

Bir ARB Olarak Olmesartan

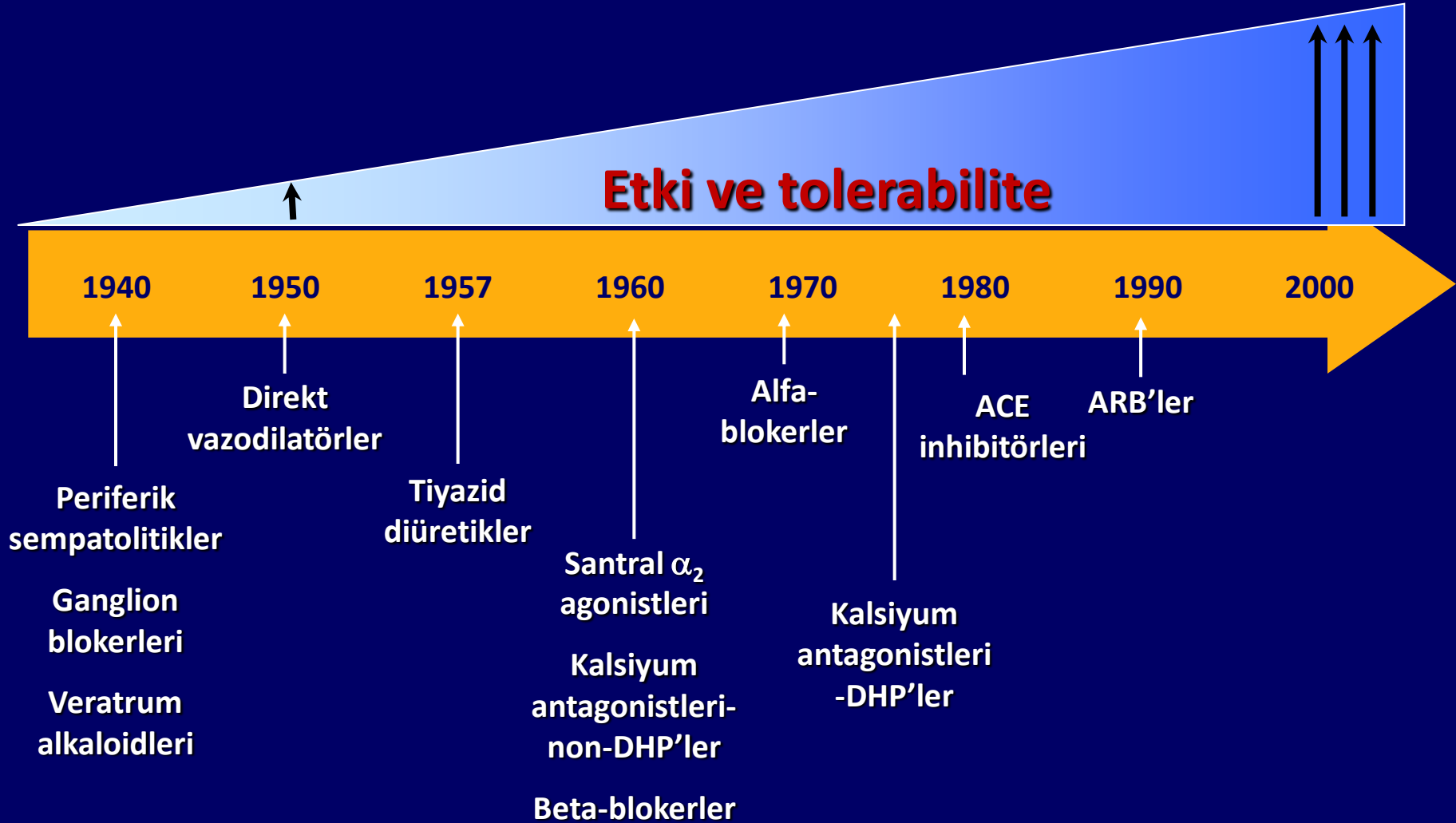
Prof. Dr. Tefvik Ecdcr
İstanbul Bilim Üniversitesi Tıp Fakóltesi
İç Hastalıkları Anabilim Dalı
Nefroloji Bilim Dalı

Patent

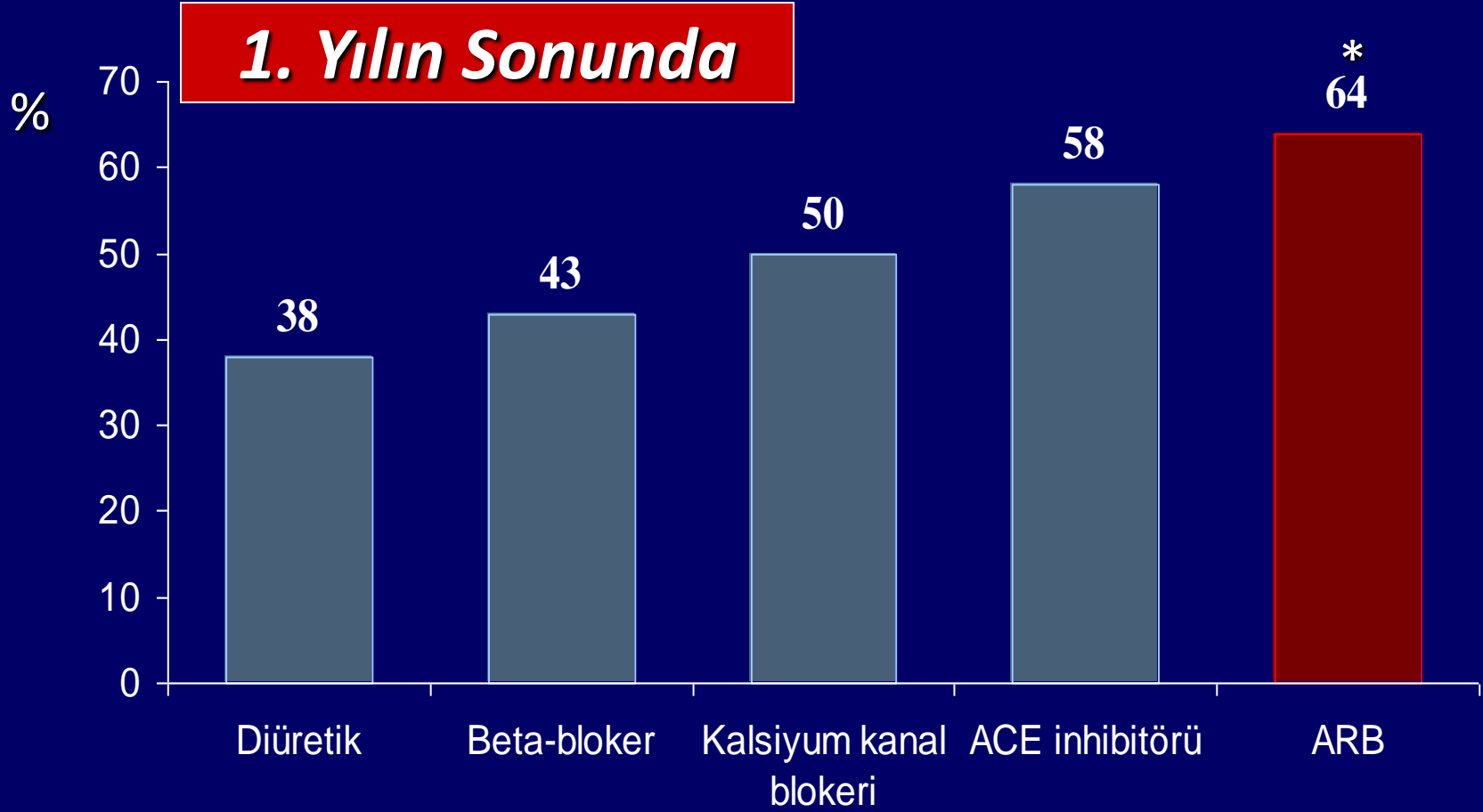
(Prevalence, awareness, treatment and control of hypertension in Turkey)

	PATENT (2003)	PATENT-2 (2012)
Hipertansiyon oranı	% 31.8	% 30.2
Hipertansiyon farkındalığı	% 40	% 55
Hipertansiyonda ilaç kullanımı	% 31	% 47
Kontrol oranı (Tedavi alanlar)	%20	% 54
Kontrol oranı (Tüm hastalar)	% 8	%29

