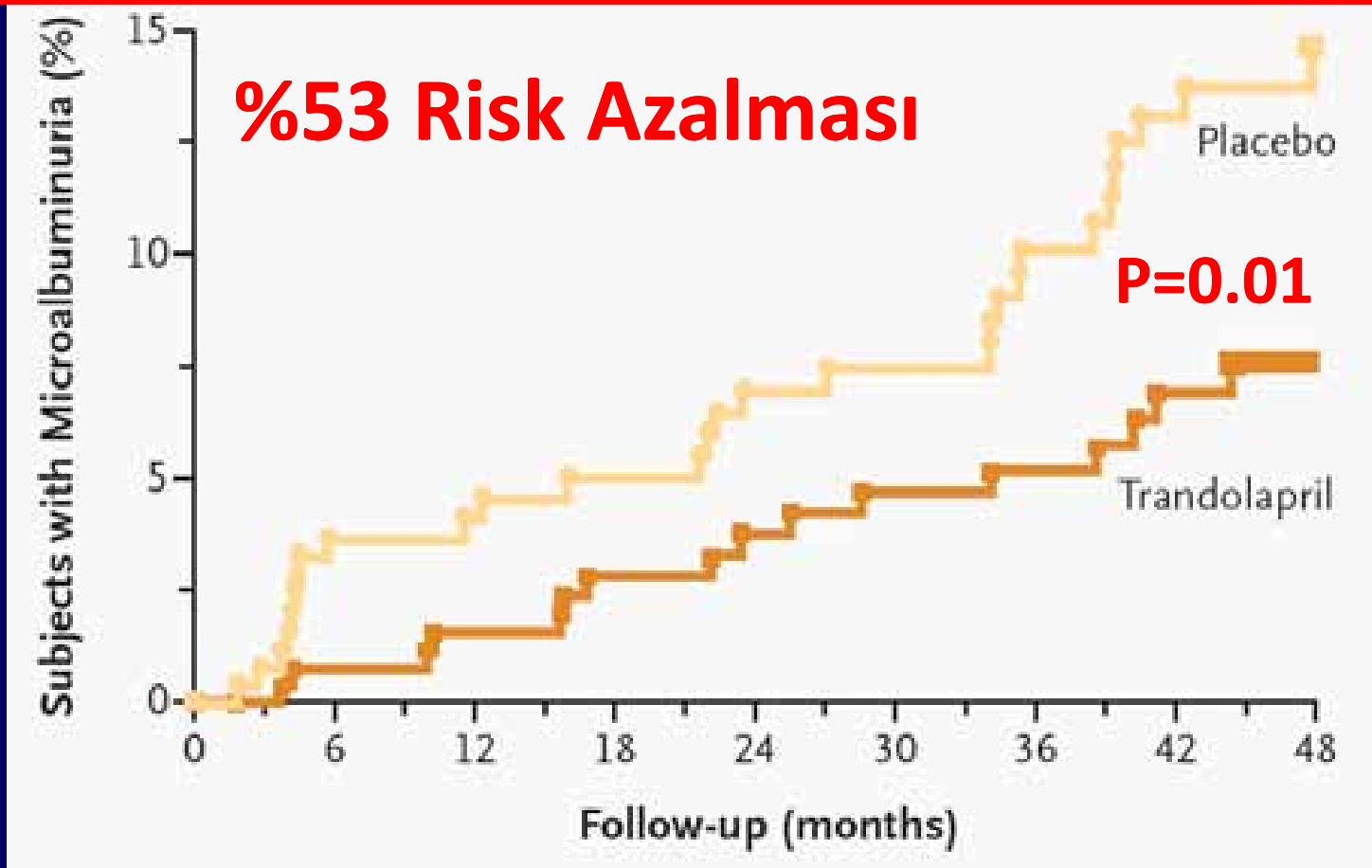
*(Prevention of Renal and Vascular Endstage Disease)*



# BENEDICT

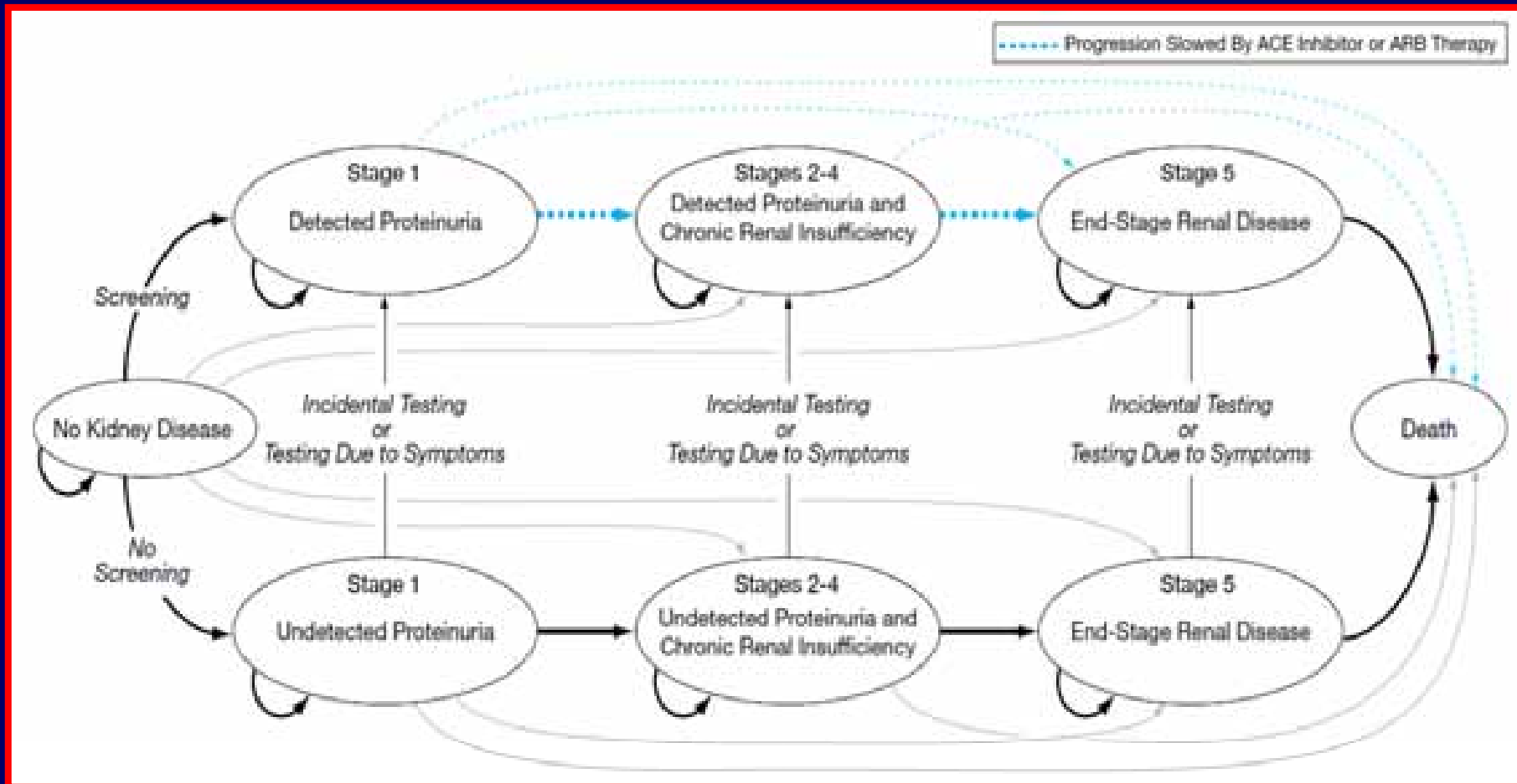
*(Bergamo Nephrologic Diabetes Complications Trial)*

