

Proteinüri ve Renal Korumada ACEİ ve ARB Farklı mı?



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**İstanbul Tıp Fakültesi
Nefroloji Bilim Dalı**

May 24, 1890

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**TWO CLINICAL LECTURES
ON ALBUMINURIA**

Delivered at Guy's Hospital

By JAMES F. GOODHART, M.D., F.R.C.P.

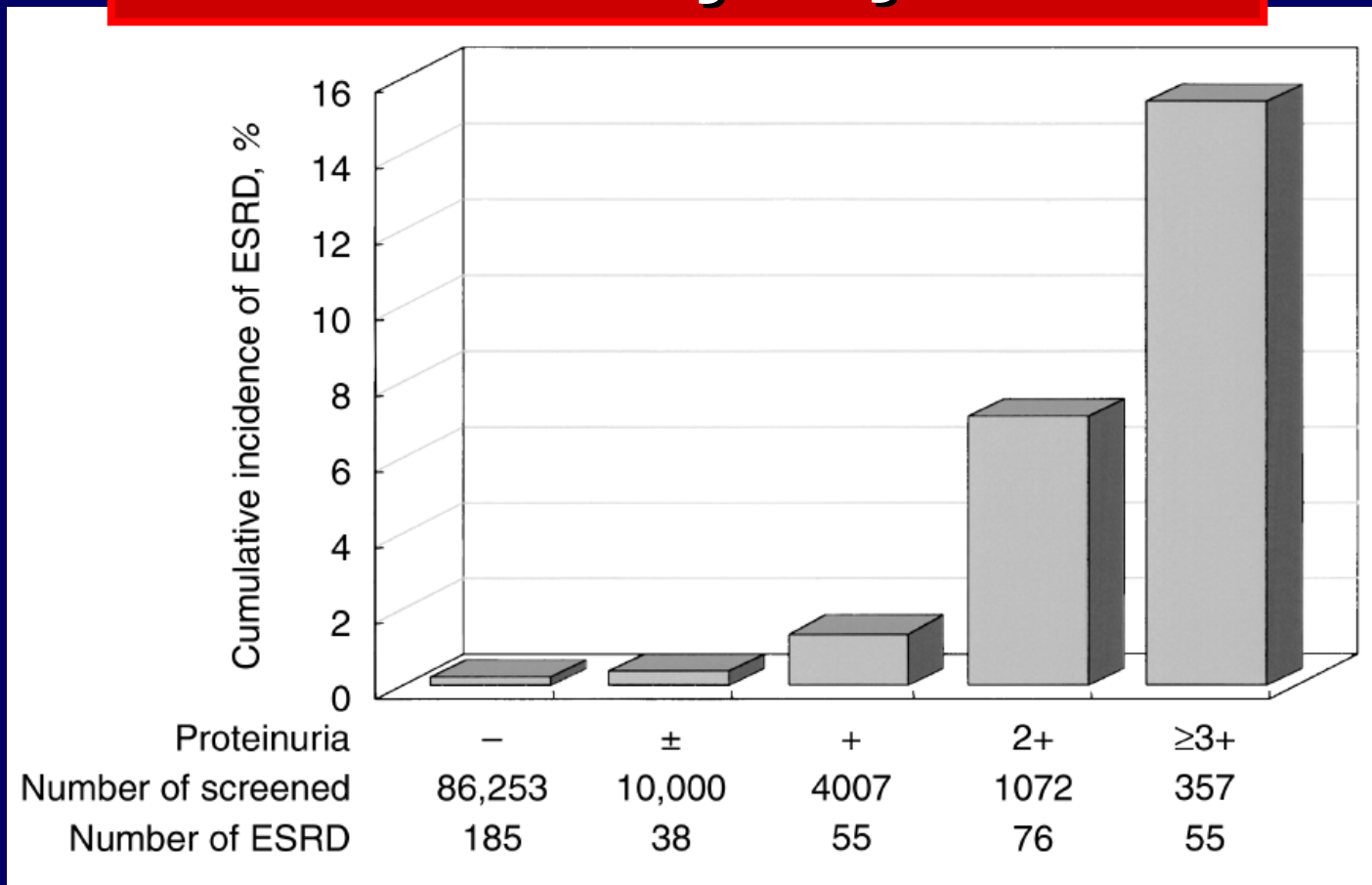
Physician to the Hospital

**What is the best treatment for chronic
parenchymatous nephritis?**

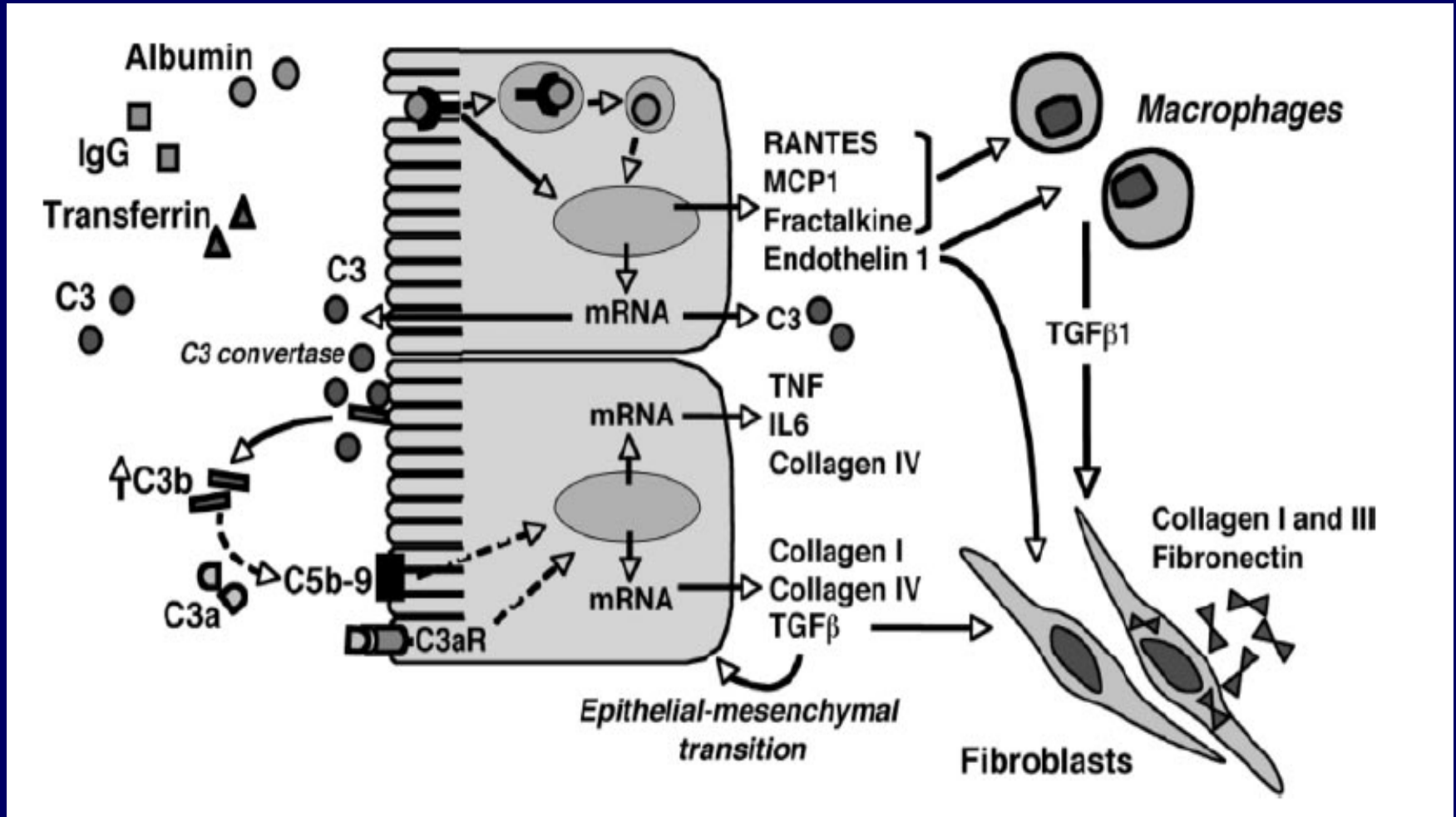
There is no drug of which we can
say that it will “go for” the
inflammation;
there is no drug that I know of that
can be depended upon to lessen the
output of albumen