Antihipertansif İlaçlar

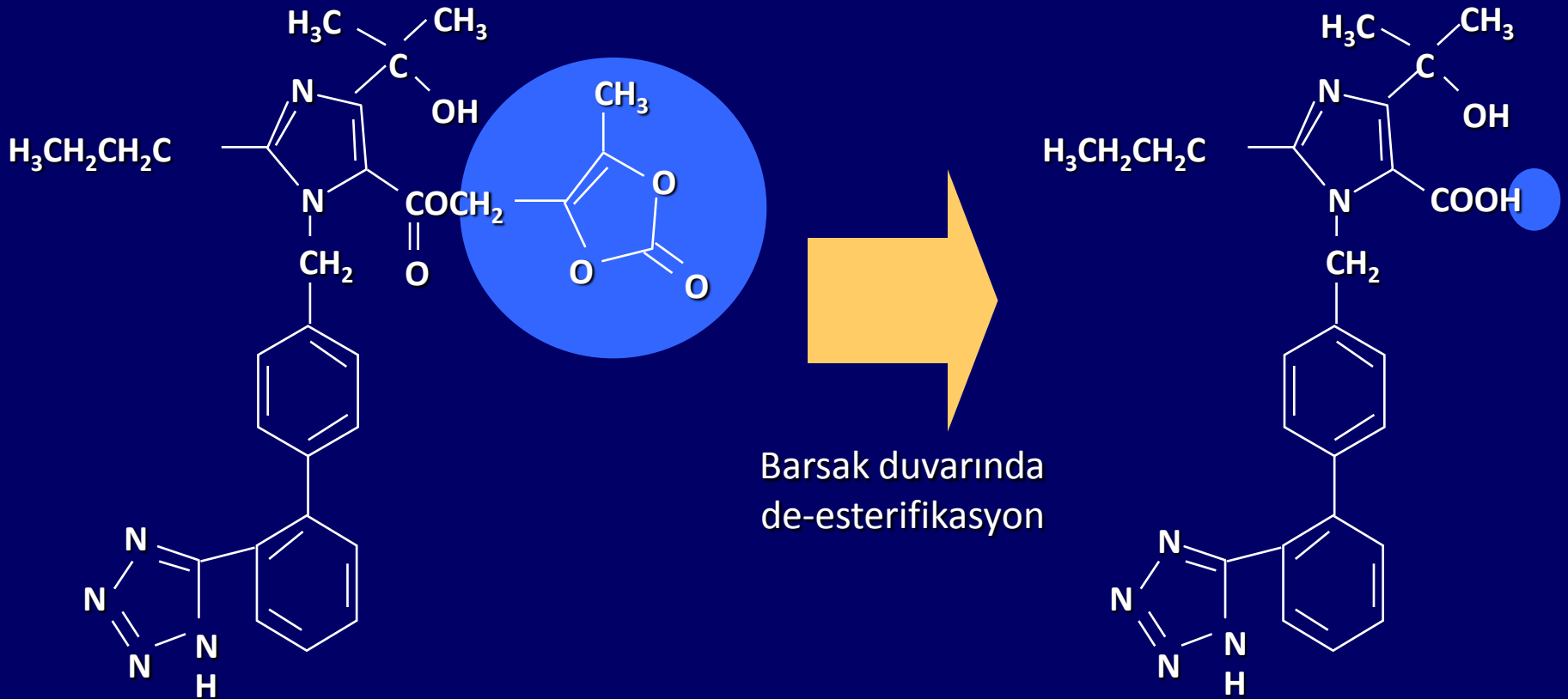


Antihipertansif Tedaviye Uyum



* p<0.007 (ACE inhibitörüne göre)

Olmesartan Medoksomil



Olmesartan Medoksomil

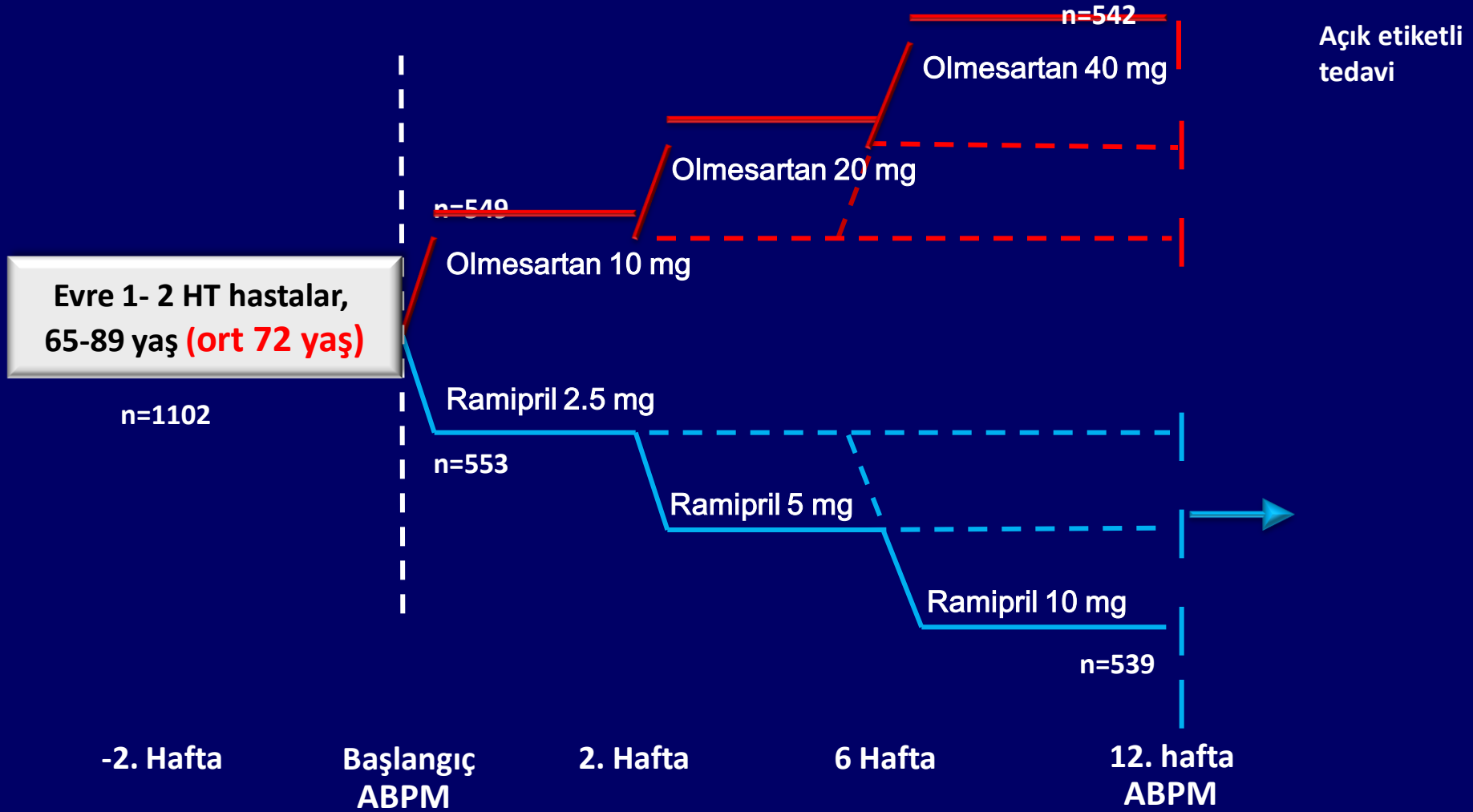
Olmesartan

Anjiyotensin Reseptör Blokerleri

	Olmesartan	Losartan	Kandesartan	İrbesartan	Telmisartan	Eprosartan	Valsartan
Fekal atılım (%)	50-65	60	67	80	98	90	83
Üriner atılım (%)	35-50	35	33	20	<1	7	13
CYP450 metabolizması	Hayır	Evet CYP 3A4	Hayır	Evet CYP 2C9	Hayır	Hayır	Hayır
İlaç etkileşimleri	Hayır	Rifampin, flukonazol	Hayır	Hayır	Digoksin	Hayır	Hayır
Gıdanın etkisi (↓ AUC%)	Yok	10	Yok	Yok	6-20	25	40-50
Doz sıklığı (/ gün)	1 kez	1-2 kez	1-2 kez	1 kez	1 kez	1-2 kez	1 kez