Tip 2 Diyabeti ve Normoalbuminürisi Olan 1204 Hasta



# Kronik Böbrek Hastalığı Taraması

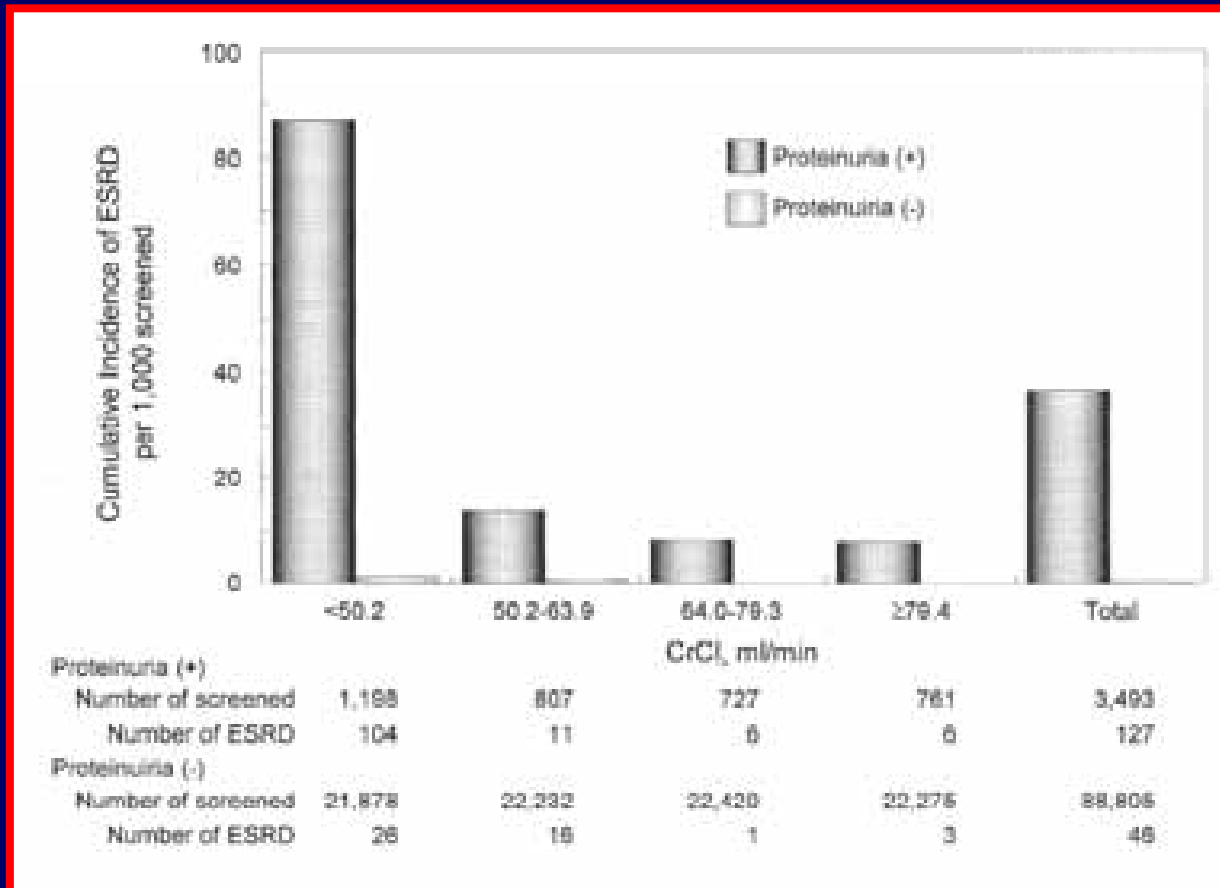
## *Yararlı mı? Ekonomik mi?*



# Relationship Between Predicted Creatinine Clearance and Proteinuria and the Risk of Developing ESRD in Okinawa, Japan

Kunitoshi Iseki, MD, Kozen Kinjo, MD, Chiho Iseki, BS, and Shuichi Takishita, MD

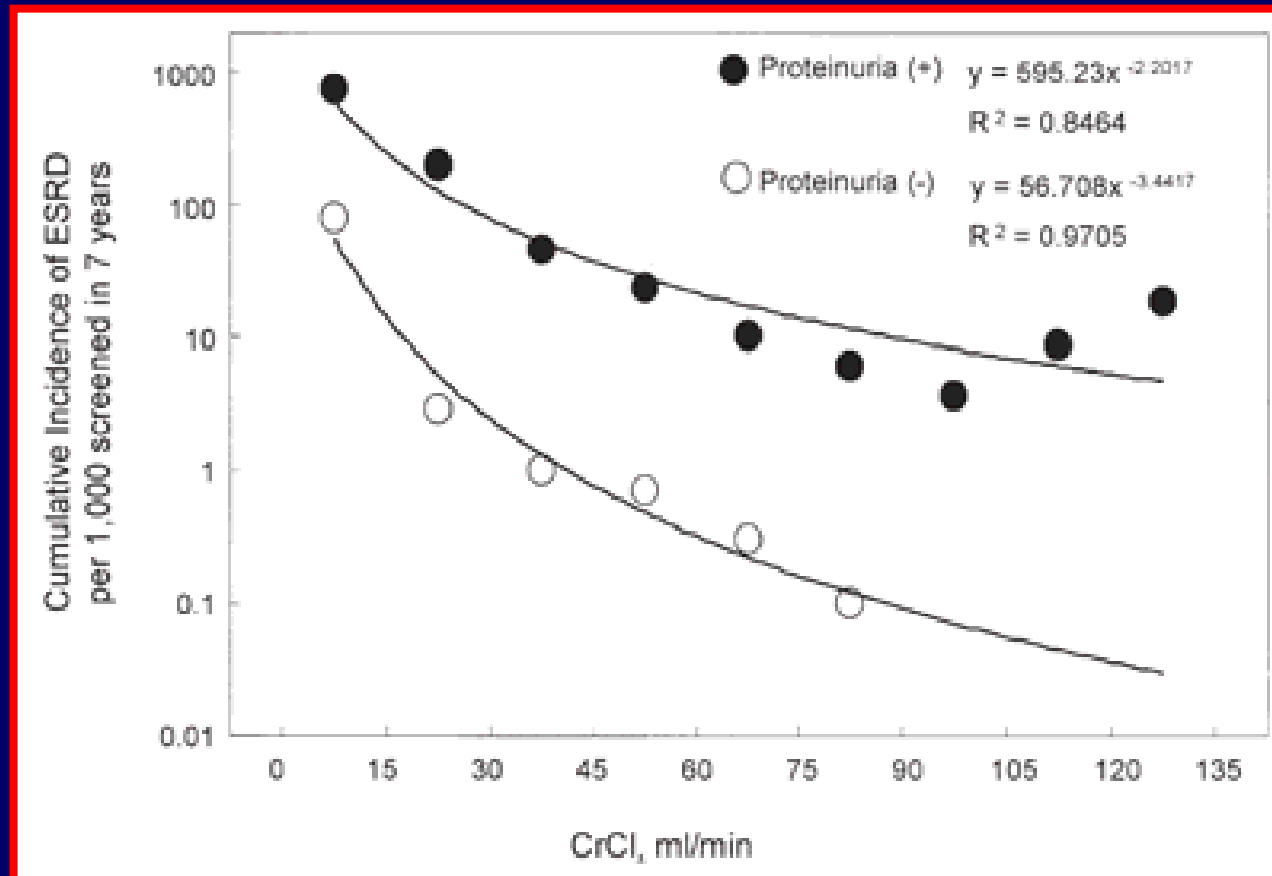
95,255 (40,157 erkek, 55,098 kadın) kişi; Yaş >20; 7 yıl takip



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95,255 (40,157 erkek, 55,098 kadın) kişi; Yaş >20; 7 yıl takip



# Kidney Disease Screening Program in Japan: History, Outcome, and Perspectives

Enyu Imai,<sup>\*</sup> Kunihiro Yamagata,<sup>†</sup> Kunitoshi Iseki,<sup>‡</sup> Hiroyasu Iso,<sup>§</sup> Masaru Horio,<sup>\*</sup> Hirofumi Mキノ,<sup>||</sup> Akira Hishida,<sup>¶</sup> and Seiichi Matsuo<sup>\*\*</sup>