Proteinüri ve SDBY

Okinawa Çalışması

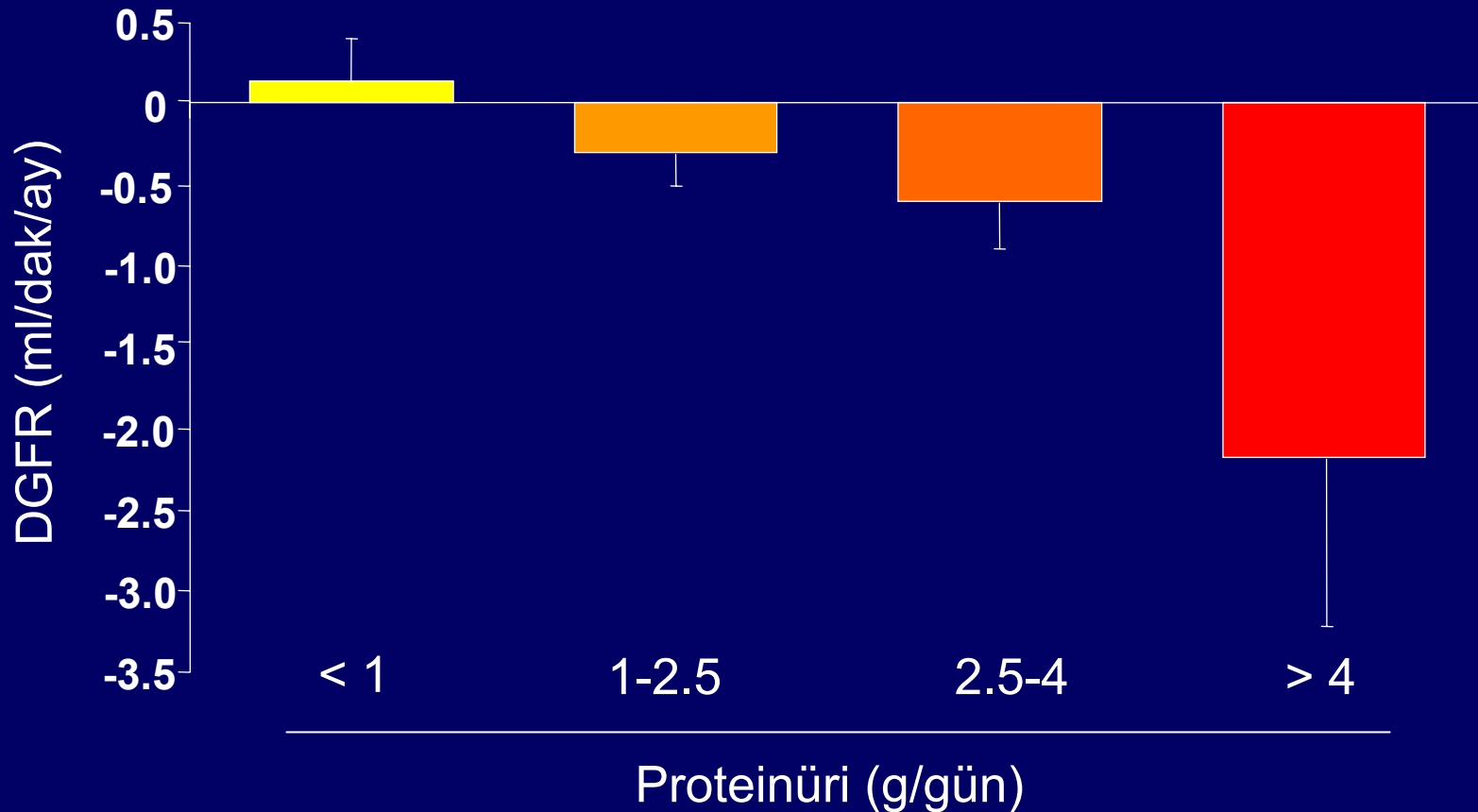


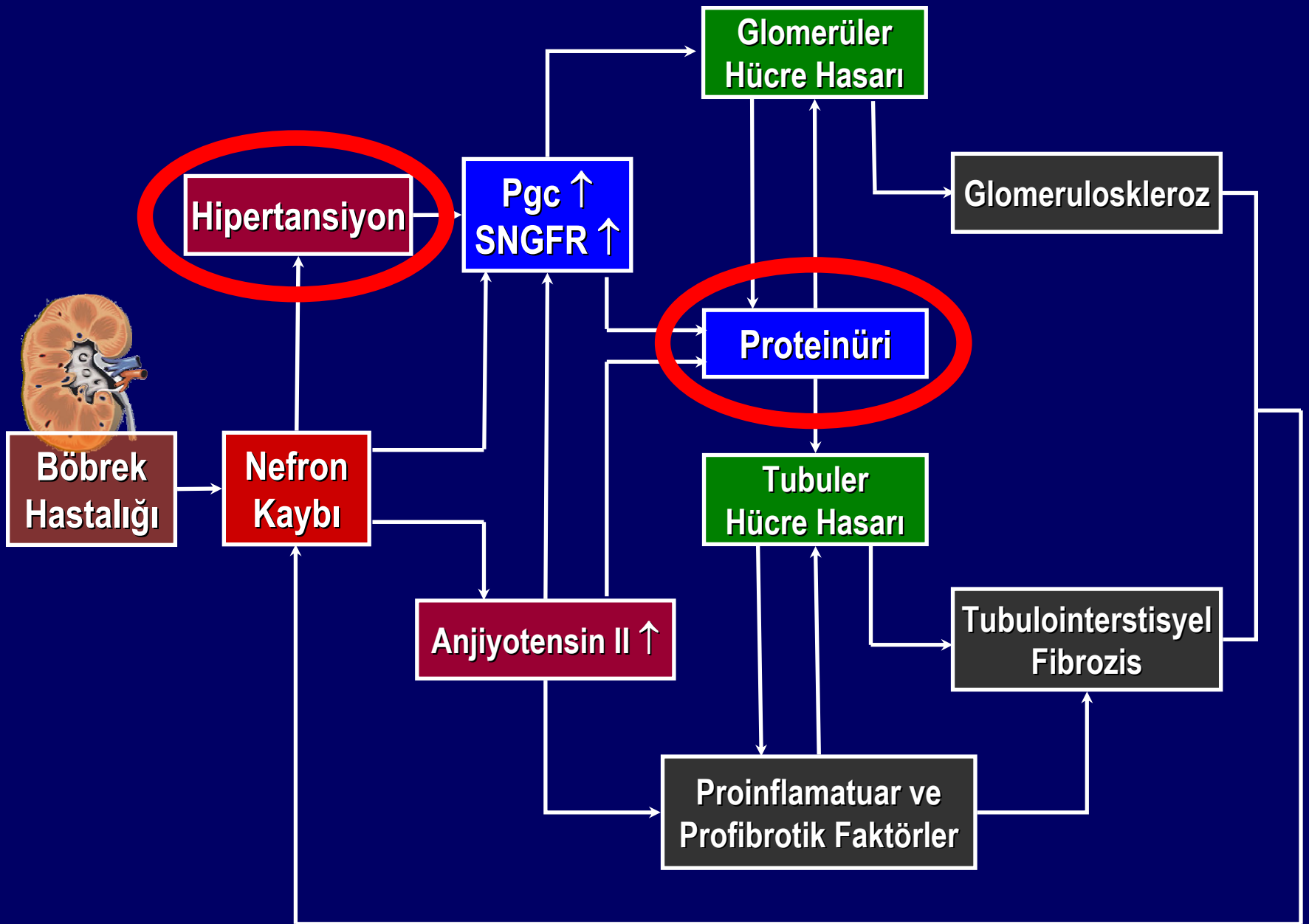
Proteinüri ve Renal Hasar



Proteinüri ve Böbrek Yetersizliği

REIN (*Ramipril Efficacy In Nephropathy*)





The Message for World Kidney Day 2009: Hypertension and Kidney Disease: A Marriage that Should Be Prevented

George L. Bakris* and Eberhard Ritz,[†] on behalf of the World Kidney Day Steering Committee*

**Department of Medicine, Pritzker School of Medicine, University of Chicago, Chicago, Illinois; [†]Department of Medicine, Ruperto Carola University of Heidelberg, Heidelberg, Germany*

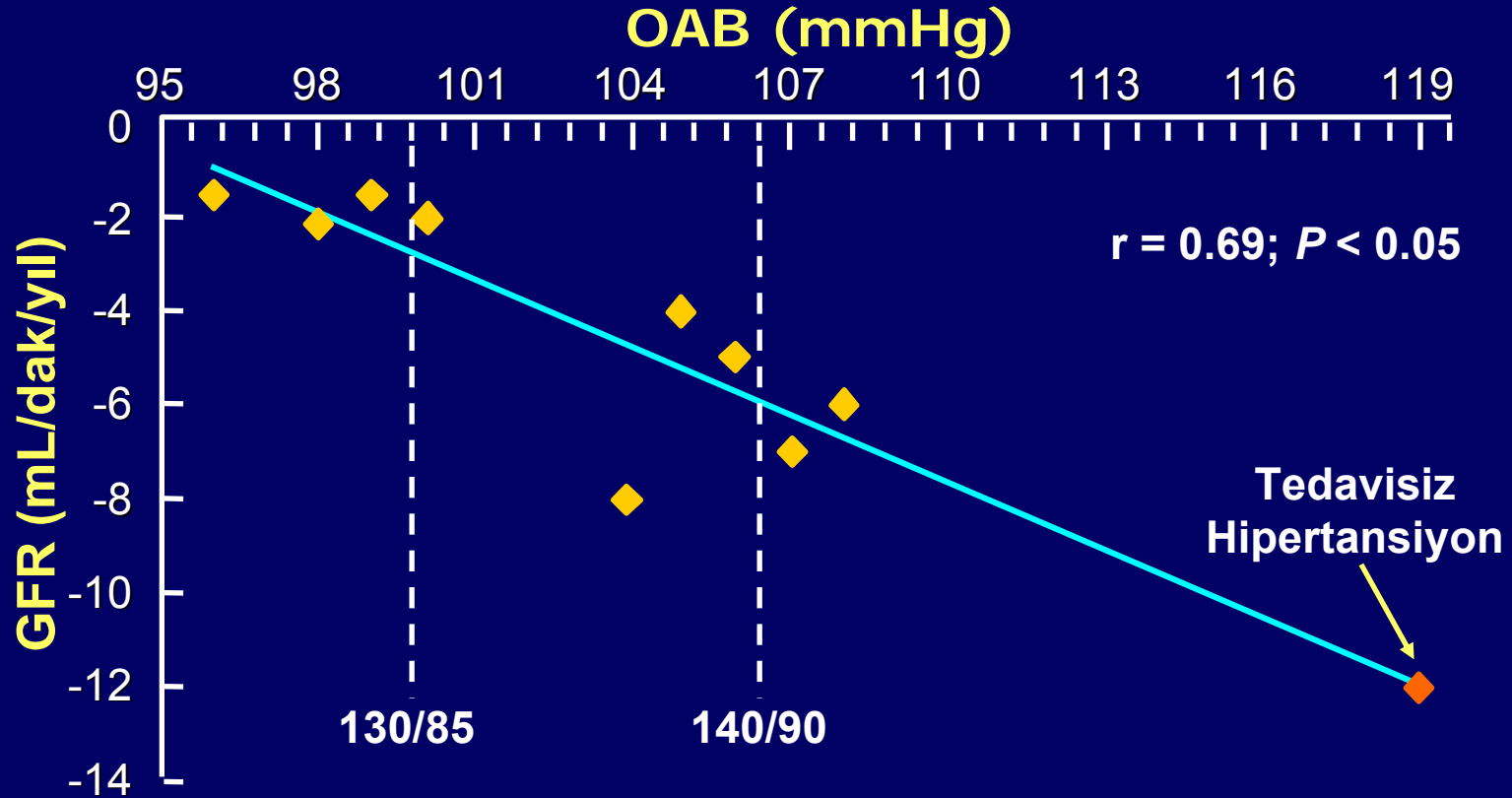
Clin J Am Soc Nephrol 4: 517–519, 2009. doi: 10.2215/CJN.00080109

The kidney is both a cause and victim of hypertension. High BP is a key pathogenetic factor that contributes to deterioration of kidney function. Presence of kidney disease is a common and underappreciated pre-existing medical cause of resistant hypertension (1). Therefore, treatment of hypertension has become the most important intervention in the management of all forms of chronic kidney disease (CKD). For this reason, the forthcoming World Kidney Day (WKD) on March 12th 2009 will emphasize the role of hypertension for renal disease.

What Is the Worldwide Frequency of CKD?

The frequency of CKD continues to increase worldwide, as does the prevalence of ESRD (4,5). The most common, but not only, causes of CKD are hypertension and diabetes. The presence of CKD is associated with a large increase in CV risk. Moreover, CV risk increases proportionally as eGFR falls below 60 ml/min. Lastly, death from CV causes is higher in CKD and much higher than that of cancer in CKD; as a result, the identification and reduction of CKD has become a public health priority (6).

Kronik Böbrek Yetersizliğinde Kan Basıncı Kontrolü ve Progresyon

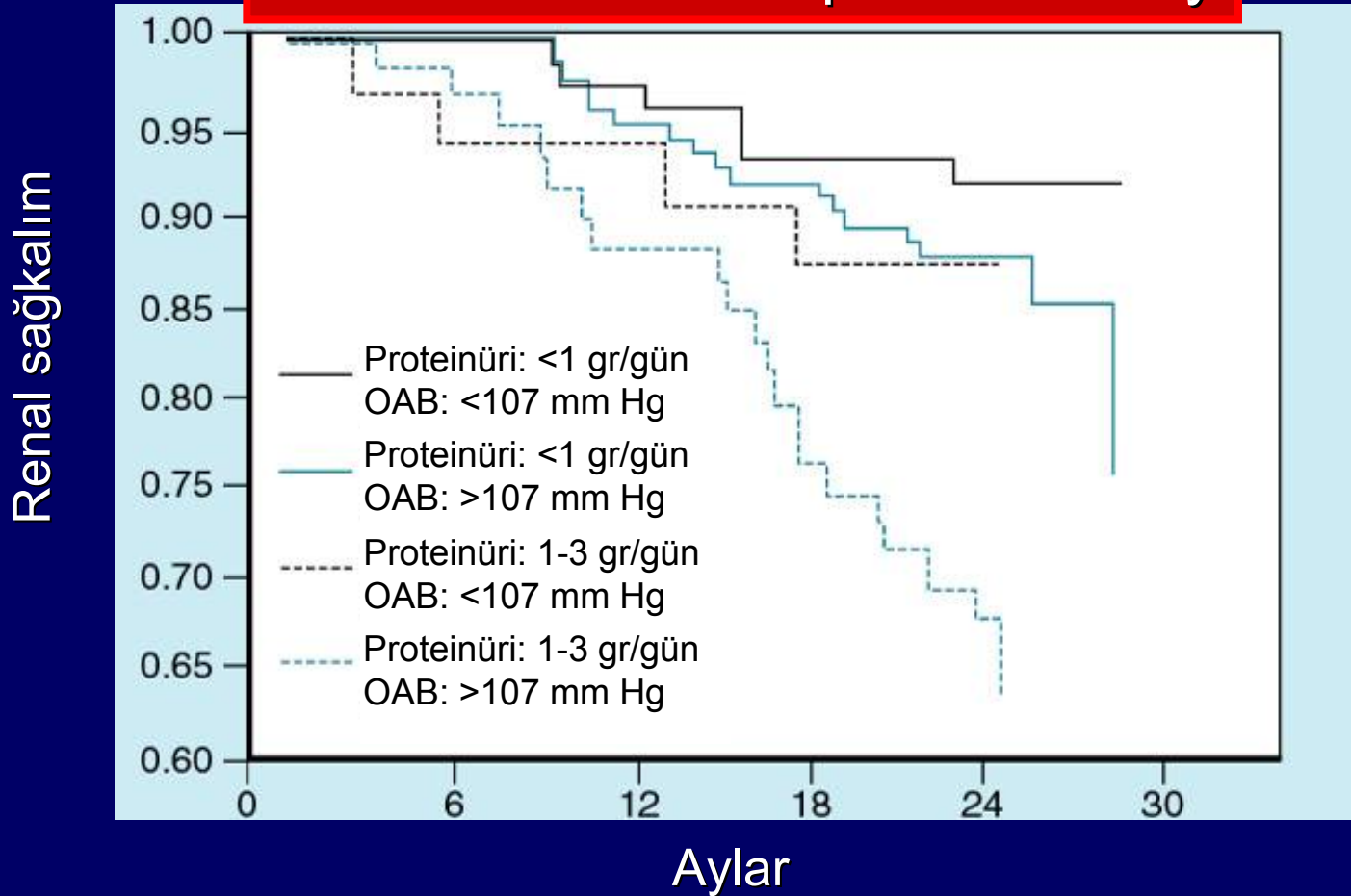


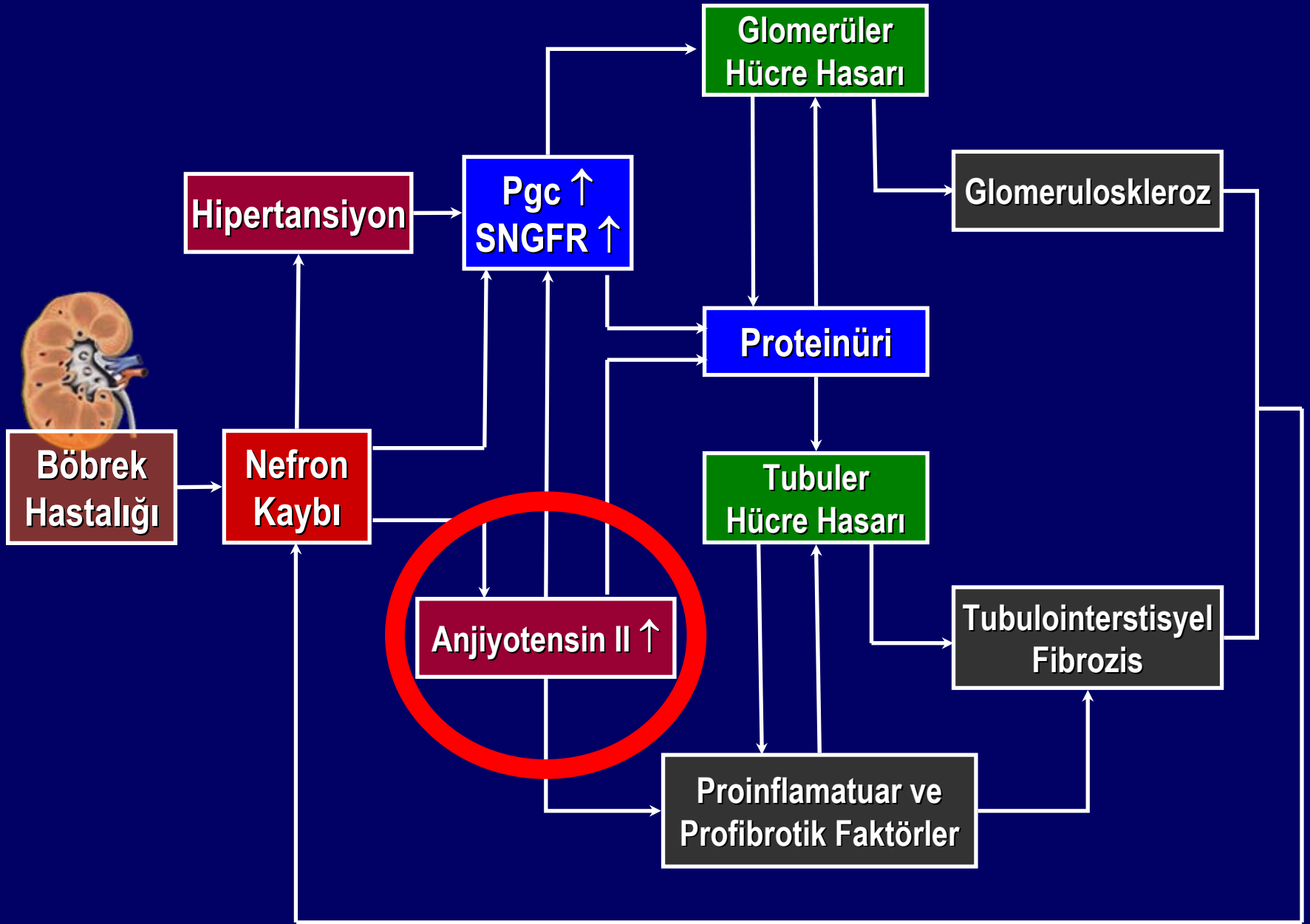
Parving HH, et al. Br Med J. 1989.
Viberti GC, et al. JAMA. 1993.
Klahr S, et al. N Eng J. Med 1994.
Hebert L, et al. Kidney Int. 1994.
Lebovitz H, et al. Kidney Int. 1994.