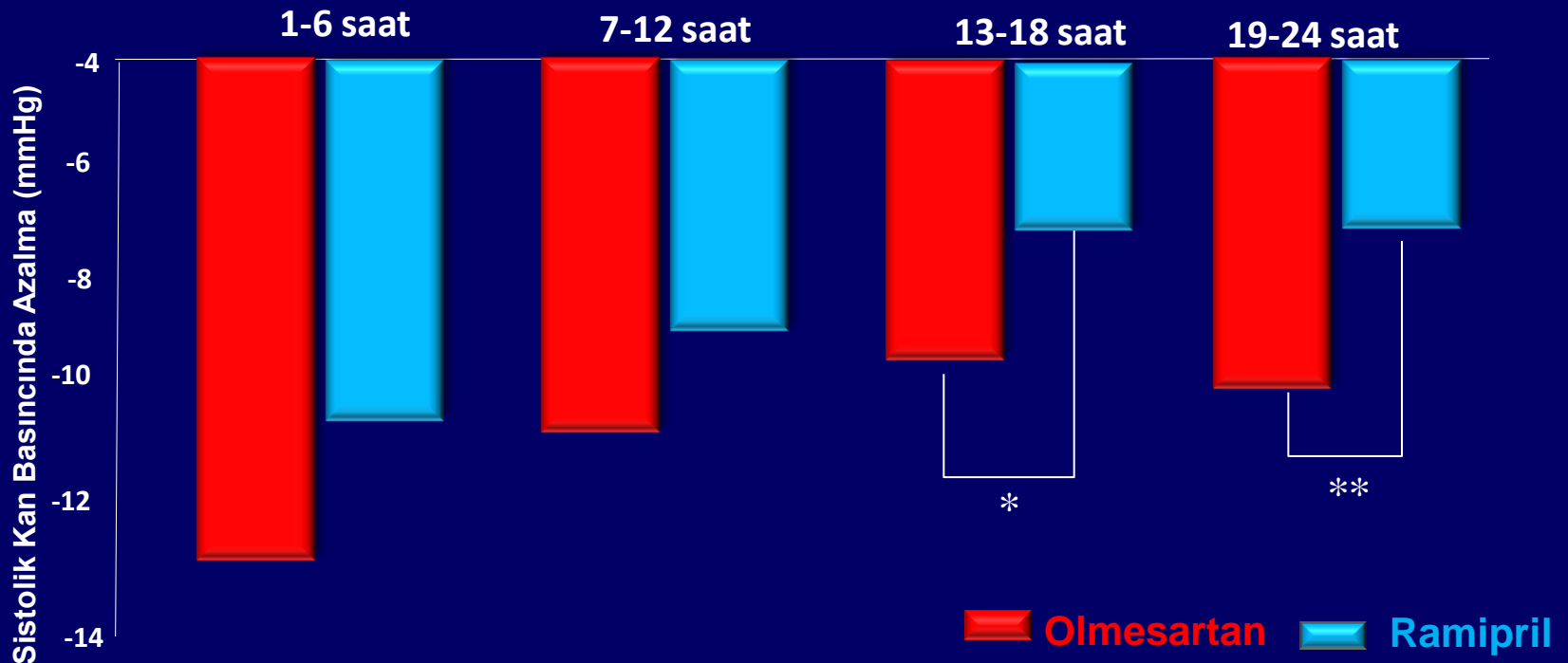
Antihypertensive efficacy and safety of olmesartan medoxomil and ramipril in elderly patients with mild to moderate essential hypertension: the esport study

Ettore Malacco^a, Stefano Omboni^b, Massimo Volpe^c, Alberto Auteri^d and Alberto Zanchetti^e, on behalf of the ESPORT Study Group



Antihypertensive efficacy and safety of olmesartan medoxomil and ramipril in elderly patients with mild to moderate essential hypertension: the esport study

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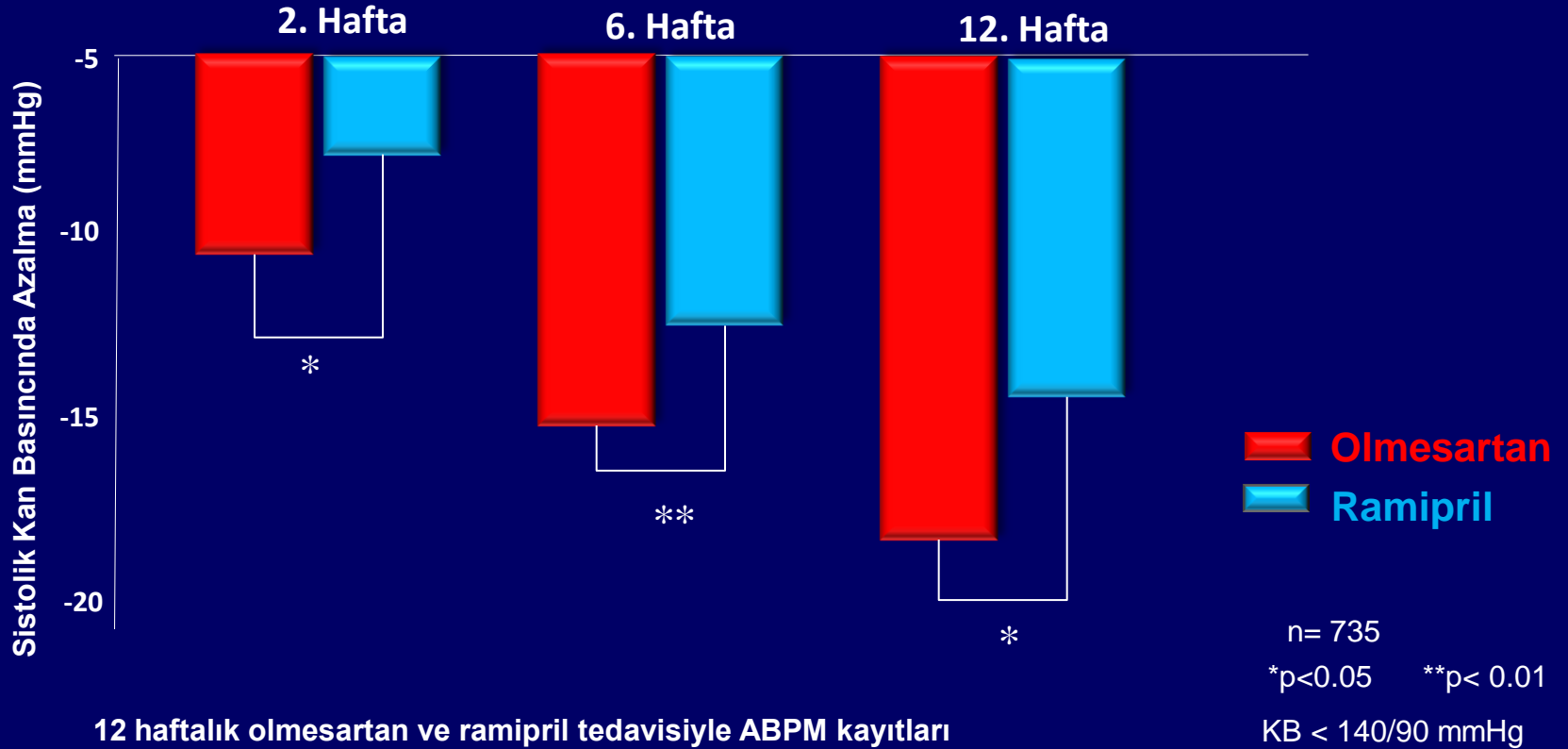
12 haftalık olmesartan ve ramipril tedavisiyle ABPM kayıtları

KB < 140/90 mmHg
n= 630 *p<0.05 **p< 0.01

Antihypertensive efficacy and safety of olmesartan medoxomil and ramipril in elderly patients with mild to moderate essential hypertension: the esport study

Ettore Malacco^a, Stefano Omboni^b, Massimo Volpe^c, Alberto Auteri^d and Alberto Zanchetti^e, on behalf of the ESPORT Study Group

Metabolik Sendromlu Yaşlı Hipertansifler



HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)

ORIGINAL ARTICLE

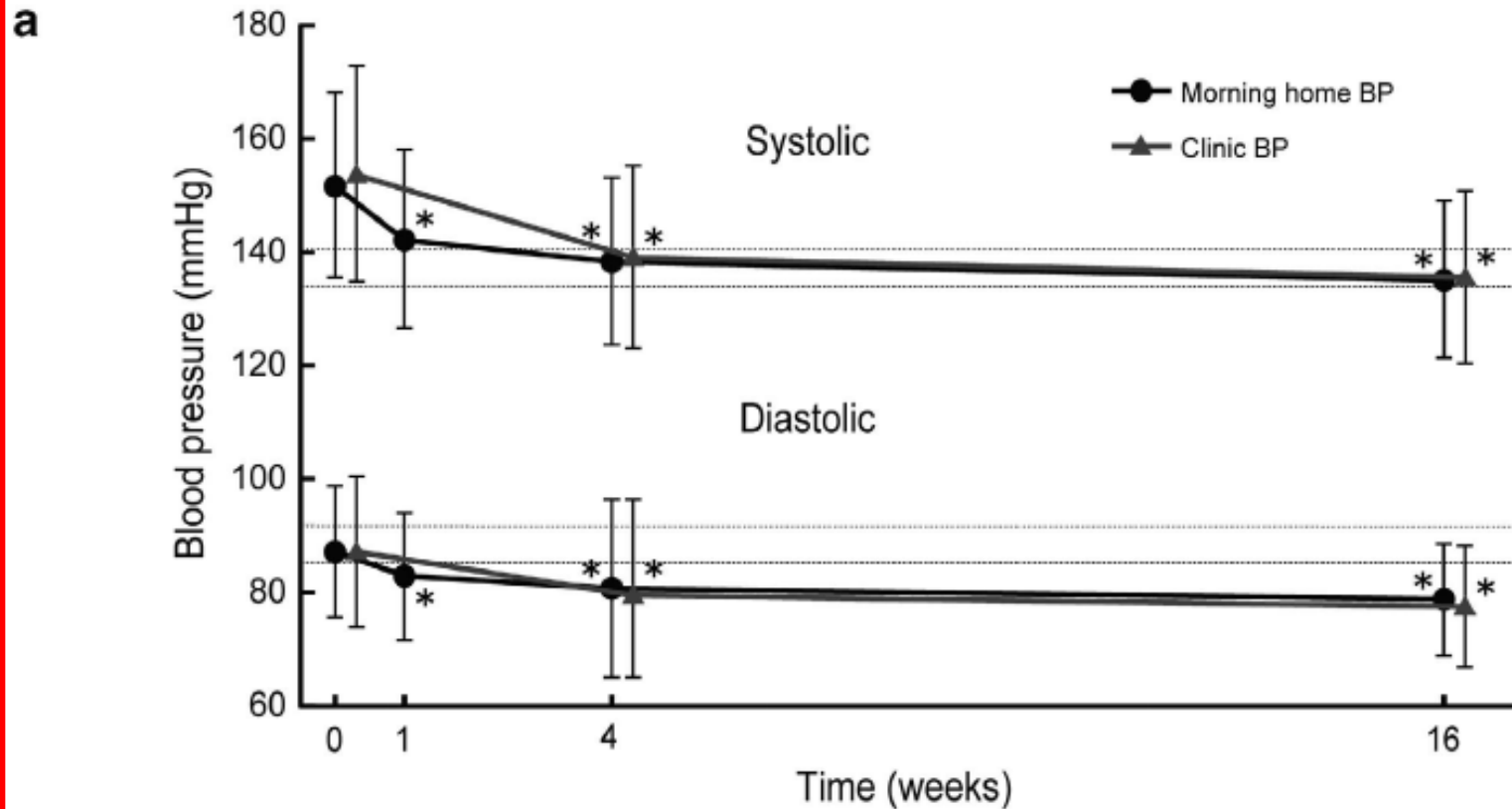
Effect of the angiotensin II receptor antagonist olmesartan on morning home blood pressure in hypertension: HONEST Study at 16 weeks