*Departments of <sup>\*</sup>Nephrology and <sup>§</sup>Public Health, Osaka University Graduate School of Medicine, Suita, Osaka, <sup>†</sup>Department of Nephrology, Institute of Clinical Medicine, Graduate School of Comprehensive Human Science, University of Tsukuba, Ibaraki, <sup>‡</sup>Dialysis Unit, University Hospital of the Ryukyus, Okinawa, <sup>||</sup>Department of Medicine and Clinical Science, Okayama University Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama, <sup>¶</sup>First Department of Medicine, Hamamatsu University School of Medicine, Shizuoka, and <sup>\*\*</sup>Department of Nephrology, Nagoya University Graduate School of Medicine, Nagoya, Japan*

## Zorunlu Taramalar

1972: Çalışan her erişkinde her yıl idrar tahlili

1973: Okul çocuklarında her yıl idrar tahlili

1982: Yaşı >40 olan herkeste her yıl idrar tahlili

1992: Yaşı >40 olan herkeste her yıl idrar tahlili ve serum kreatinin tayini

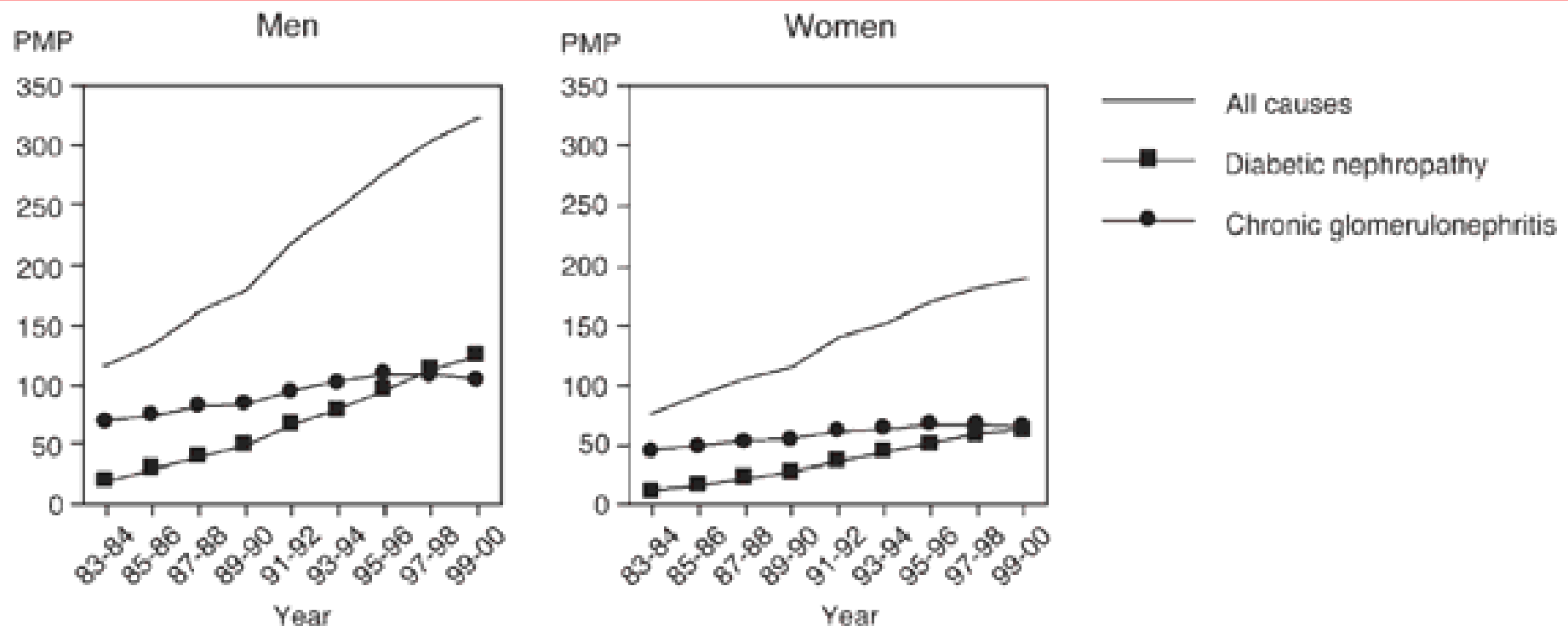
nephropathy in 2005.