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

Hipertansiyon ve Proteinüri ile Böbrek Yetersizliği İlişkisi

Northern Italian Cooperative Study





Therapeutic Advantage of Converting Enzyme Inhibitors in Arresting Progressive Renal Disease Associated with Systemic Hypertension in the Rat

Sharon Anderson, Helmut G. Rennke, and Barry M. Brenner

*With the technical assistance of J. L. Troy, J. L. Noddin, A. W. Nunn, S. L. Riley,
Laboratory of Kidney and Electrolyte Physiology, Departments of Medicine and Pathology,
Harvard Medical School, Boston, Massachusetts 02115*

Haziran 1986

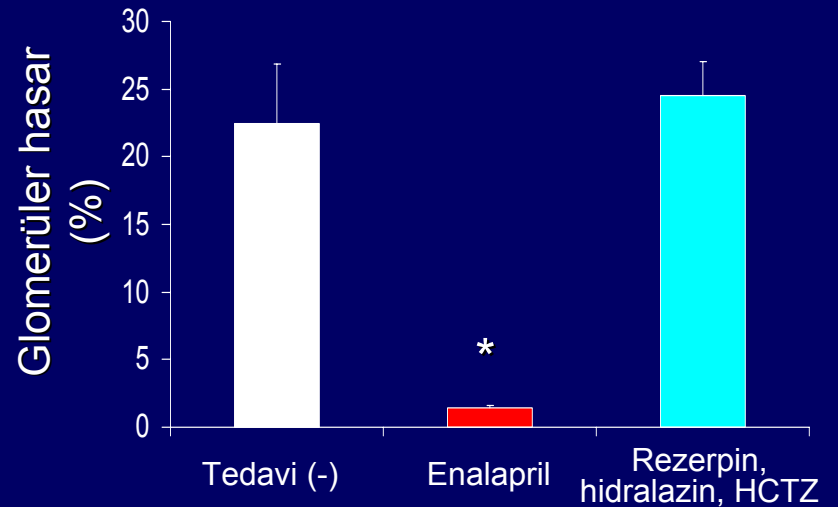
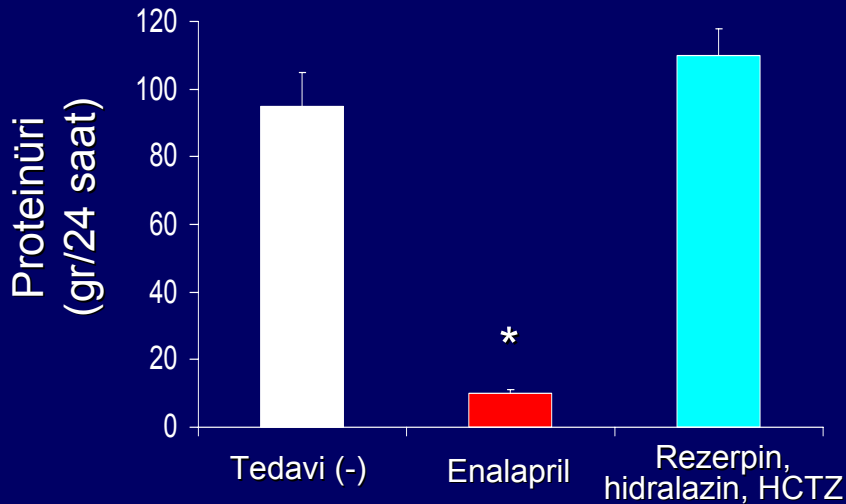
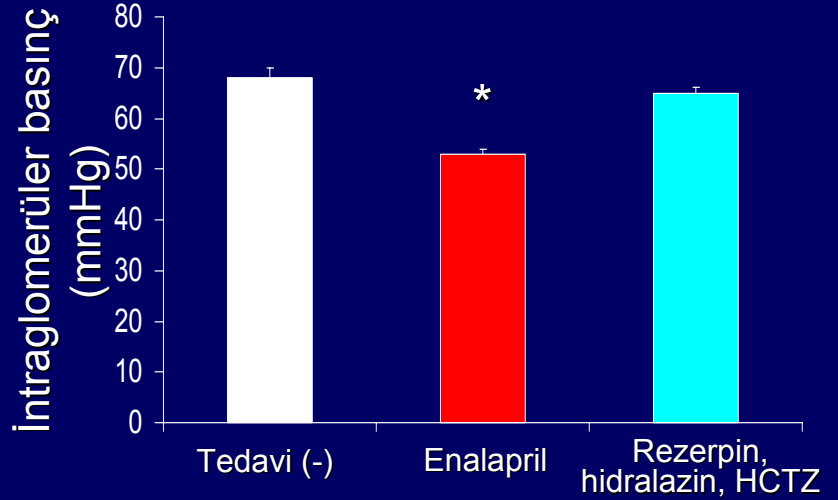
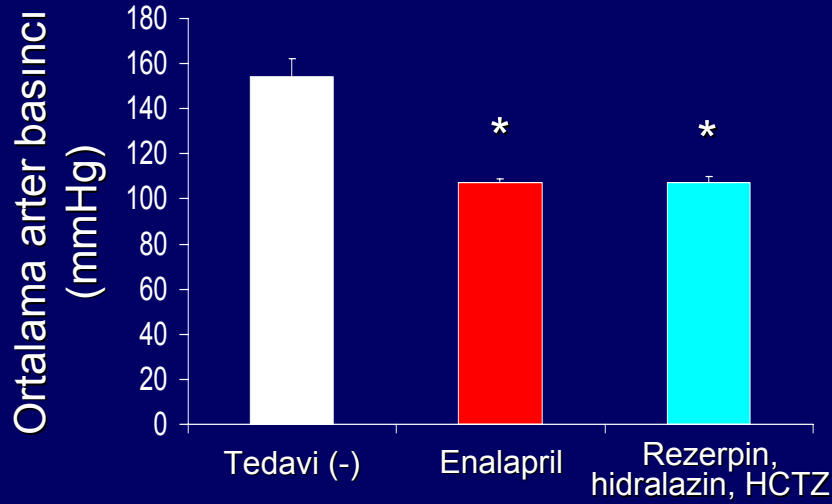


Therapeutic Advantage of Converting Enzyme Inhibitors in Arresting Progressive Renal Disease Associated with Systemic Hypertension in the Rat

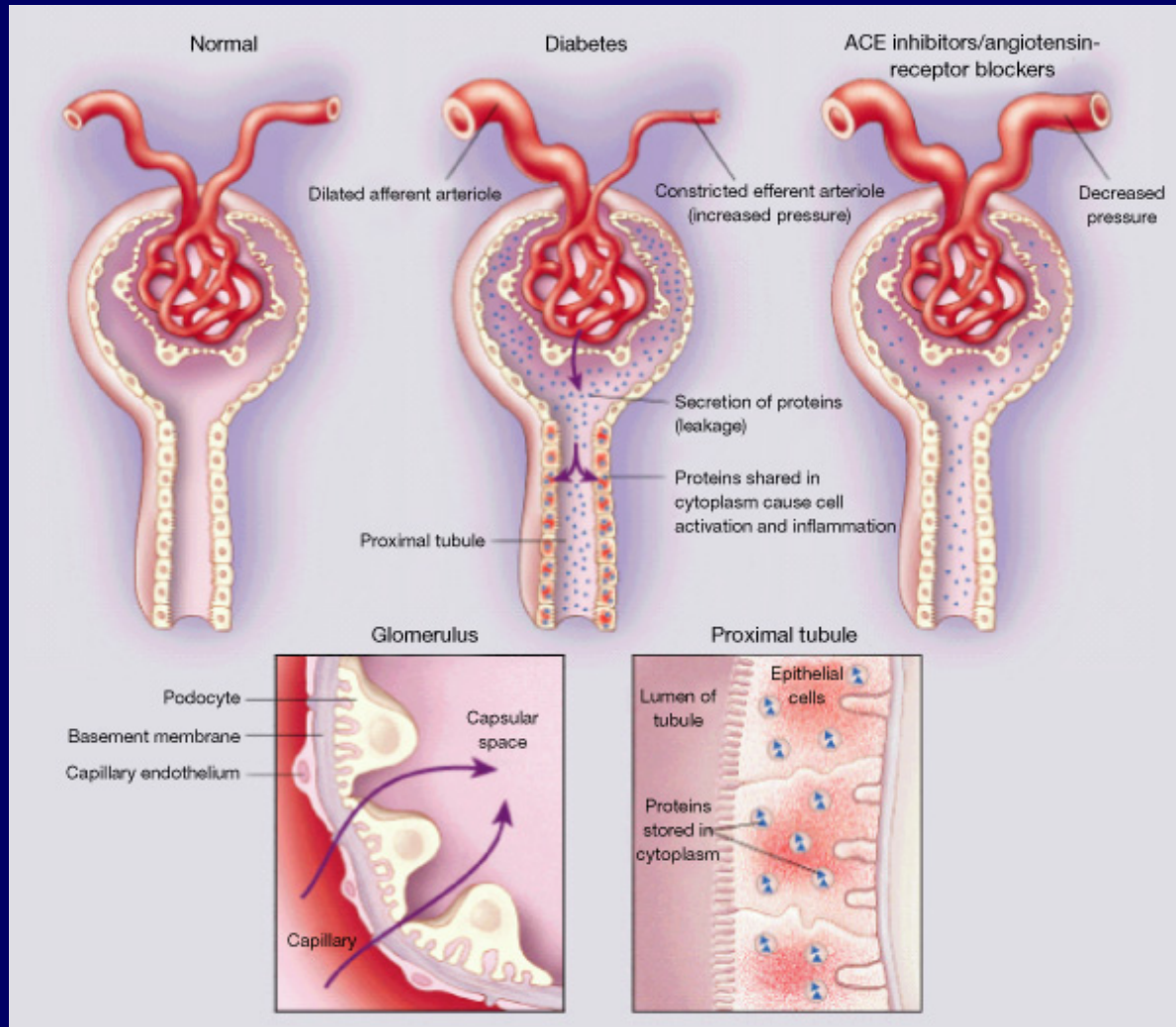
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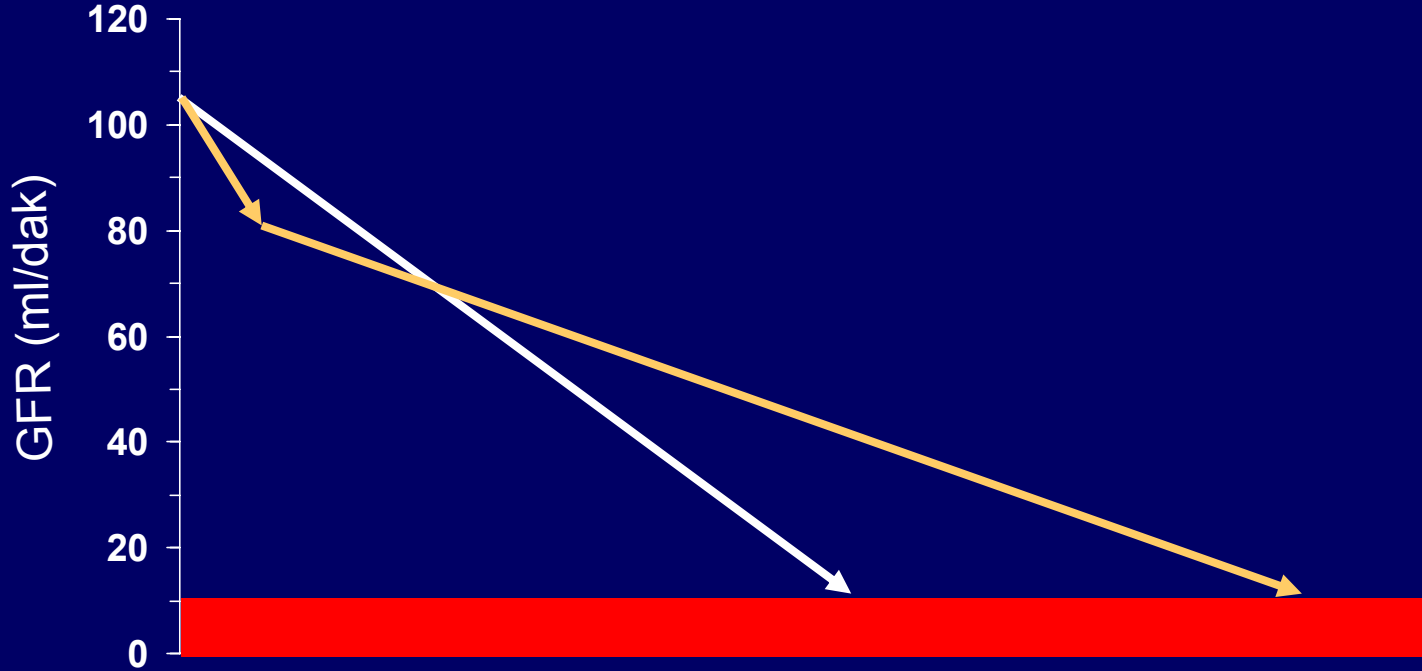
Haziran 1986