K Kario¹, I Saito², T Kushiro³, S Teramukai⁴, Y Ishikawa⁵, K Hiramatsu⁵, F Kobayashi⁵ and K Shimada⁶

Morning home blood pressure (BP) levels are more closely associated with cardiovascular risk than clinic BP levels. However, control of morning home BP has been worse than that of clinic BP in clinical practice. We examined the effects of olmesartan-based treatment using data ($n = 21\,341$) from the first 16 weeks of the Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure (HONEST) study, a prospective observational study for olmesartan-naive patients with essential hypertension. After 16-week olmesartan-based treatment, the clinic and morning home systolic BP (SBP) lowered from 151.6 ± 16.4 and 153.6 ± 19.0 mm Hg to 135.0 ± 13.7 and 135.5 ± 13.7 mm Hg, respectively ($P < 0.0001$). The achievement percentage of target morning home SBP (< 135 mm Hg) in all patients, those with diabetes mellitus (DM), and those with chronic kidney disease (CKD) increased from 13.5, 16.4 and 17.2% to 50.8, 47.9 and 48.8%, respectively, and the proportion of patients with well-controlled hypertension (clinic SBP < 140 mm Hg and morning home SBP < 135 mm Hg) increased from 7.9, 9.2 and 10.2% to 38.9, 34.5 and 36.3%, respectively. After 16-week olmesartan-based treatment, the proportion of patients with masked and white coat hypertension changed from 11.8 to 24.2% and 5.6 to 11.9%. In conclusion, both clinic and morning home BP in all, DM and CKD patients improved with 16-week olmesartan-based treatment in the 'real world', and the results showed a sustained 24-hour BP-lowering effect of olmesartan. Decrease in clinic and home BP resulted in an increased rate of masked and white coat hypertension, and further management is needed in those patients.

HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)

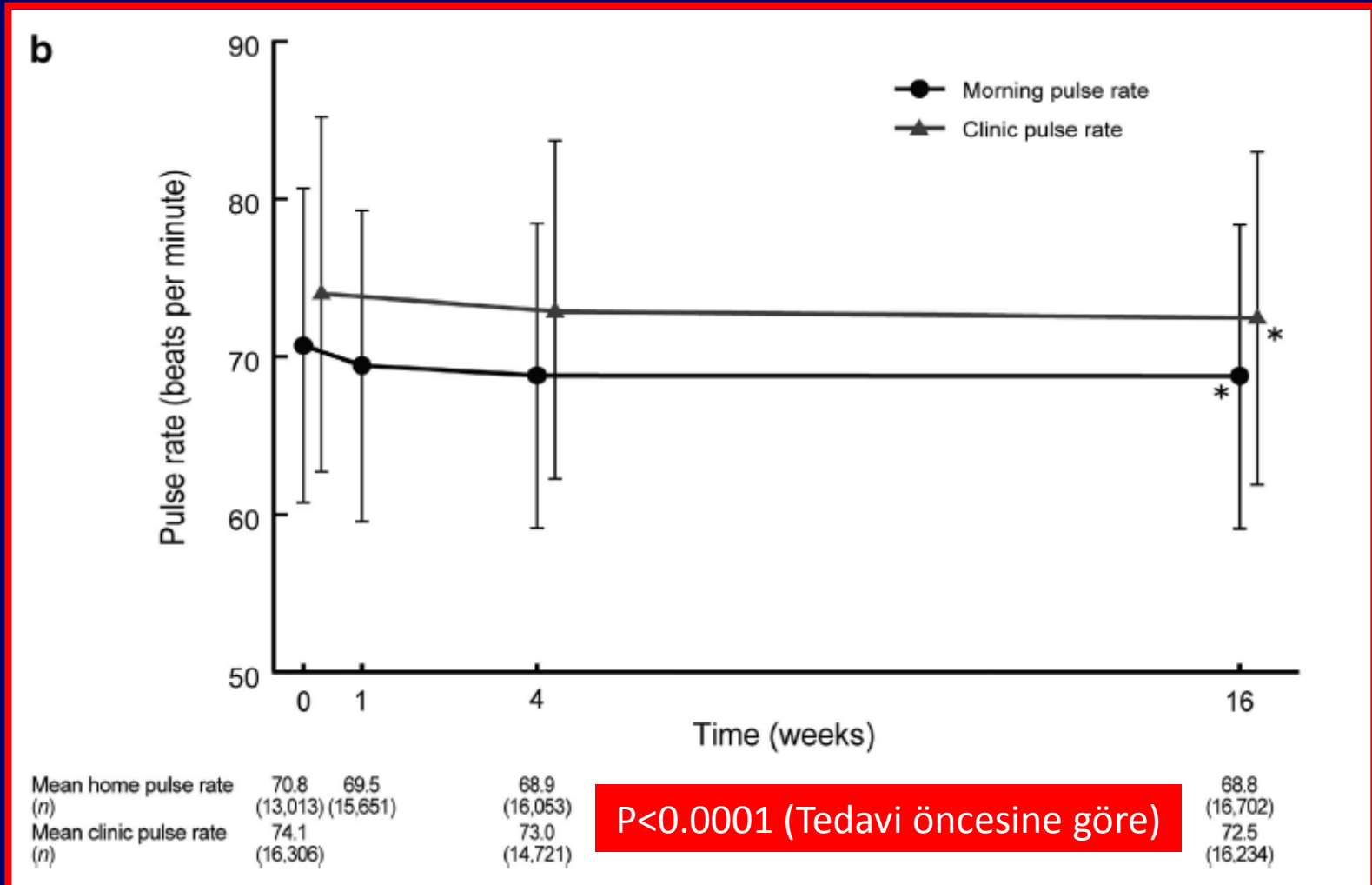


Mean morning home BP	151.6/87.1	142.1/82.9	138.3/80.7	135.0/78.8
(n)	(21,340)	(17,675)	(18,123)	(19,264)
Mean clinic BP	153.6/87.1	139.0/79.5	135.5/77.5	135.5/77.5
(n)	(21,341)	(18,154)	(20,121)	(20,121)

P<0.0001 (Tedavi öncesine göre)

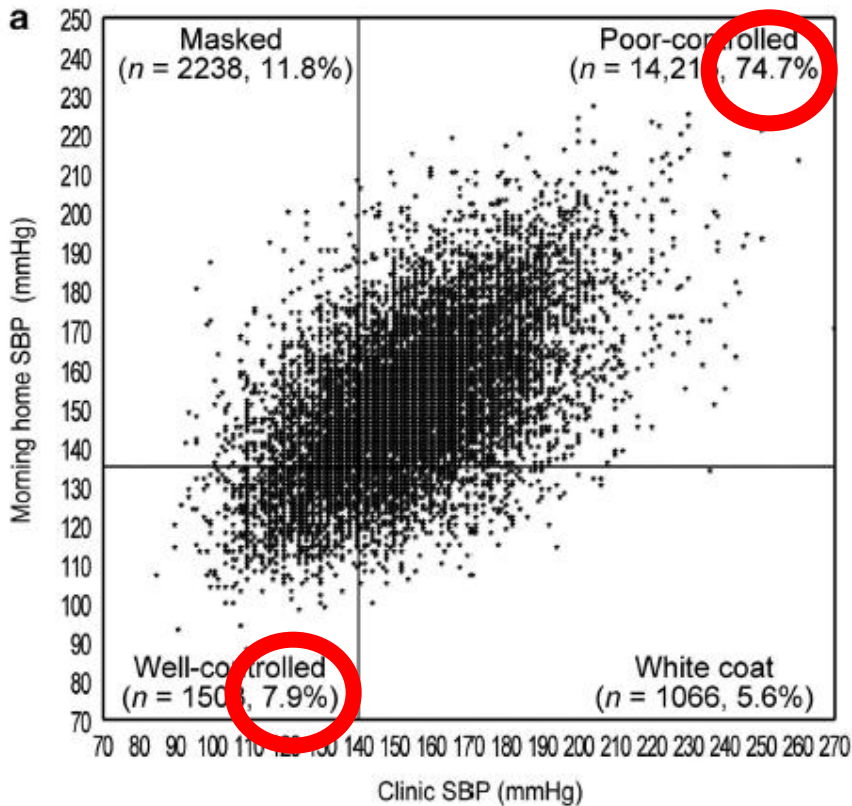
HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)