*Clin J Am Soc Nephrol* 2: 1360–1366, 2007. doi: 10.2215/CJN.00980207

*Original Article*

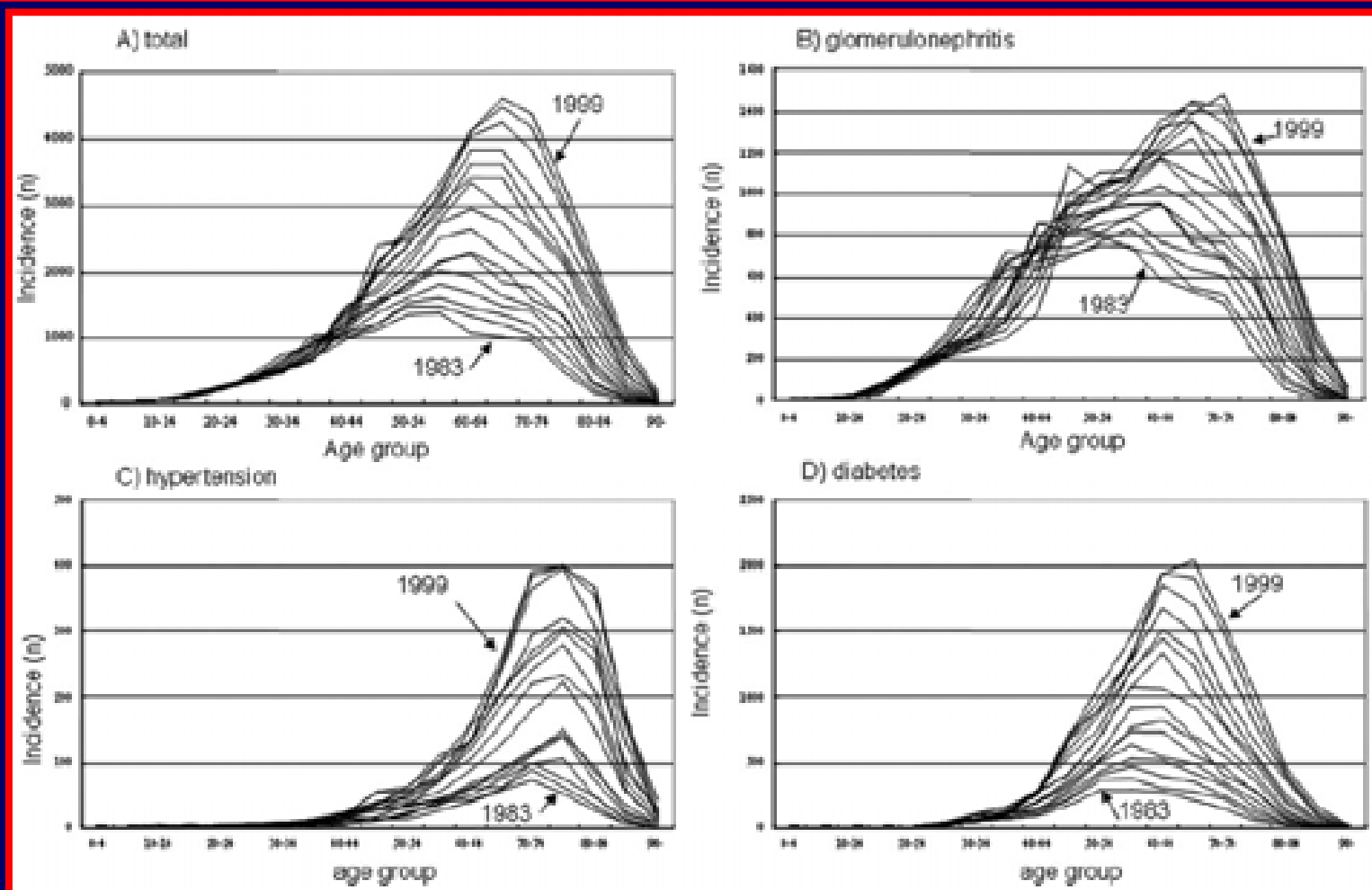
**Trends in incidence of end-stage renal disease in Japan, 1983–2000:  
age-adjusted and age-specific rates by gender and cause**

Kenji Wakai<sup>1</sup>, Shigeru Nakai<sup>2</sup>, Kenjiro Kikuchi<sup>2</sup>, Kunitoshi Iseki<sup>2</sup>, Naoko Miwa<sup>2</sup>, Ikuto Masakane<sup>2</sup>,  
Atsushi Wada<sup>2</sup>, Takahiro Shinzato<sup>2</sup>, Yuji Nagura<sup>2</sup> and Takashi Akiba<sup>2</sup>