RAS Blokajının Antiproteinürik Etkisi



RAAS Blokajının Renoprotektif Etkisi

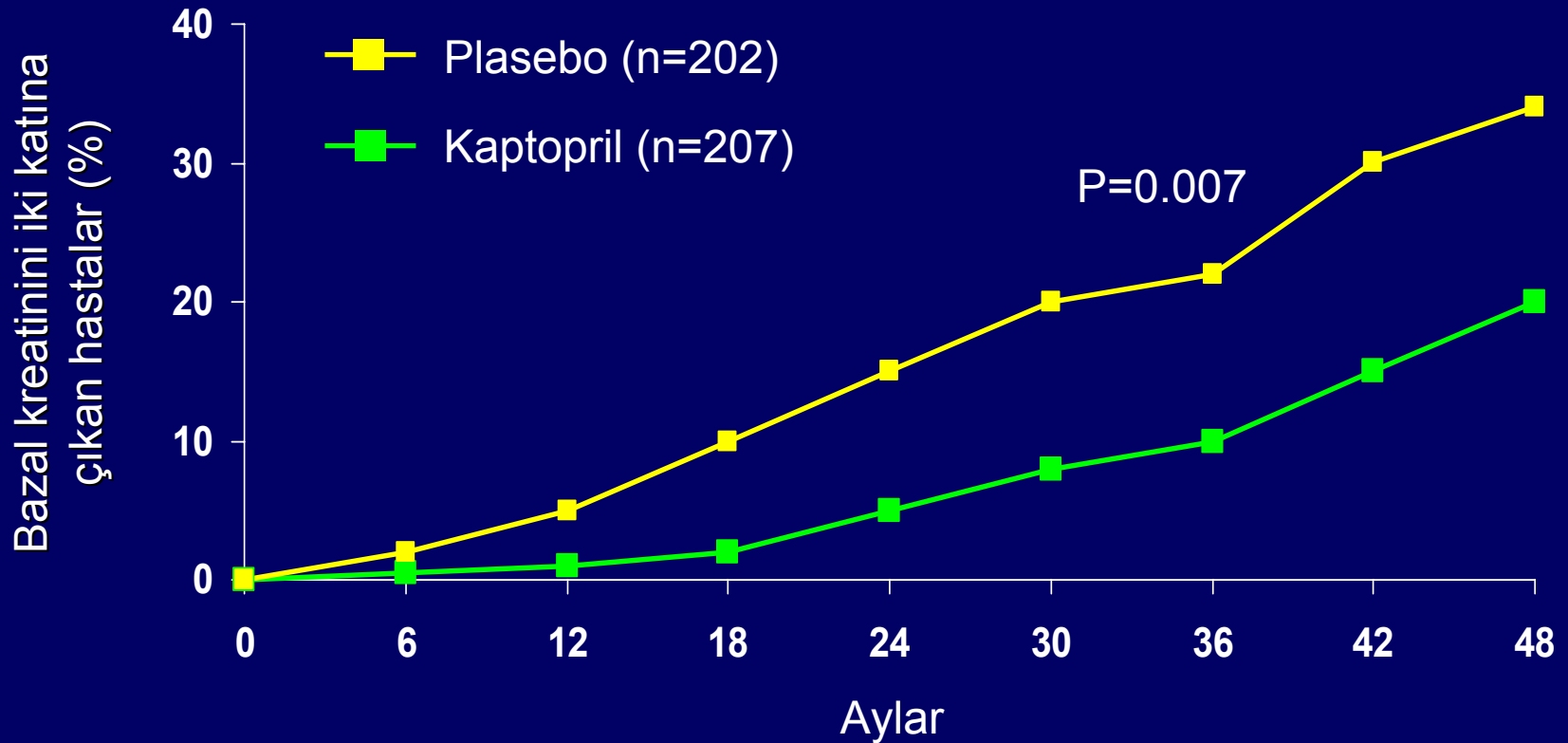


ACE inhibitörü veya ARB tedavisi ile bazal serum kreatinin düzeyinin %35'inden fazlasını geçmeyen artışlar (hiperpotasemi olmadığı sürece) kabul edilebilir ve tedavinin kesilmesi için bir neden değildir.

The JNC 7 Report: JAMA 289:2560-2572, 2003

Tip I Diyabeti Olan Hastalarda Kaptopril Tedavisinin Renoprotektif Etkisi

Tip I Diyabeti Olan 409 Hasta
Bazal Proteinüri \geq 500 mg/gün, Serum Kreatinini \leq 2.5 mg/dl



AIPRI

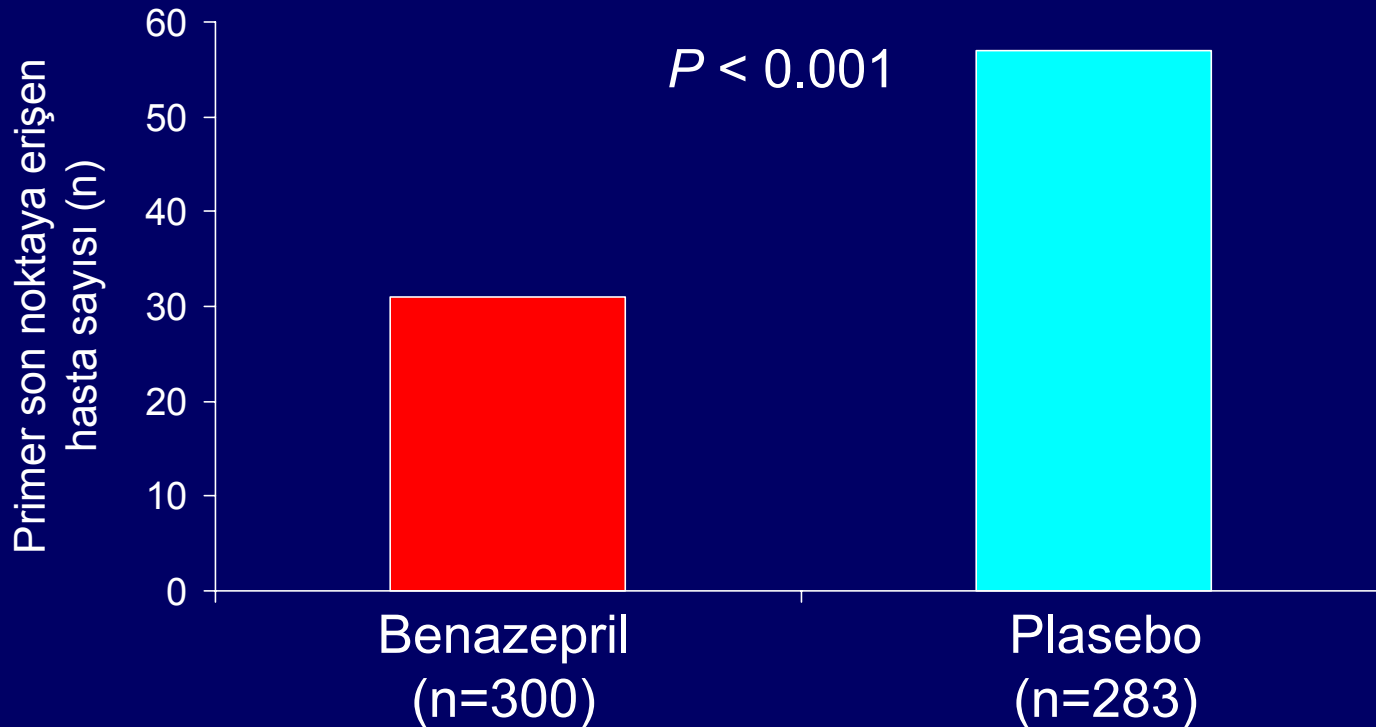
(ACE Inhibition in Progressive Renal Insufficiency)

- Prospektif, randomize, çift-kör, plasebo kontrollü çalışma
- Kronik böbrek yetersizliği olan 583 hasta
 - Glomerulopati (n=192)
 - İnterstisyel nefrit (n=105)
 - Nefroskleroz (n=97)
 - Polikistik böbrek hastalığı (n=64)
 - Diyabetik nefropati (n=21)
- Kreatinin klirensi: 46-60 ml/dak (n=227)
Kreatinin klirensi: 30-45 ml/dak (n=356)
- **Tedavi:** Benazepril (n=300) veya plasebo (n=283)
- **Takip süresi:** 3 yıl

AIPRI

(ACE Inhibition in Progressive Renal Insufficiency)

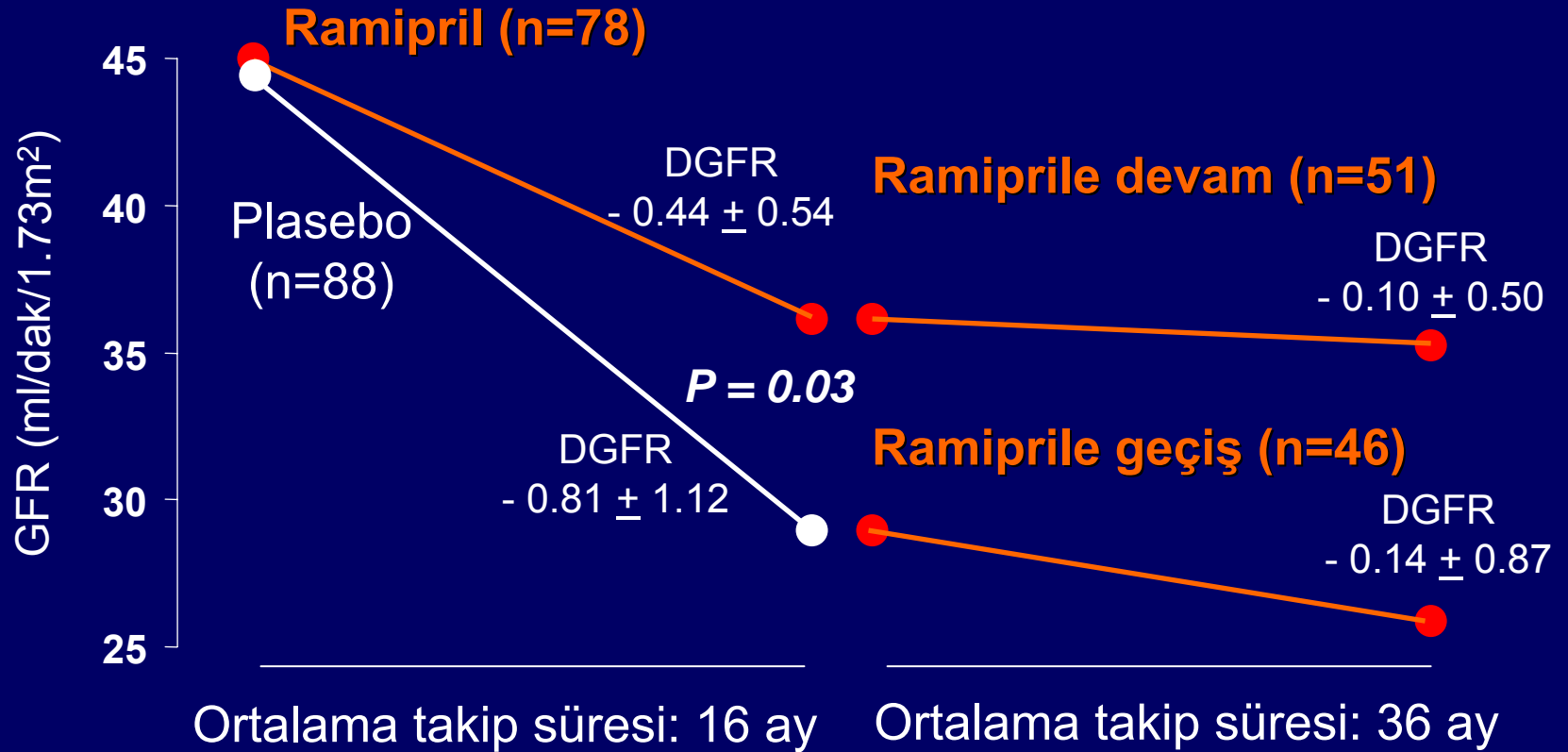
Primer Sonlanım Noktası
Bazal Kreatininin İki Katına Çıkması veya Diyaliz Gereksinimi



REIN

(Ramipril Efficacy In Nephropathy)