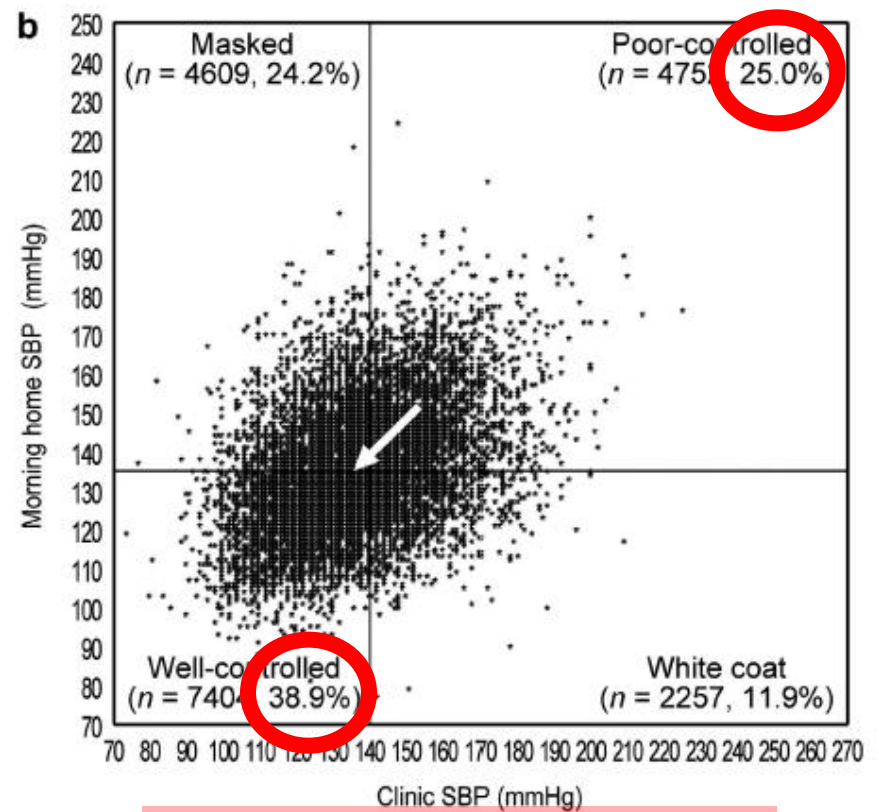


HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)



- Percentage of patients who achieved the target BP
Clinic SBP : 19.7%
Morning home SBP : 13.5%

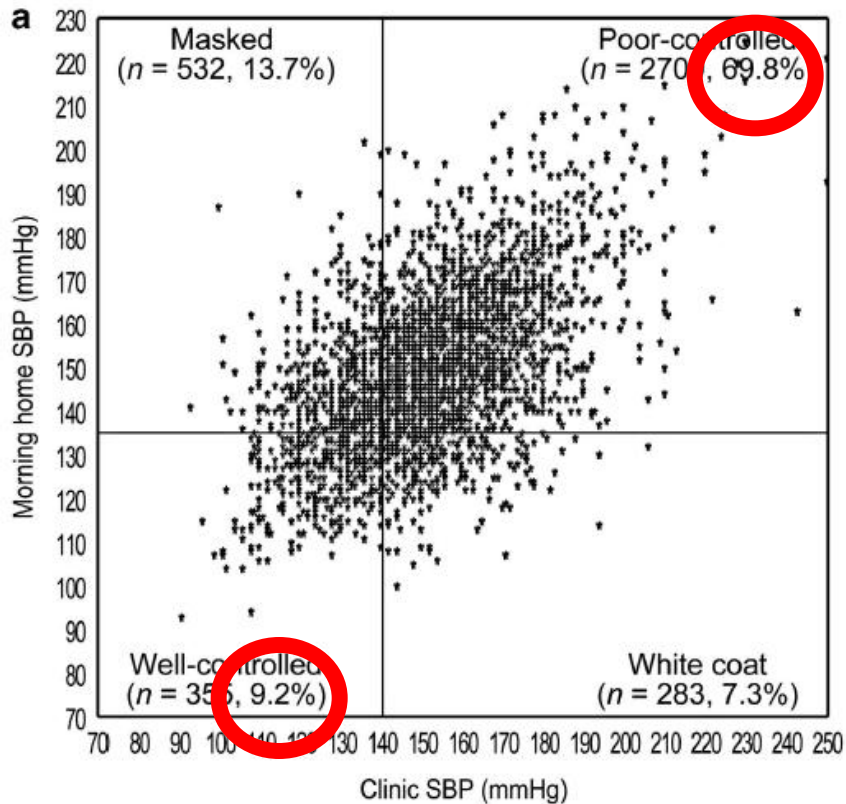


- Percentage of patients who achieved the target BP
Clinic SBP : 63.2%
Morning home SBP : 50.8%

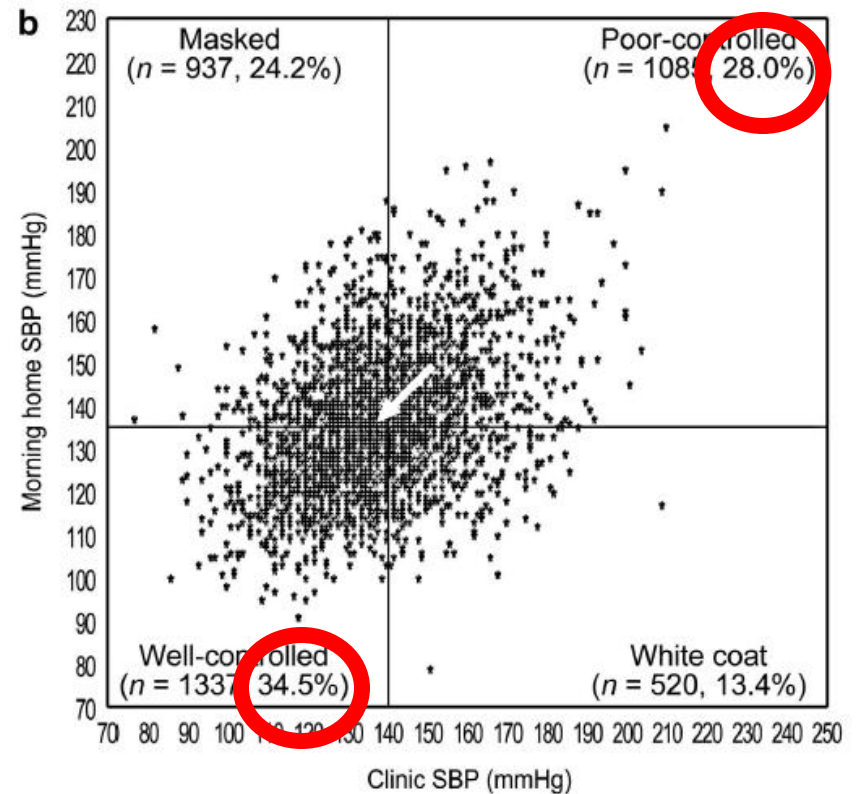
HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)

Diyabetik Hastalar (n=3879)



- Percentage of patients who achieved the target BP
Clinic SBP : 22.9%
Morning home SBP : 16.4%