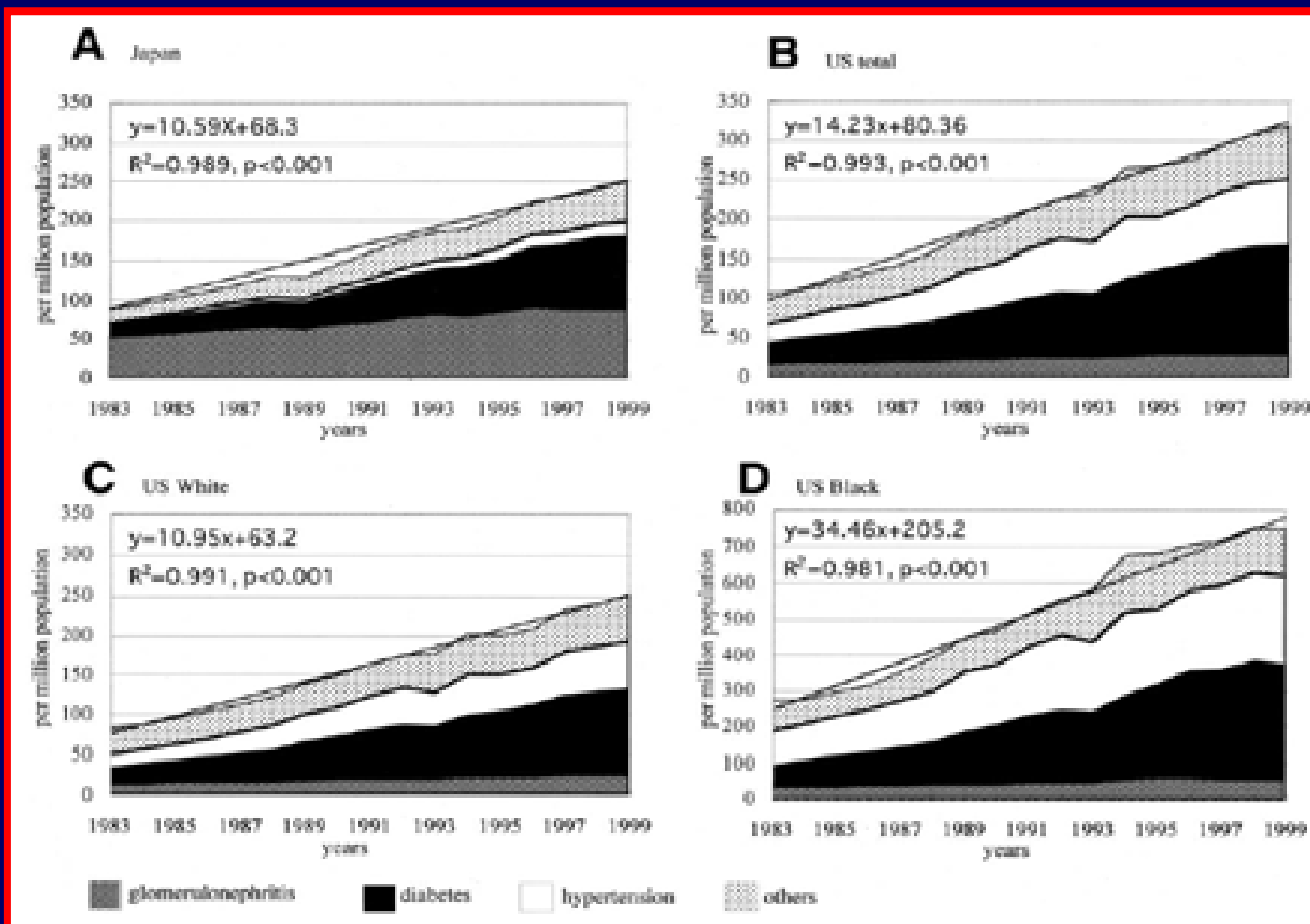
## Age Distribution and Yearly Changes in the Incidence of ESRD in Japan

Kunihiro Yamagata, MD, PhD, Hideto Takahashi, PhD, Soh Suzuki, MD, Kaori Mase, MD, PhD, Masahiro Hagiwara, MD, Yoshio Shimizu, MD, PhD, Kouichi Hirayama, MD, PhD, Masaki Kobayashi, MD, PhD, Mitsuharu Narita, MD, PhD, and Akio Koyama, MD, PhD



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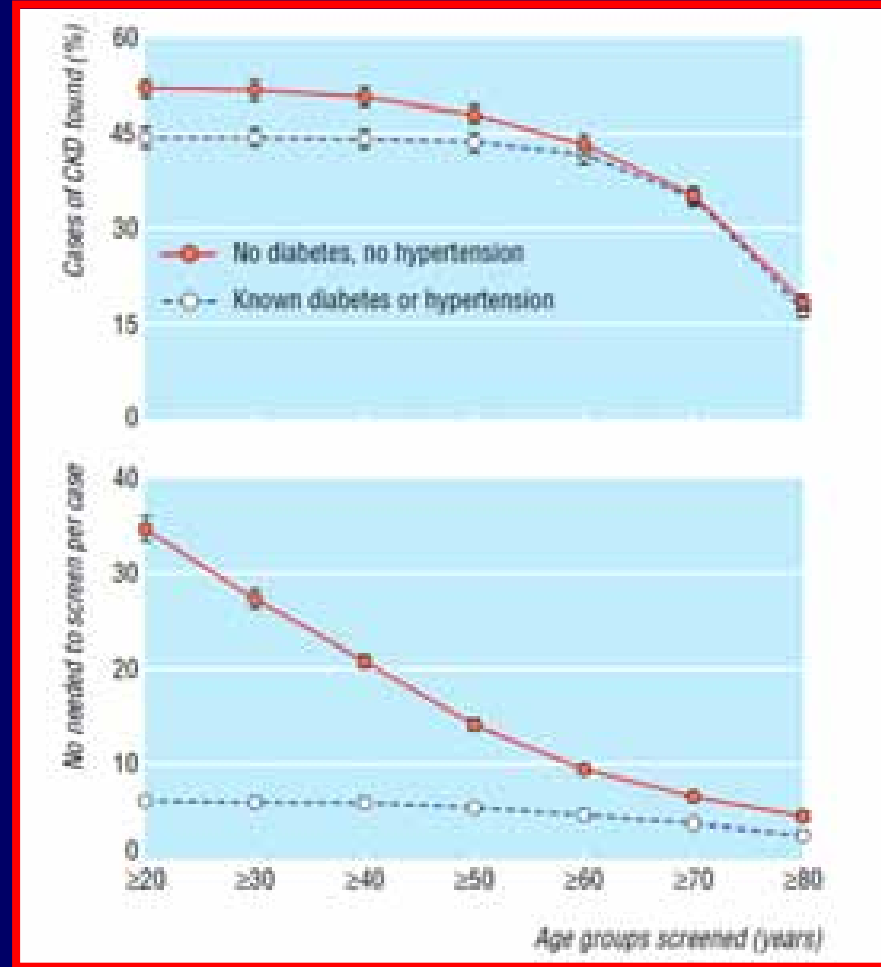
# HUNT Çalışması

(Nord-Trondelag Health Study)

- Norveç'te genel nüfusta 65,604 erişkinin taranması
- Kesitsel çalışma
- 8 yıl boyunca takip
- KBH: eGFR <60 ml/dak/1.73 m<sup>2</sup>