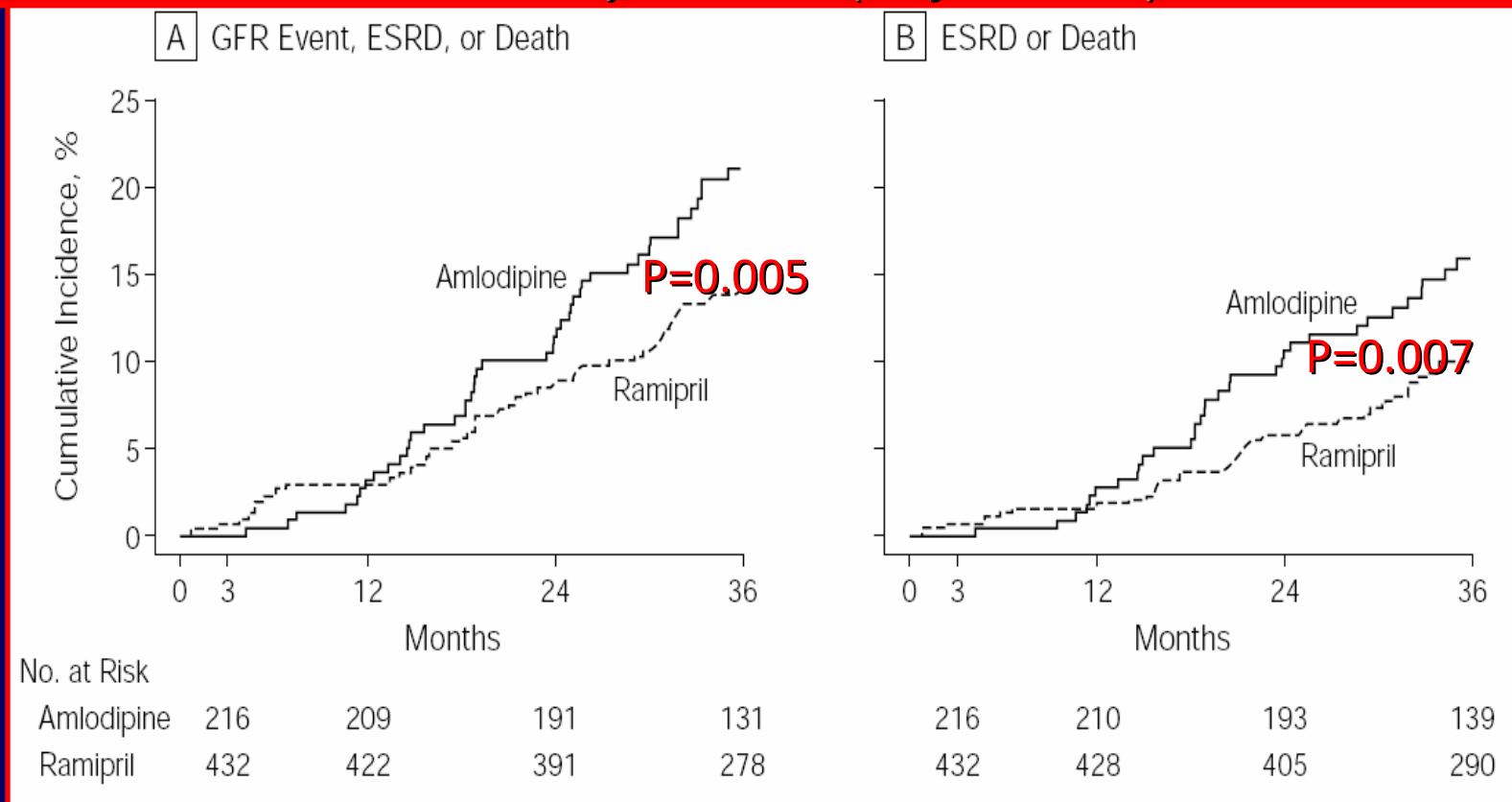
Diyabet dışı nedenlere bağlı kronik böbrek yetersizliği olan 166 hasta
Bazal proteinüri ≥ 3 g/24 saat



AASK

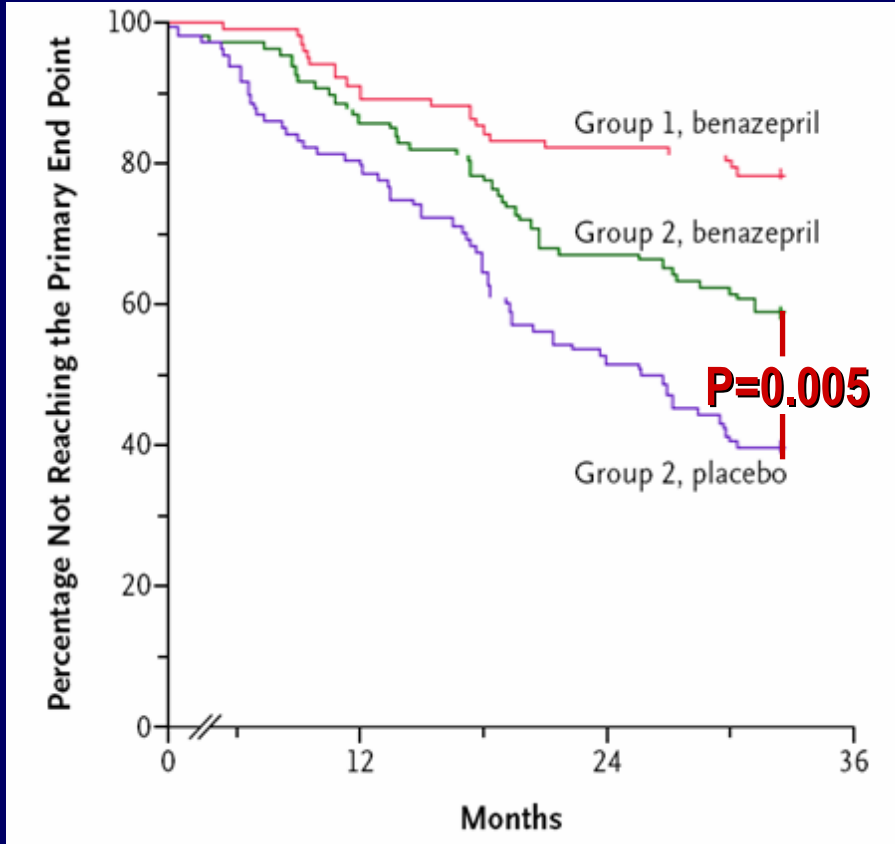
(A*r*A*m*S*t*u*d*y of K*i*dney D*i*sease)

Hipertansif böbrek hastalığı olan (GFR: 20-65 ml/dak/1.73 m²)
1094 Siyah Hasta (Yaş: 18 – 70)



İlerlemiş Böbrek Yetersizliği Olan Hastalarda RAS Blokajı

Diyabet dışı nedenlere bağlı kronik böbrek yetersizliği olan 422 hasta
Primer sonlanım noktası: Kreatininin iki katına çıkması, SDBH veya ölüm



Grup 1 (n=104):

Serum kreatinini 1.5 - 3.0 mg/dL
GFR: 37.1 ± 6.3 ml/dak
Benazepril 20 mg/gün

Grup 2 (n=112):

Serum kreatinini 3.1 - 5.0 mg/dL
GFR: 26.3 ± 5.3 ml/dak
Benazepril 20 mg/gün

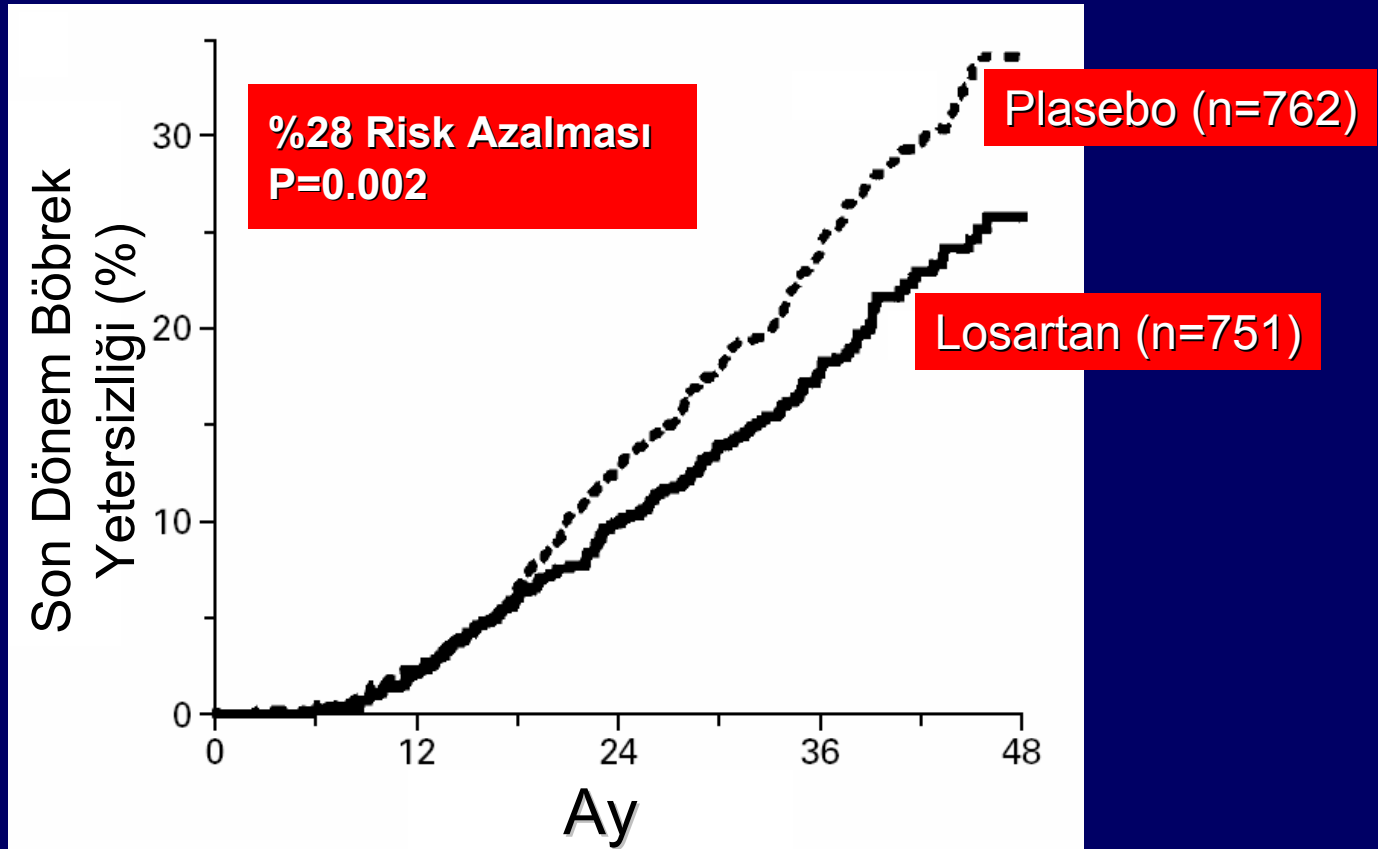
Grup 2 (n=112):

Serum kreatinini 3.1 - 5.0 mg/dL
GFR: 25.8 ± 5.3 ml/dak
Plasebo

RENAAL

(Reduction of Endpoints in NIDDM with the Angiotensin II Antagonist Losartan)

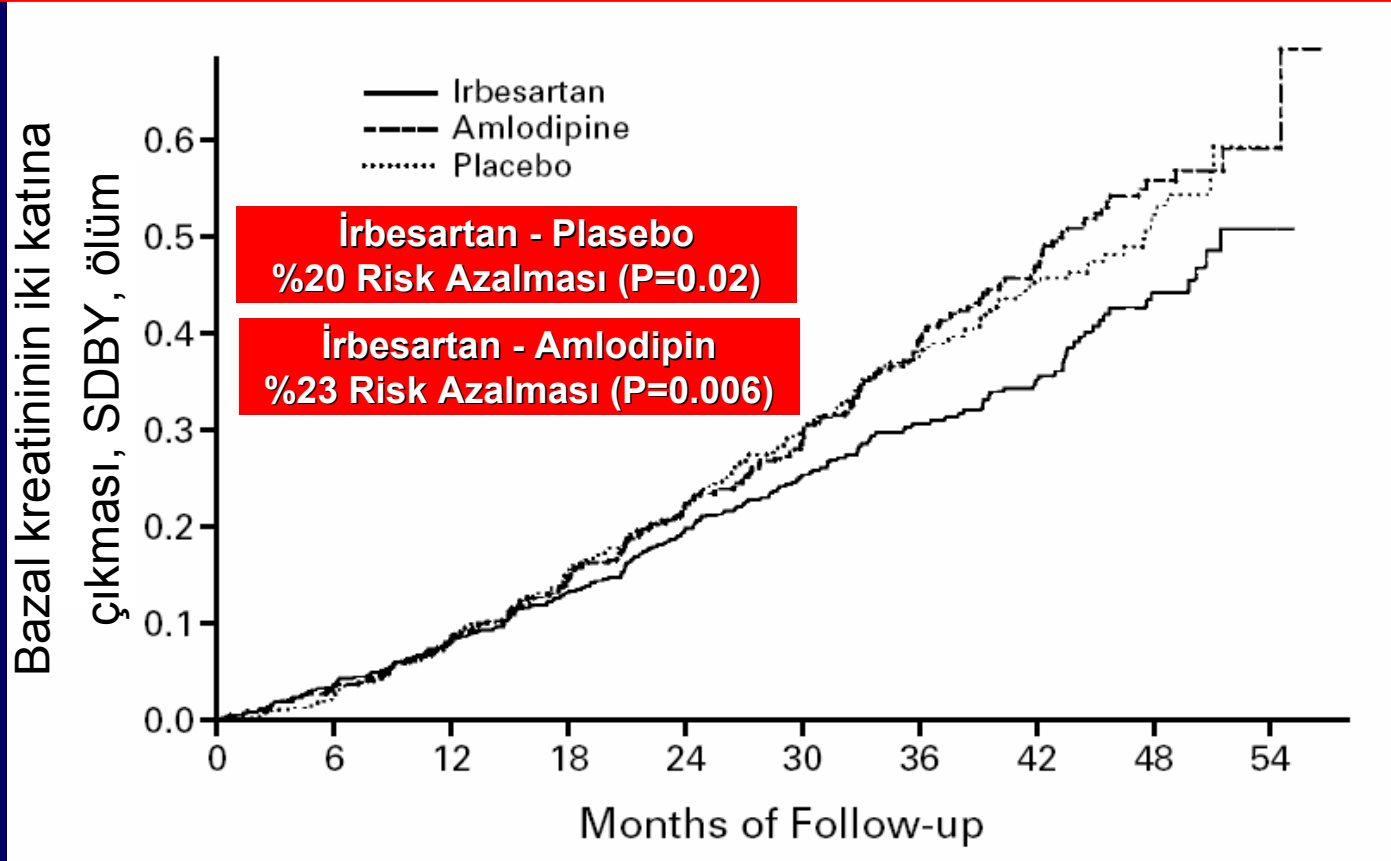
Hipertansiyonu ve Makroalbüminürisi Olan
Tip 2 Diyabetik 1513 Hasta