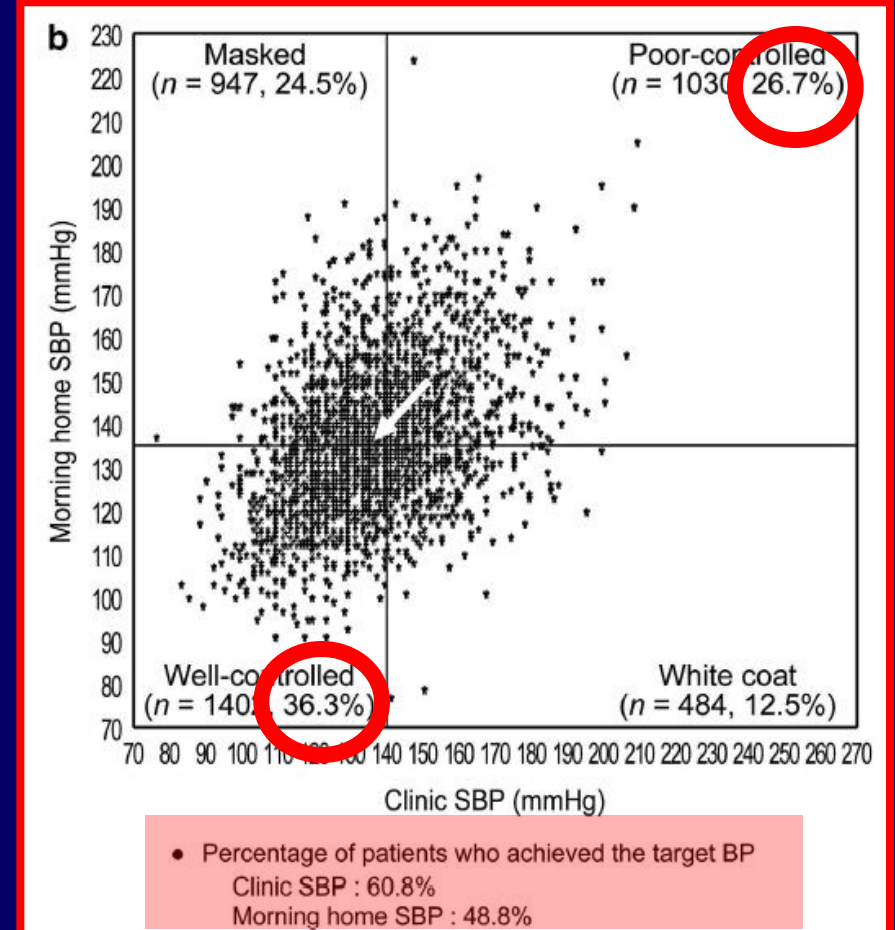
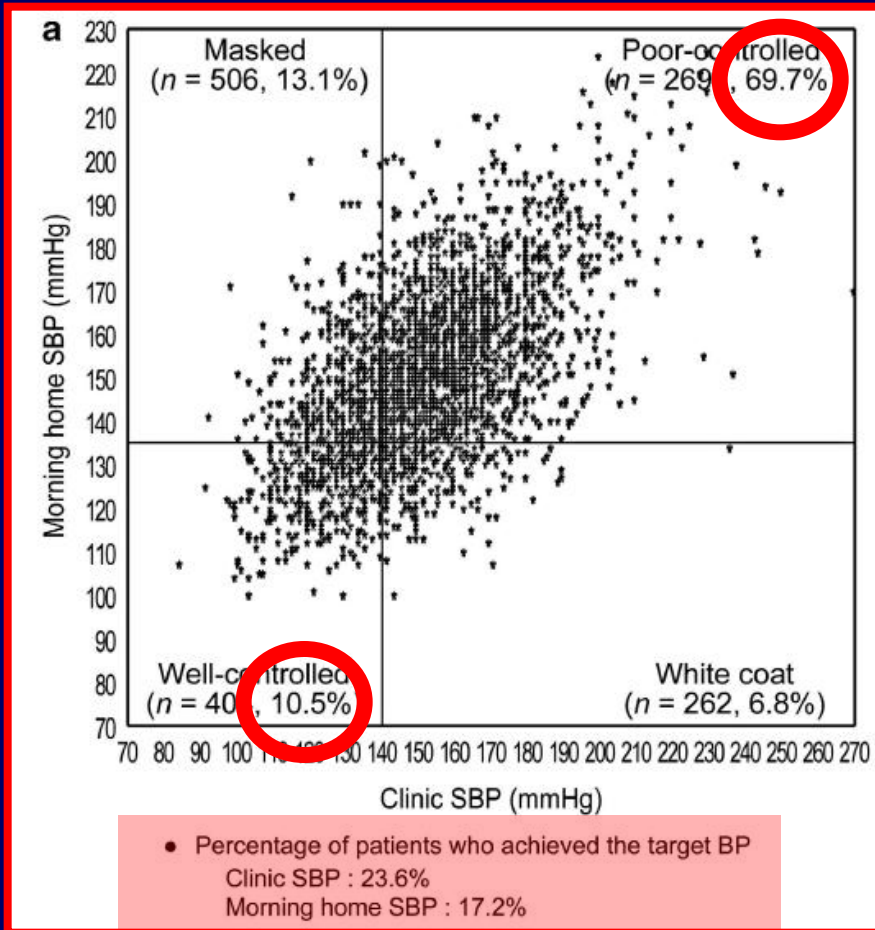


- Percentage of patients who achieved the target BP
Clinic SBP : 58.6%
Morning home SBP : 47.9%

HONEST

(The Home BP measurement with Olmesartan Naive patients to Establish Standard Target blood pressure study)

Kronik Böbrek Hastaları (n=3863)



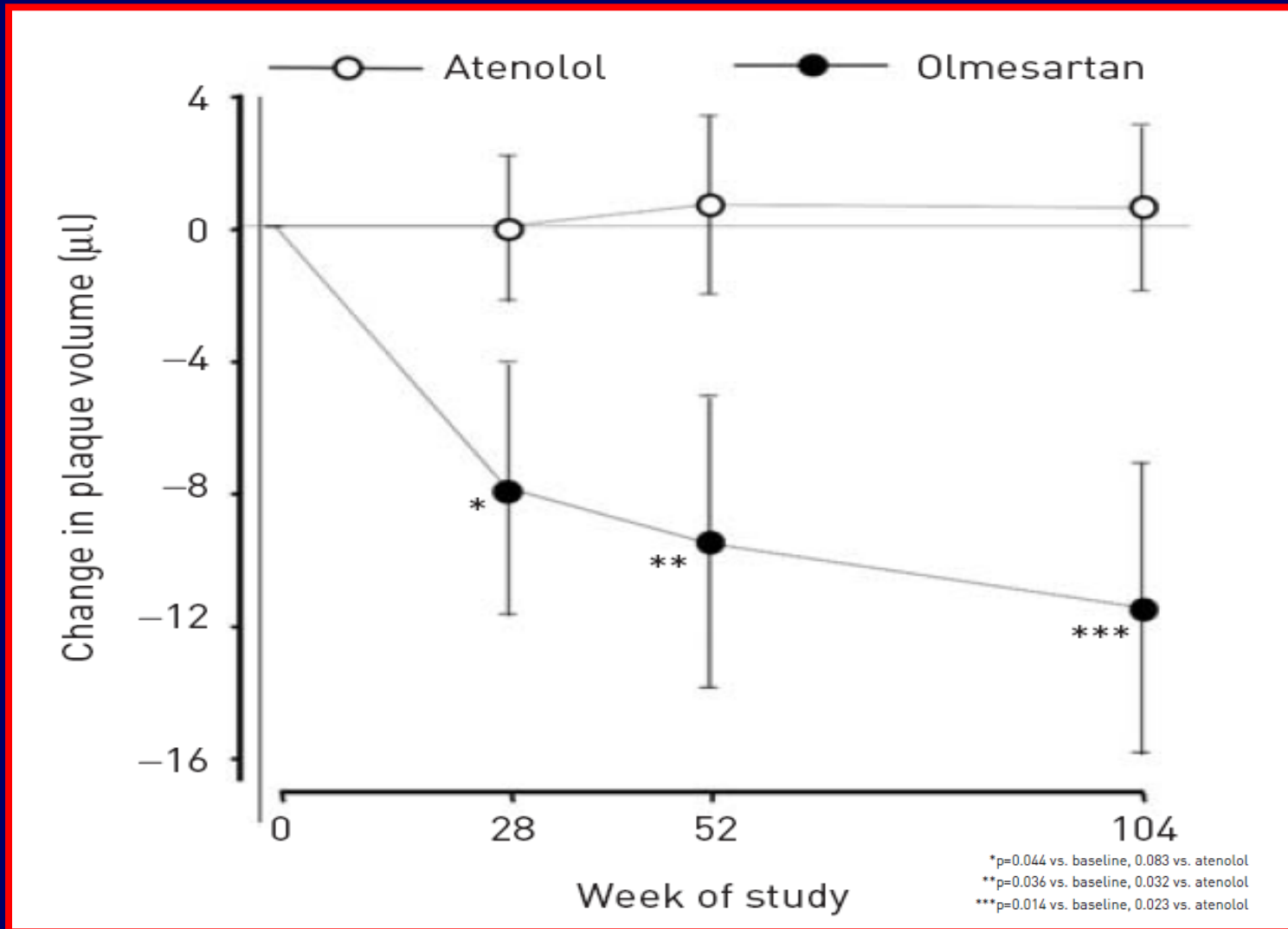
MORE

(The Multicentre Olmesartan Atherosclerosis Regression Evaluation Study)

- Randomize, çift kör, çok merkezli çalışma
- Hipertansiyonu olan (140-180 / 90-105 mm Hg) 165 hasta
- Olmesartan (20-40 mg/gün) ile atenolol (50-100 mg/gün) tedavilerinin karotis intima-media kalınlığı ve plak hacmi üzerine olan etkilerinin karşılaştırılması
- Takip süresi: 2 yıl

MORE

(The Multicentre Olmesartan Atherosclerosis Regression Evaluation Study)



OLIVIUS

(Impact of **O**lmesartan on progression of coronary atherosclerosis:
evaluation by **I**ntra**V**ascular **U**ltra**S**ound)