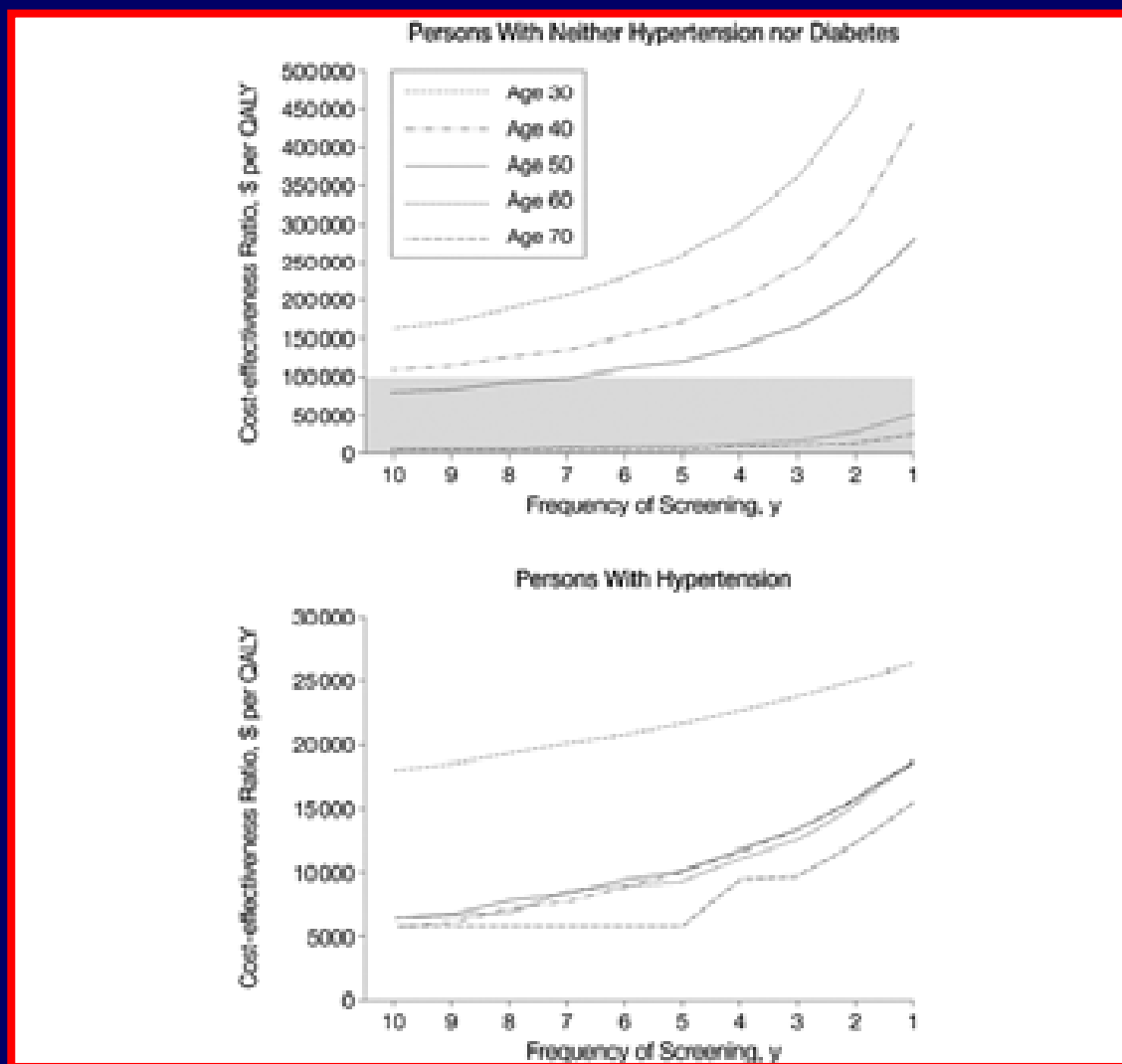
Genel nüfusta 20.6 kişi taranırsa bir KBH saptanır.

Hipertansiyonu veya diyabeti olan veya yaşı >55 olan 8.7 kişi taranırsa bir KBH saptanır.



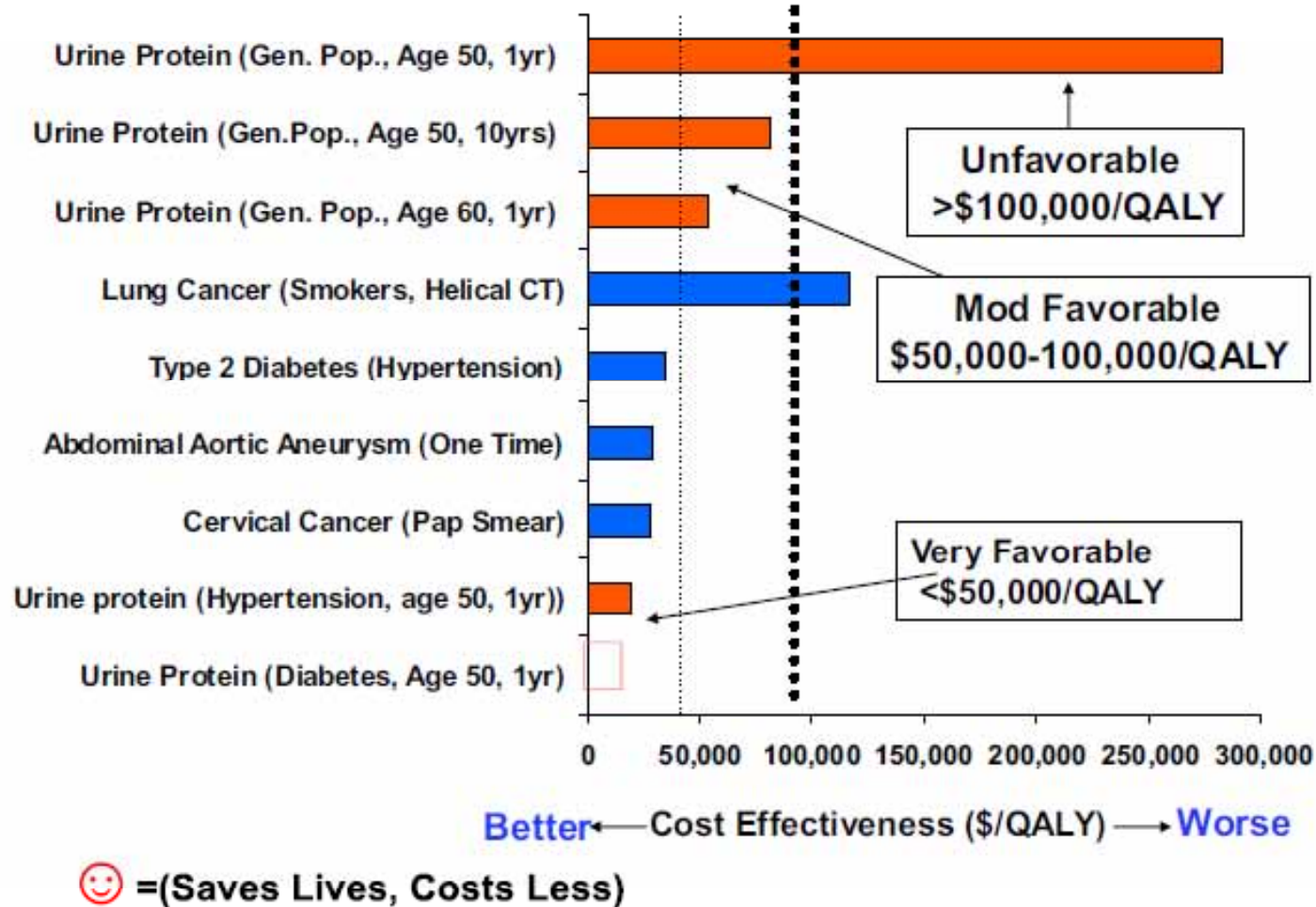
# Screening for Proteinuria in US Adults