IDNT

(*Irbesartan Diabetic Nephropathy Trial*)

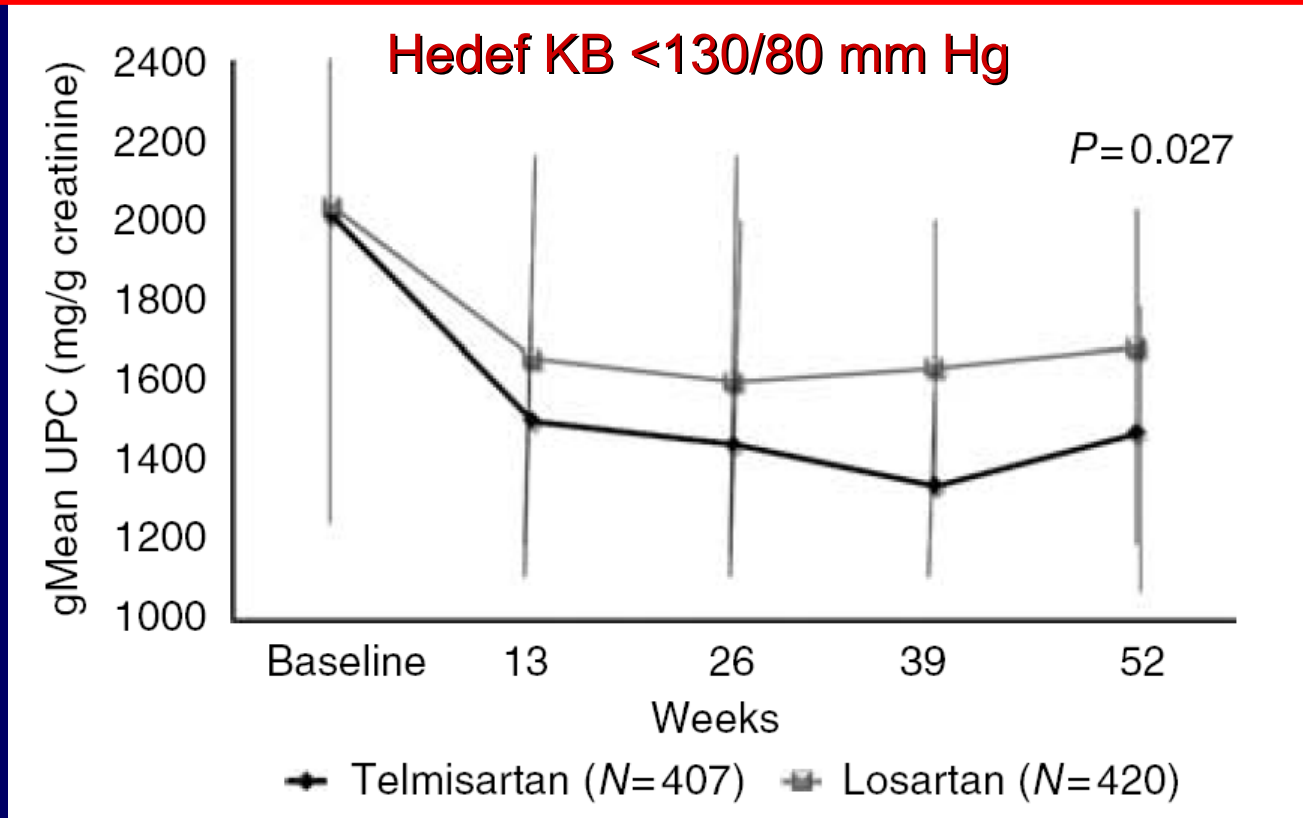
Hipertansiyonu ve Makroalbüminürisi Olan Tip 2 Diyabetik 1715 Hasta



AMADEO

(A trial to compare telmisartan 40 mg titrated to 80 mg versus losartan 50 mg titrated to 100 mg in hypertensive type 2 diabetic patients with overt nephropathy)

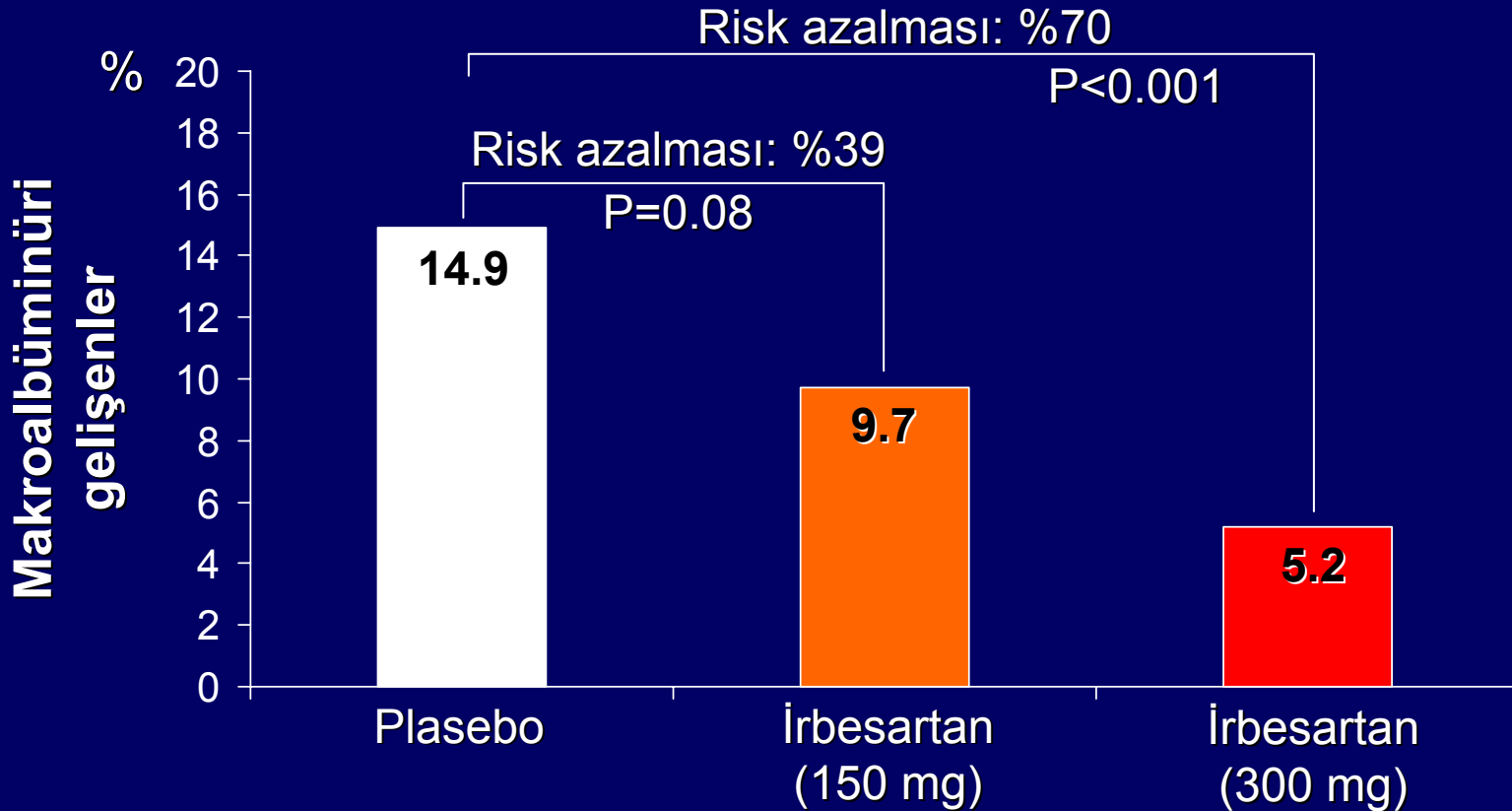
Hipertansiyonu ve Makroalbüminürisi Olan Tip 2 Diyabetik 860 Hasta



IRMA 2

(The Irbesartan in Patients with Type 2 Diabetes and Microalbuminuria Study)

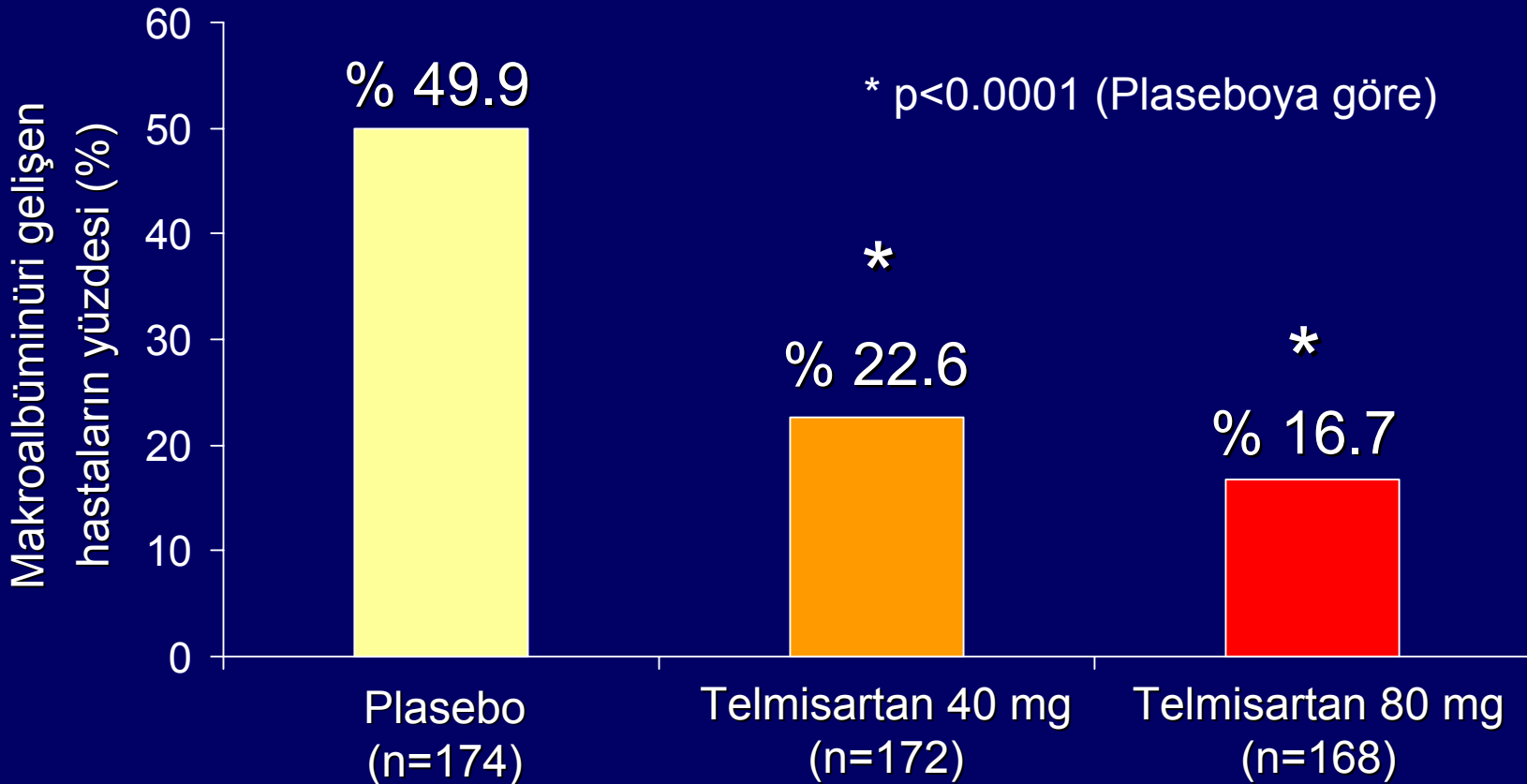
Hipertansiyonu ve Mikroalbüminürisi Olan Tip 2 Diyabetik 590 Hasta



INNOVATION

(INcipient to OVert: Angiotensin II blocker, Telmisartan, Investigation On type II diabetic Nephropathy)