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CLINICAL RESEARCH

Coronary Artery Disease

Impact of Olmesartan on Progression of Coronary Atherosclerosis

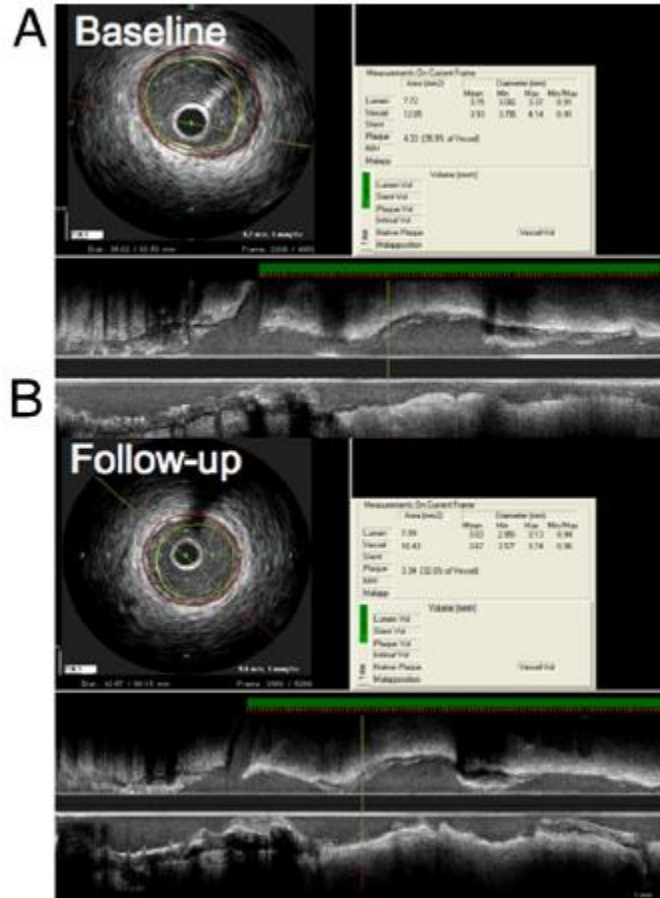
A Serial Volumetric Intravascular Ultrasound Analysis
From the OLIVUS (Impact of OLmesarten on progression of
coronary atherosclerosis: evaluation by IntraVascular UltraSound) Trial

Atsushi Hirohata, MD,* Keizo Yamamoto, MD,* Toru Miyoshi, MD,† Kunihiro Hatanaka, MD,†
Satoshi Hirohata, MD,† Hitoshi Yamawaki, MD,‡ Issei Komatsubara, MD,§ Masaaki Murakami, MD,*
Eiki Hirose, MD,* Shinji Sato, MD,* Keisuke Ohkawa, MD,* Makoto Ishizawa, MD,*
Hirosuke Yamaji, MD,* Hiroshi Kawamura, MD,* Shozo Kusachi, MD,|| Takashi Murakami, MD,*
Kazuyoshi Hina, MD,* Tohru Ohe, MD*

Okayama, Tottori, and Tsuyama, Japan

OLIVIUS

(Impact of Olmesartan on progression of coronary atherosclerosis: evaluation by IntraVascular UltraSound)



Baseline

Measured lengths = 52mm

Lumen Volume = 320.7 mm³
 Plaque Volume = 207.4 mm³
 Vessel Volume = 528.1mm³
 Percent Plaque Volume = 39.3%

14-months Follow-up

Measured lengths = 52mm

Lumen Volume = 309.1 mm³
 Plaque Volume = 221.2 mm³
 Vessel Volume = 530.3mm³
 Percent Plaque Volume = 41.7%

Percent Change in Plaque Volume = 6.6%
 Change in Percent Plaque Volume = 6.2%

OLIVIUS

(Impact of **O**lmesartan on progression of coronary atherosclerosis: evaluation by **I**ntra**V**ascular **U**ltra**S**ound)

Table 1 Baseline Patient Characteristics and Laboratory Values

	Control (n = 121)	Olmesartan (n = 126)	p Value
Male	68	76	NS
Age (yrs)	68.4 ± 8.8	67.8 ± 8.7	NS
Smoking	31	34	NS
Diabetes	35	31	NS
Previous MI	13	15	NS
Analyzed vessel (LAD/LCX/RCA)	33/33/34	29/31/40	NS
Body mass index (kg/m ²)	23.9 ± 3.5	24.7 ± 3.2	NS
Creatinine (mg/dl)	1.0 ± 0.41	0.99 ± 0.25	NS
eGFR (ml/min/1.73 m ²)	57.9 ± 19.2	59.6 ± 17.5	NS
HbA1c (%)	5.9 ± 1.2	6.1 ± 1.1	NS
LDL cholesterol (mg/dl)	107.0 ± 30.2	103.8 ± 24.8	NS
HDL cholesterol (mg/dl)	50.4 ± 12.6	47.1 ± 12.7	NS
Triglycerides (mg/dl)	142 ± 64	164 ± 126	NS
Patients already on antihypertensive agents	38.8	39.7	NS
Patients already on statins	33.0	30.9	NS

Values are %, n, or mean ± SD.

eGFR = estimated glomerular filtration rate; HbA1c = hemoglobin A1c; HDL = high-density lipoprotein; LAD = left anterior descending coronary artery; LCX = left circumflex artery; LDL = low-density lipoprotein; MI = myocardial infarction; RCA = right coronary artery.

Table 2 Baseline Medication

	Control (n = 121)	Olmesartan (n = 126)	p Value
Aspirin (%)	100.0	100.0	NS
Beta-blocker (%)	13.2	12.7	NS
Calcium-channel blockers (%)	49.6	41.3	NS
Statins (%)	57.0	52.3	NS
Oral glyceemic agents (%)	17.3	19.8	NS
Insulin (%)	7.1	5.6	NS

Table 3 Serial Changes in Blood Pressure

	Control (n = 121)	Olmesartan (n = 126)	p Value
Baseline			
Systolic BP (mm Hg)	144.4 ± 23.6*	142.4 ± 24.3	NS
Diastolic BP (mm Hg)	79.2 ± 10.8*	81.1 ± 12.9*	NS
14-month follow-up			
Systolic BP (mm Hg)	137.9 ± 25.3*	138.4 ± 21.4	NS
Diastolic BP (mm Hg)	74.7 ± 14.6*	77.4 ± 11.3*	NS

*p < 0.05 from baseline.

BP = blood pressure.

OLIVIUS

(Impact of Olmesartan on progression of coronary atherosclerosis:
evaluation by IntraVascular UltraSound)

Table 6		Changes in IVUS Parameters From Baseline to Follow-Up		
	Control (n = 121)	Olmesartan (n = 126)	p Value	
Nominal change				
Atheroma volume (mm ³)	7.1 (1.8–12.4)*	–2.6 (–7.9–2.8)	0.011	
Lumen volume (mm ³)	0.3 (–8.7–9.3)	0.4 (–7.6–8.3)	0.989	
Vessel volume (mm ³)	7.8 (2.5–10.5)	–2.1 (–8.5–2.5)	0.178	
PAV (%)	1.1 (0.1–2.1)†	–0.1 (–0.9–0.8)	0.085	
Change in total atheroma volume and PAV				
Total atheroma volume (%)	5.4 (2.4–8.5)	0.6 (–1.9–3.1)	0.016	
PAV (%)	3.1 (0.7–5.6)	–0.7 (–3.4–2.0)	0.038	

Value within parentheses indicates 95% confidence interval. *p = 0.009; †p = 0.039 between baseline and follow-up.

PAV (Percent atheroma volume)

OLIVIUS-Ex

(Impact of Olmesartan on progression of coronary atherosclerosis:
evaluation by IntraVascular UltraSound Extension trial)

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journal homepage: www.elsevier.com/locate/atherosclerosis



Four-year clinical outcomes of the OLIVUS-Ex (impact of Olmesartan on progression of coronary atherosclerosis: Evaluation by intravascular ultrasound) extension trial

Atsushi Hirohata^{a,*}, Keizo Yamamoto^a, Toru Miyoshi^e, Kunihiro Hatanaka^b, Satoshi Hirohata^b, Hitoshi Yamawaki^c, Issei Komatsubara^d, Eiki Hirose^a, Yuhei Kobayashi^a, Keisuke Ohkawa^a, Minako Ohara^a, Hiroya Takafuji^a, Fumihiko Sano^a, Yuko Toyama^a, Shozo Kusachi^b, Tohru Ohe^a, Hiroshi Ito^e