## A Cost-effectiveness Analysis



# Screening for Proteinuria in US Adults

## A Cost-effectiveness Analysis



## Screening Populations at Increased Risk of CKD: The Kidney Early Evaluation Program (KEEP) and the Public Health Problem

*Joseph A. Vassalotti, MD,<sup>1,2</sup> Suying Li, PhD,<sup>3</sup> Shu-Cheng Chen, MS,<sup>3</sup> and Allan J. Collins, MD<sup>3,4</sup>*

The epidemiological characteristics of the US end-stage renal disease population growth and increased costs in the late 1980s framed the public health agenda for the development of a community-based chronic kidney disease (CKD) screening program. Development of the National Kidney Foundation Kidney Early Evaluation Program (KEEP) included 2 preliminary screening programs, the Computerized Assessment of Risk and Education and the KEEP pilot, which was organized around the African American Study of Kidney Diseases clinical centers. The current KEEP program, launched in August 2000, targets individuals with diabetes, hypertension, or a family history of diabetes or hypertension or CKD. The screening includes informed consent, health screening questionnaire, diagnostic panel, and physician consultation. Participants are followed up by telephone and mail. Of 100,000 KEEP participants screened, 28.7% have CKD and 6.7% self-reported CKD stages 1 to 5. Conversely, National Health and Nutrition Examination Survey 1999-2002 results show 13.1% CKD prevalence; 2.9% of women and 17.9% of men with an estimated glomerular filtration rate less than 60 mL/min/1.73 m<sup>2</sup> self-report CKD. CKD prevalences in KEEP by stage are 3.1% for stage 1; 4.8%, stage 2; 19.7%, stage 3; and 1.1%, stages 4 and 5, confirming the ability of this targeted screening program to detect CKD early. In addition to identifying individuals at increased risk of kidney disease, KEEP's structured data collection provides an opportunity to advance knowledge about kidney disease and advance the CKD public health agenda.

*Am J Kidney Dis 53(S3):S107-S114. © 2009 by the National Kidney Foundation, Inc.*

**Kronik böbrek hastalığı olanların  
sadece %6.7'si hasta olduğunu biliyor!**

## Establishing the Global Kidney Disease Prevention Network (KDPN): A Position Statement From the National Kidney Foundation

*Gregorio T. Obrador, MD, MPH,<sup>1</sup> Mitra Mahdavi-Mazdeh, MD,<sup>2</sup> and  
Allan J. Collins, MD,<sup>3</sup> on behalf of the Global Kidney Disease Prevention Network\**

The Global Kidney Disease Prevention Network is an international public health organization devoted to encouraging and enhancing efforts to increase awareness and recognition of kidney disease, detect it early, and provide treatment to prevent disease progression, improve patient outcomes, and decrease costs. Twenty-six participants from 12 low-, middle-, and high-income countries attended the first meeting, held in Geneva, Switzerland, on September 12-13, 2009. Work groups discussed target populations for chronic kidney disease (CKD) screening, optimal parameters for screening on a public health level, evaluating the impact of early screening programs, and use of screening data to inform health care policy. Of the screening programs discussed, most have targeted populations at high risk of CKD and have included medical history, weight, height, and blood pressure measurements; and blood and urine tests. In screenees, CKD prevalence ranged from 11%-33%. In screenees with CKD, few were aware of the disease, although substantial proportions had been seen by a physician in the previous 6-12 months. At the policy level, prevention of CKD implies prevention and control of risk-factor conditions, including diabetes, hypertension, and others. Given the high prevalence and under-recognition of CKD in different countries, a concerted effort to globally improve primary and secondary CKD prevention appears to be warranted.

*Am J Kidney Dis. 57(3):361-370. © 2011 by the National Kidney Foundation, Inc.*

- Düşük, orta ve yüksek geliri olan 12 ülke
- Çoğu ülkede yüksek riskli grubun taranması hedefleniyor
- Tarananlarda kronik böbrek hastalığı prevalansı: %11-%33
- Hastaların çoğu son 6-12 ay içinde bir hekim tarafından kontrol edildiği halde az bir kısmı hasta olduğunu biliyor!

# Chronic kidney disease as a global public health problem: Approaches and initiatives – a position statement from Kidney Disease Improving Global Outcomes

AS Levey<sup>1</sup>, R Atkins<sup>2</sup>, J Coresh<sup>3</sup>, EP Cohen<sup>4</sup>, AJ Collins<sup>5</sup>, K-U Eckardt<sup>6</sup>, ME Nahas<sup>7</sup>, BL Jaber<sup>8</sup>, M Jadoul<sup>9</sup>, A Levin<sup>10</sup>, NR Powe<sup>11</sup>, J Rossert<sup>12</sup>, DC Wheeler<sup>13</sup>, N Lameire<sup>14</sup> and G Eknoyan<sup>15</sup>

## Kronik Böbrek Hastalığı Açısından Taranması Gereken Yüksek Riskli Gruplar

### Çok Öncelikli

- Hipertansiyon
- Diyabet
- Kardiyovasküler hastalık

### Taranması Düşünülmeli

- İleri yaş
- Ailede böbrek hastalığı hikâyesi
- Toksik ilaçlara maruz kalma
- Belirli kronik infeksiyonlar
- Belirli kanserler

# Dünya Nefroloji Derneği'nin Bildirisi

A report with consensus statements of the International Society of Nephrology 2004 Consensus Workshop on Prevention of Progression of Renal Disease, Hong Kong, June 29, 2004

**PHILIP KAM-TAO LI, JAN J. WEENING, JOHN DIRKS, SING LEUNG LUI, CHEUK CHUN SZETO, SYDNEY TANG, ROBERT C. ATKINS, WILLIAM E. MITCH, KAI MING CHOW, GIUSEPPE D'AMICO, BARRY L. FREEDMAN, DAVID C. HARRIS, LAI-SEONG HOOL, PAUL E. DE JONG, PRISCILLA KINCAID-SMITH, KAR NENG LAI, EVAN LEE, FU-KEUNG LI, SHAN-YAN LIN, WAI-KEI LO, M.K. MANI, TIMOTHY MATHREW, MUTSUMI MURAKAMI, JIA-QI QIAN, SYLVIA RAMIREZ, THOMAS REISER, YASUHIKO TOMINO, MATTHEW K. TONG, WAI-KAY TSANG, KRIANG TUNGSANGA, HAIYAN WANG, ANDREW K. WONG, KIM MING WONG, WU-CHANG YANG, DICK DE ZEEUW, ALEX W. YU, GIUSEPPE REMUZZI, ON BEHALF OF THE PARTICIPANTS OF ISN CONSENSUS WORKSHOP ON PREVENTION OF PROGRESSION OF RENAL DISEASE**

# Dünya Nefroloji Derneği'nin Bildirisi

- Diyabeti ve hipertansiyonu olan tüm hastalar böbrek hastalığı gelişimi açısından düzenli olarak taranmalıdır.
- Ailesinde diyabete, hipertansiyona veya glomerulonefrite bağlı nefropati olanlar taranmalıdır.
- 60 – 65 yaşın üzerinde olanlar KBH açısından risk altındadır. Fakat kaç yaşından itibaren tarama gerektiği ile ilgili bir fikir birliği yoktur.