Tip 2 Diyabeti ve Mikroalbüminürisi Olan 527 Hasta

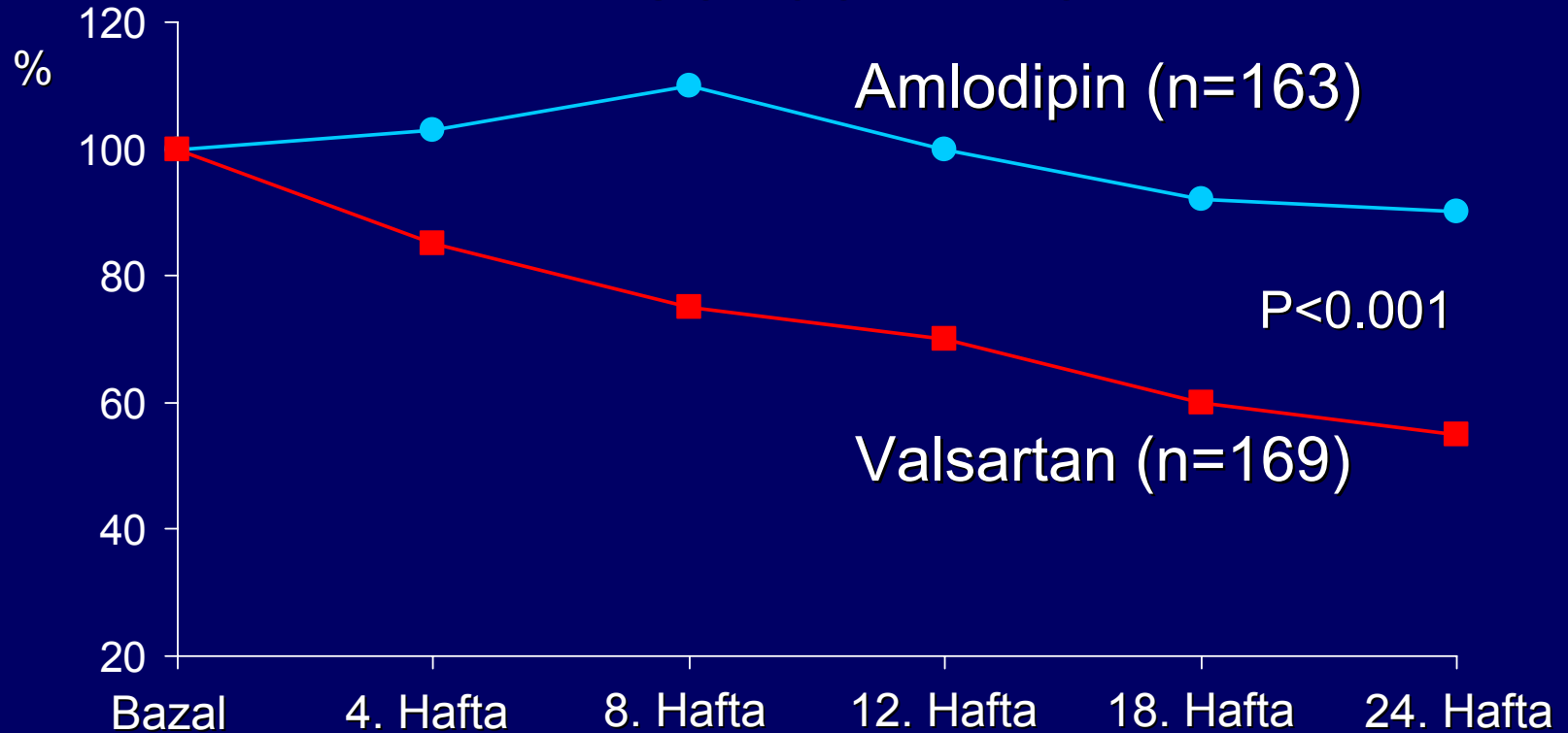


MARVAL

(Microalbuminuria Reduction with Valsartan Study)

Tip 2 Diyabeti ve Mikroalbüminürisi Olan 332 Hasta

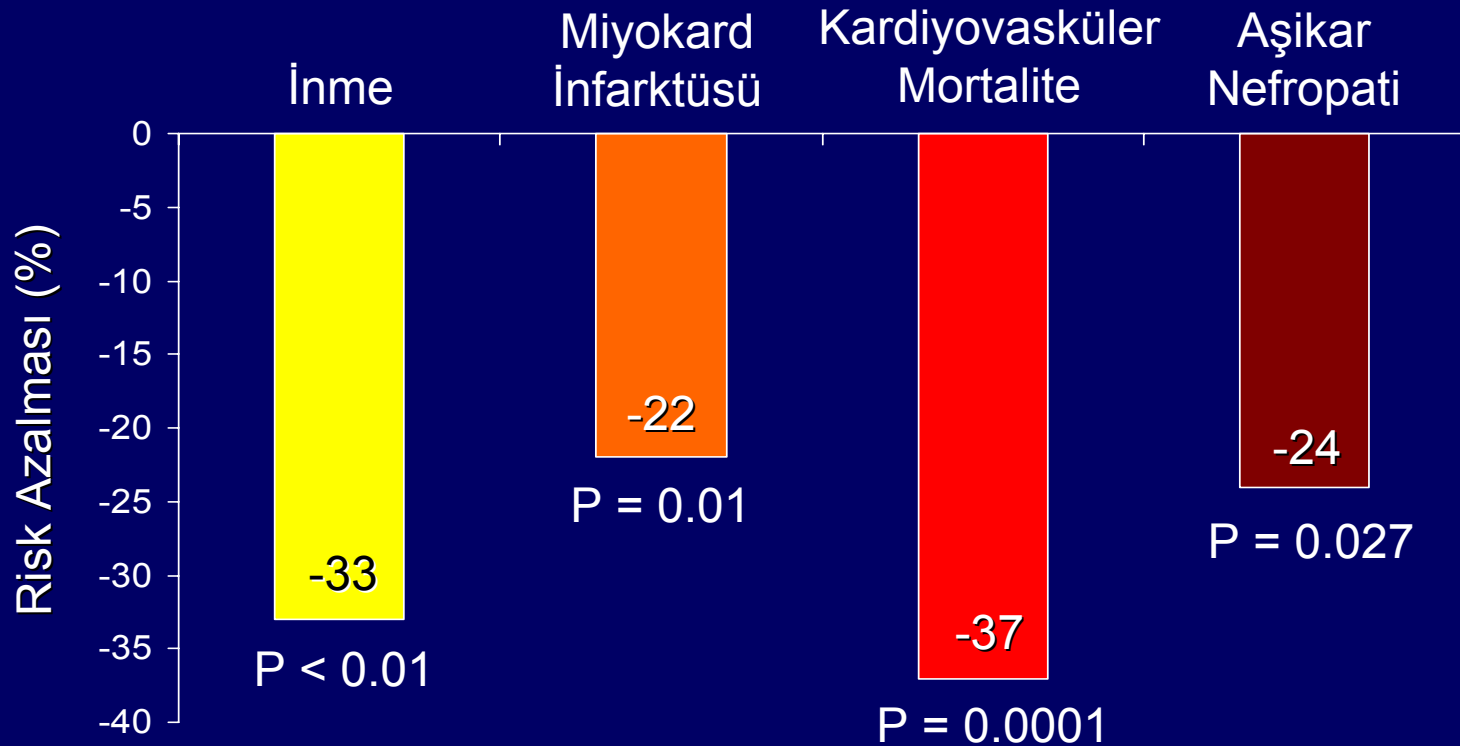
Mikroalbüminüri



MICRO-HOPE

(Microalbuminuria Cardiovascular and Renal Outcomes in Hope Study)

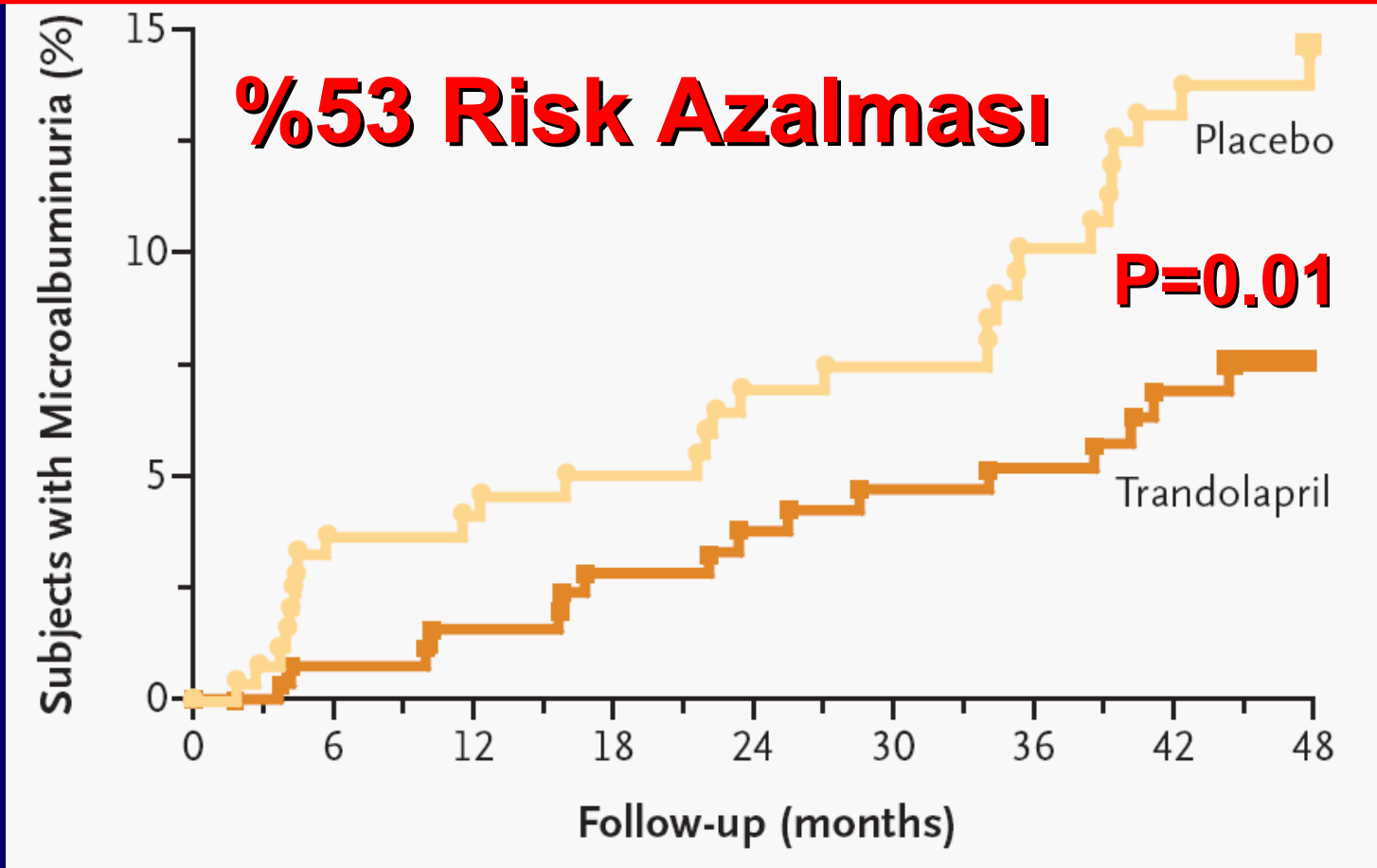
Tip 2 Diyabeti Olan Hastalarda Ramipril Tedavisi (n=3577)



BENEDICT

(Bergamo Nephrologic Diabetes Complications Trial)

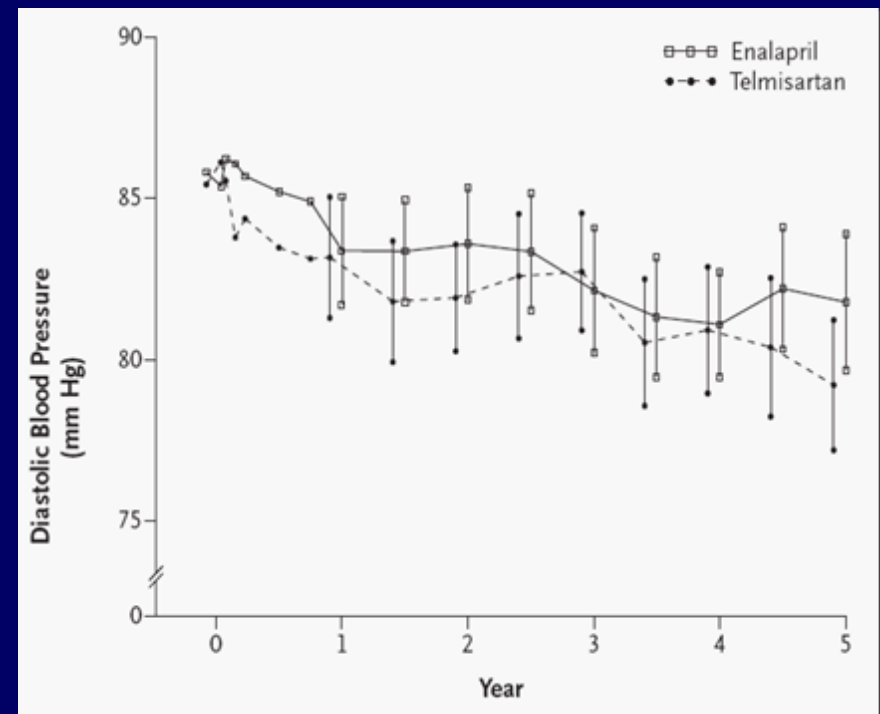
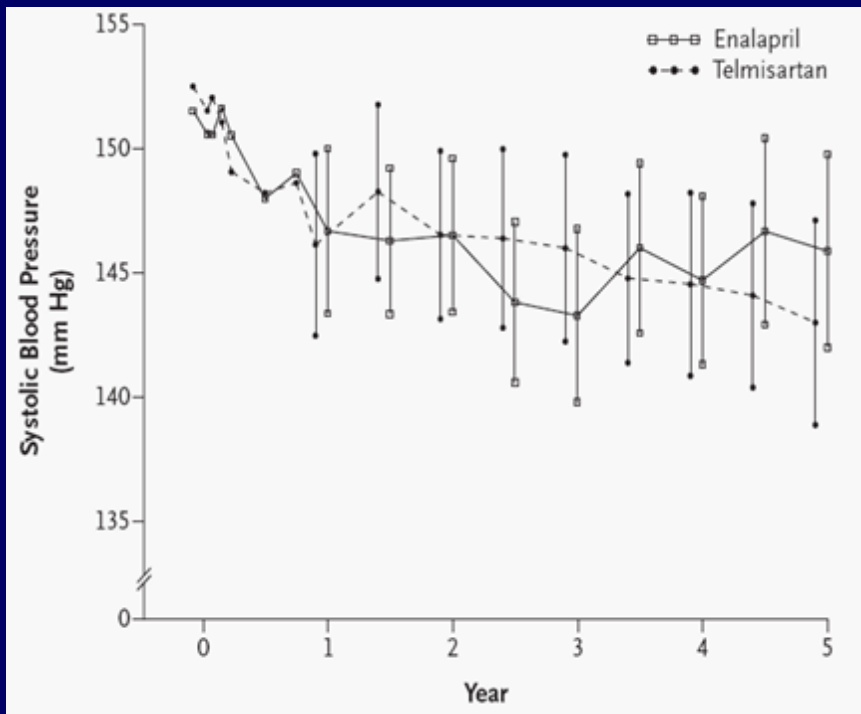
Tip 2 Diyabeti ve Normoalbüminürisi Olan 1204 Hasta



DETAIL

(Diabetics Exposed to Telmisartan and Enalapril Study)

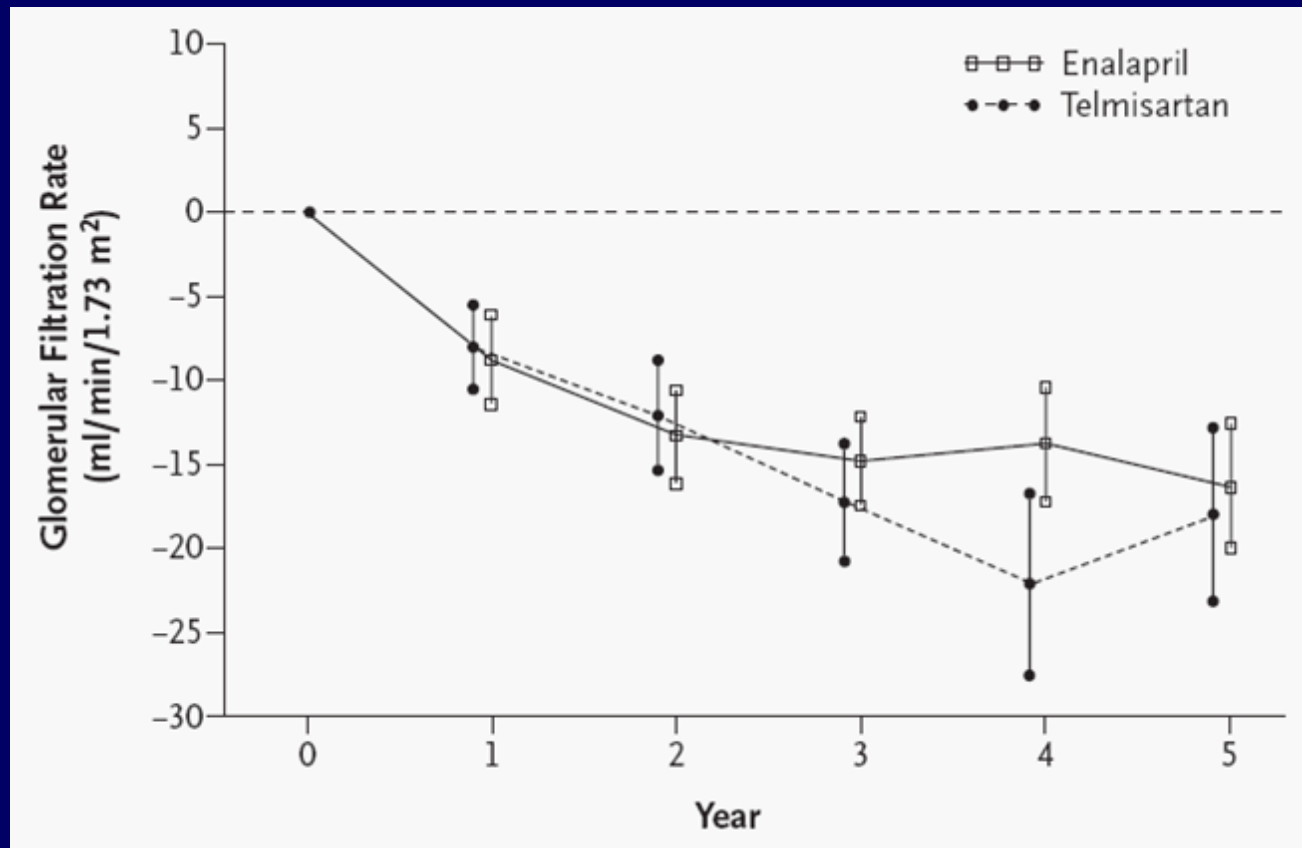
Tip 2 Diyabeti ve Mikroalbüminürisi Olan 250 Hasta



DETAIL

(Diabetics Exposed to Telmisartan and Enalapril Study)

Tip 2 Diyabeti ve Mikroalbüminürisi Olan 250 Hasta



The NEW ENGLAND JOURNAL of MEDICINE

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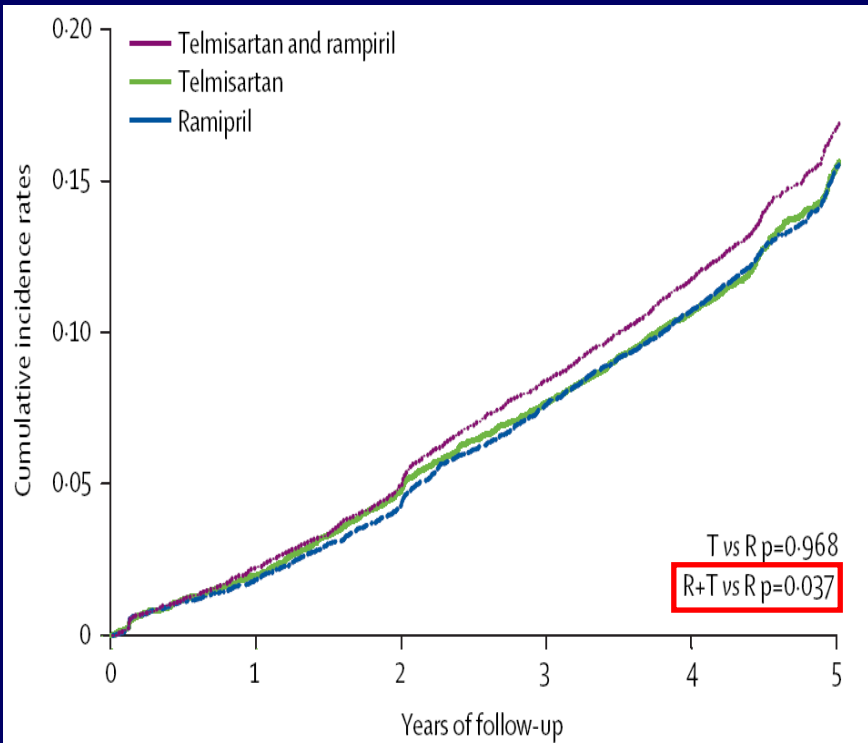
Telmisartan, Ramipril, or Both in Patients at High Risk for Vascular Events

The ONTARGET Investigators*

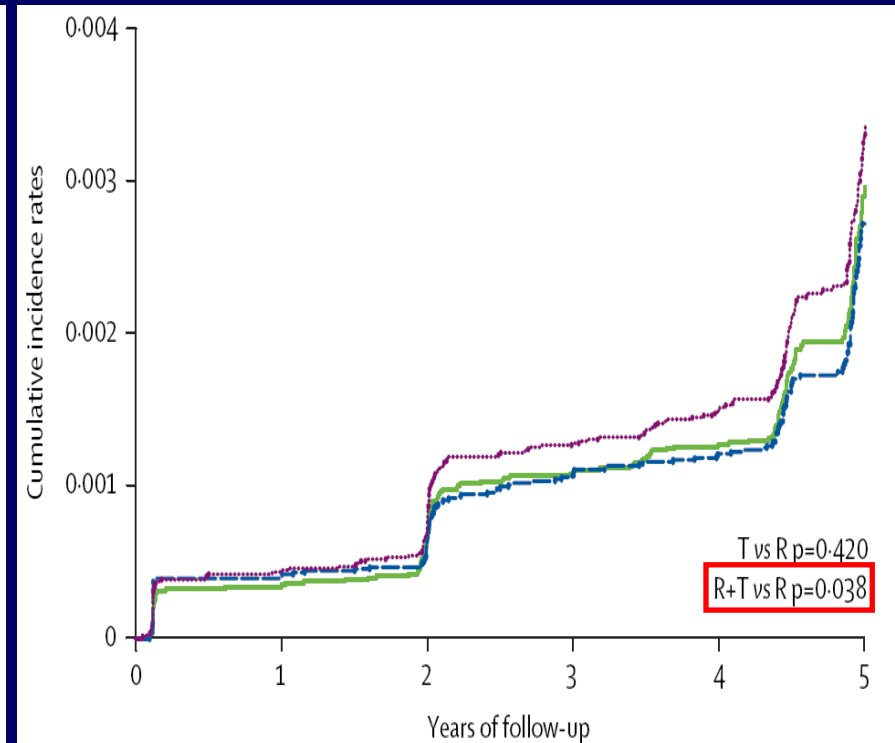
- Yaş \geq 55
- Yüksek kardiyovasküler risk
 - *Koroner arter hastalığı*
 - *Periferik arter hastalığı*
 - *İnme veya yeni geçici iskemik atak*
 - *Hedef organ hasarı olan diyabet*

ONTARGET

Diyaliz, Serum Kreatininin İki Katına Çıkması ve Ölüm

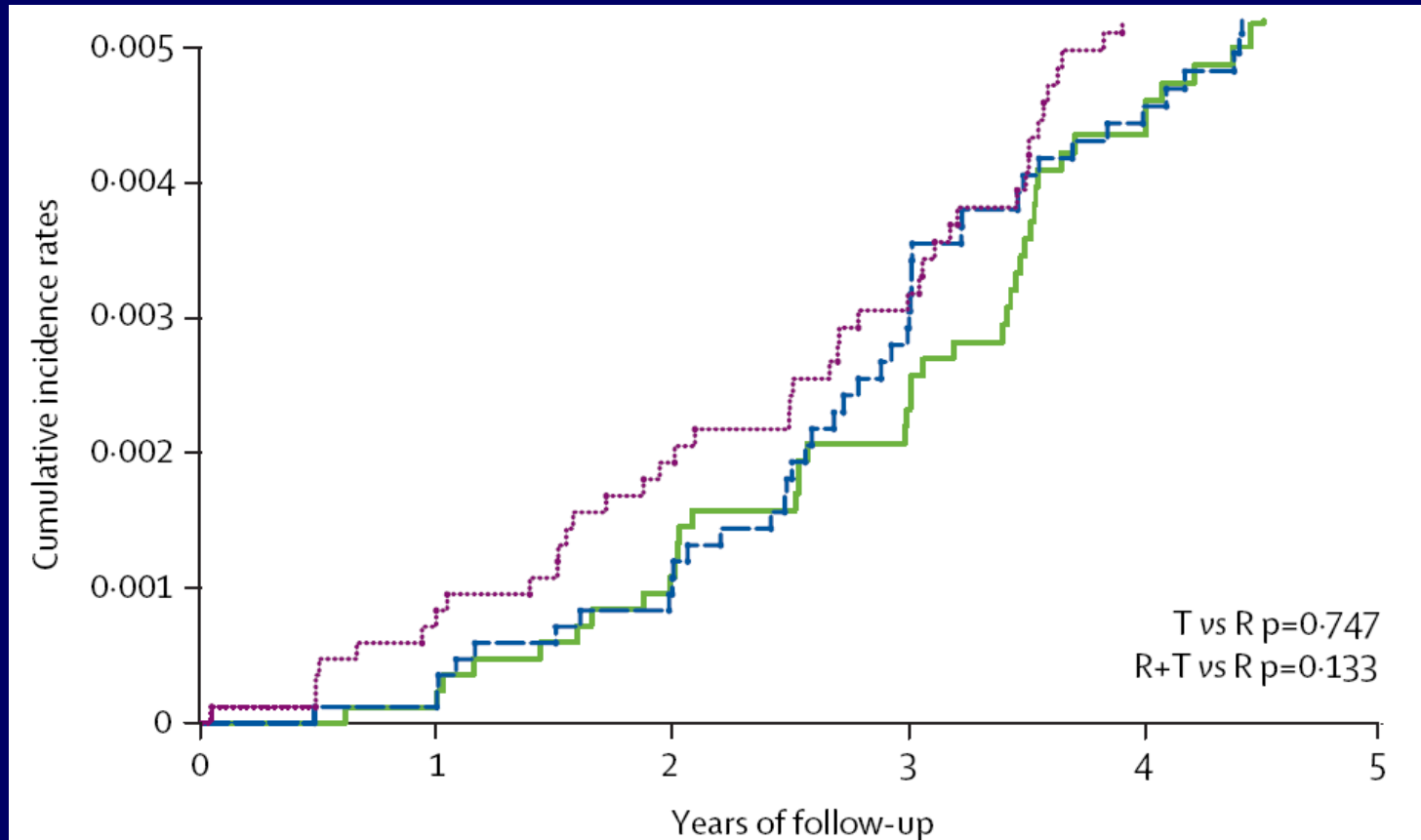


Diyaliz ve Serum Kreatininin İki Katına Çıkması



ONTARGET

Diyaliz



Proteinüri ve Renal Korumada ACEİ ve ARB Farklı mı?

Tip 1 Diyabet

Evre 1

ACEİ
(Kaptopril)

Evre 5

Nondiyabetik Nefropati

ACEİ
(REIN, AIPRI)

ACEİ
(Benazepril)

Tip 2 Diyabet

ACEİ
(BENEDICT)

ACEİ, ARB
(Micro-HOPE,
IRMA-2, MARVAL,
INNOVATION)

ARB
(RENAAL, IDNT,
AMEDEO)