# Dünya Nefroloji Derneği'nin Bildirisi

- Hem halka, hem de sağlık hizmetinde çalışanlara kronik böbrek hastalığının önlenmesinde erken tanının önemi öğretilmelidir. Bu konuda ülke politikası geliştirilmelidir.
- Kronik böbrek hastalığı olan tüm hastalar geleneksel kardiyovasküler risk faktörleri açısından taranmalıdır.
- Değişik ülkeler ve etnik gruplar için ideal GFR formülleri belirlenmelidir.

# Erken Tanı Hayat Kurtarır!



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## About Kidney Diseases

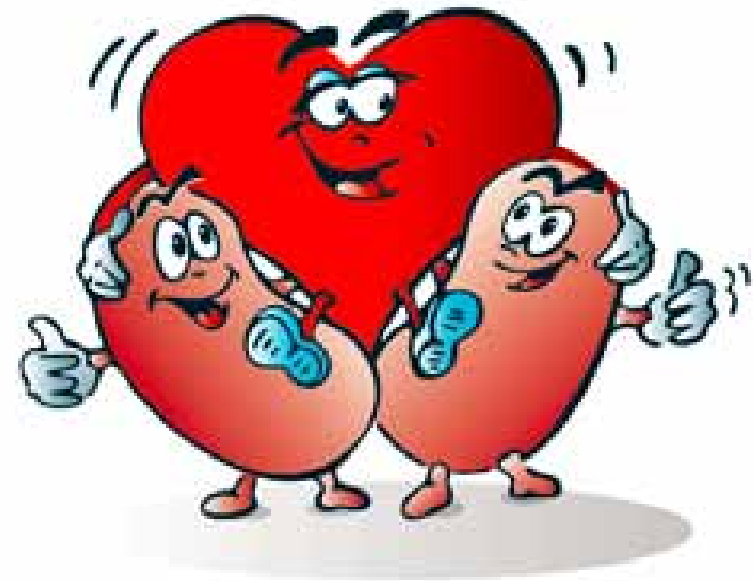
Kidney diseases are Common, Harmful and Treatable

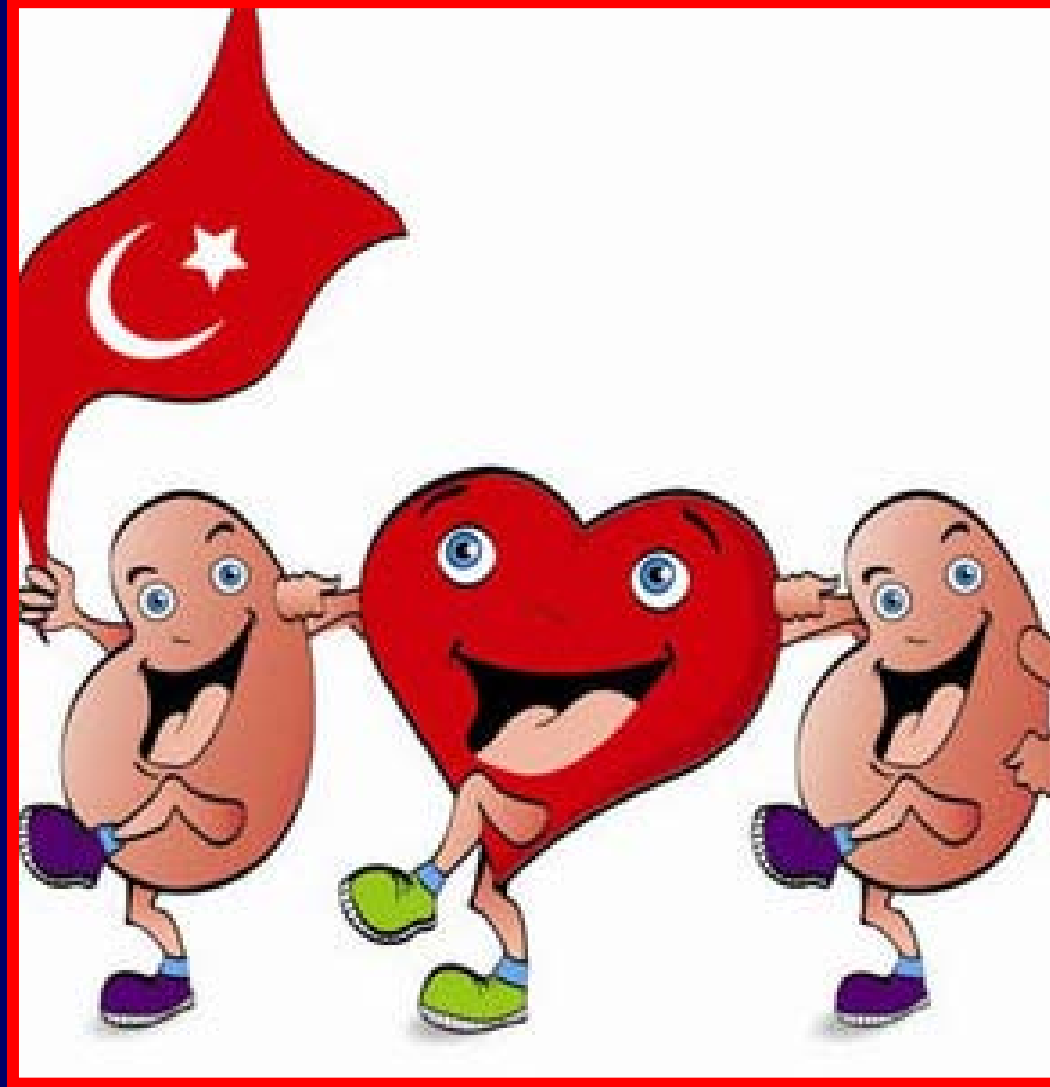
### COMMON

More than 5% of the adult population have some form of kidney damage, and every year millions die prematurely of cardiovascular diseases linked to Chronic Kidney Diseases (CKD).

### HARMFUL

Common causes of CKD include inflammatory diseases of the kidney, infections, obstruction in the urinary tract and inherited disorders like polycystic kidney disease. But in both developed and developing nations diabetes and hypertension are becoming the most common causes of CKD, especially in older people. These are also the most common causes of cardiovascular disease (CVD).





**BÖBREKLERİNİ KORUYAN, KALBİNİ DE KORUR**