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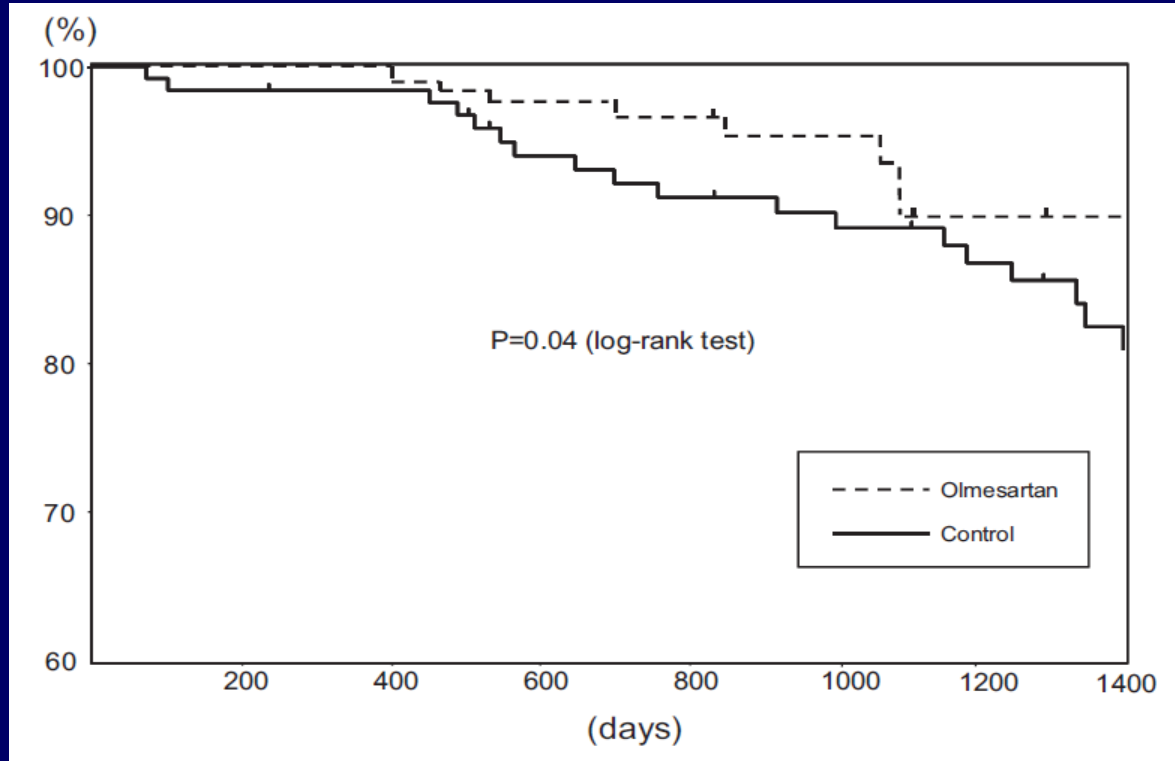
^d Tsuyama Central Hospital, Tsuyama, Japan

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OLIVIUS-Ex

(Impact of Olmesartan on progression of coronary atherosclerosis: evaluation by IntraVascular UltraSound Extension trial)

Olaysız* Sağkalım

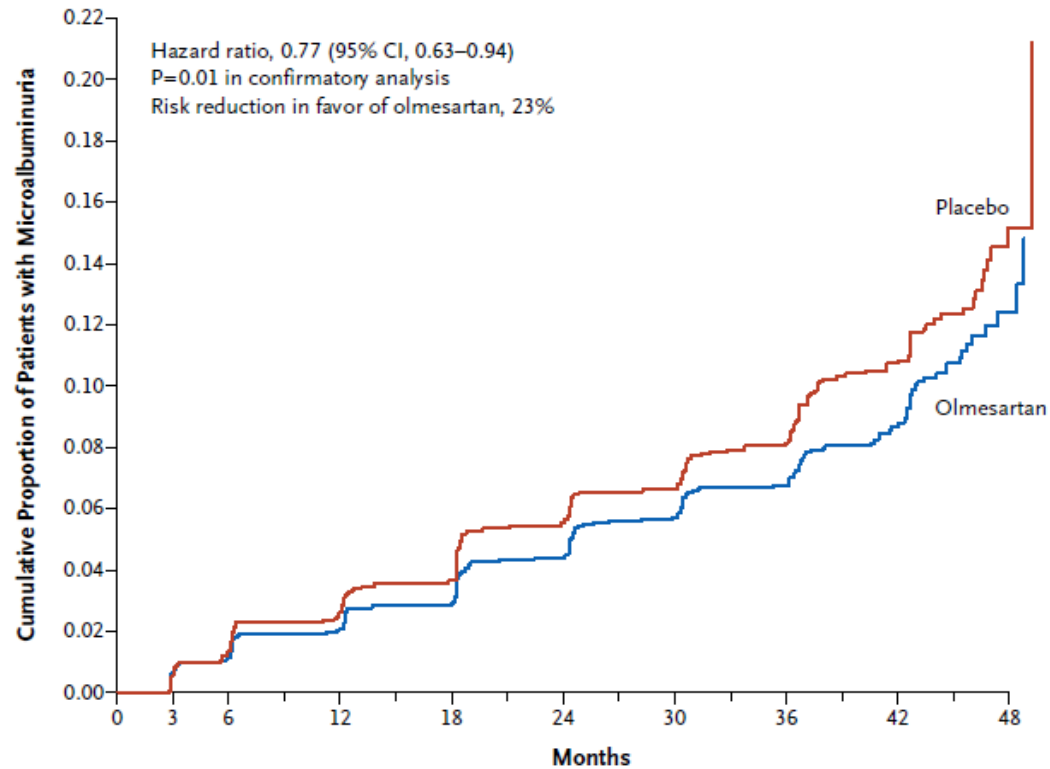


*Kardiyovasküler veya serebrovasküler nedenlere bağlı ölüm, miyokard infarktüsü, inme, angina veya kalp/böbrek yetersizliği

ROADMAP

(Randomized Olmesartan And Diabetes MicroAlbuminuria Prevention)

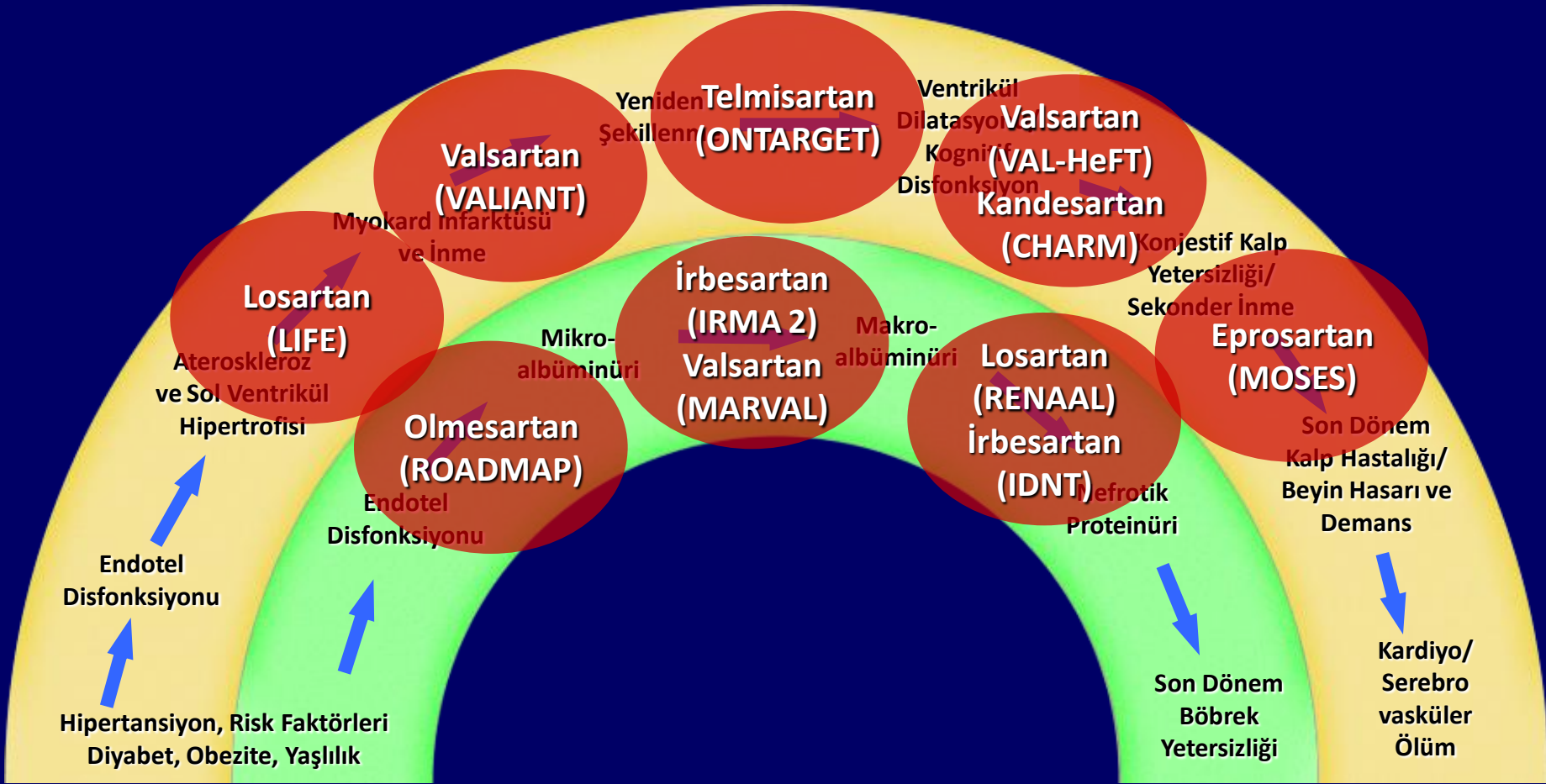
Tip 2 Diyabeti ve Normoalbüminürisi Olan 4447 Hasta
Primer sonlanım noktası: Mikroalbüminüri gelişimi



No. at Risk

Olmesartan	2160	2097	2025	1923	1833	1727	1629	1325	754	67
Placebo	2139	2076	2004	1887	1787	1685	1592	1308	699	49

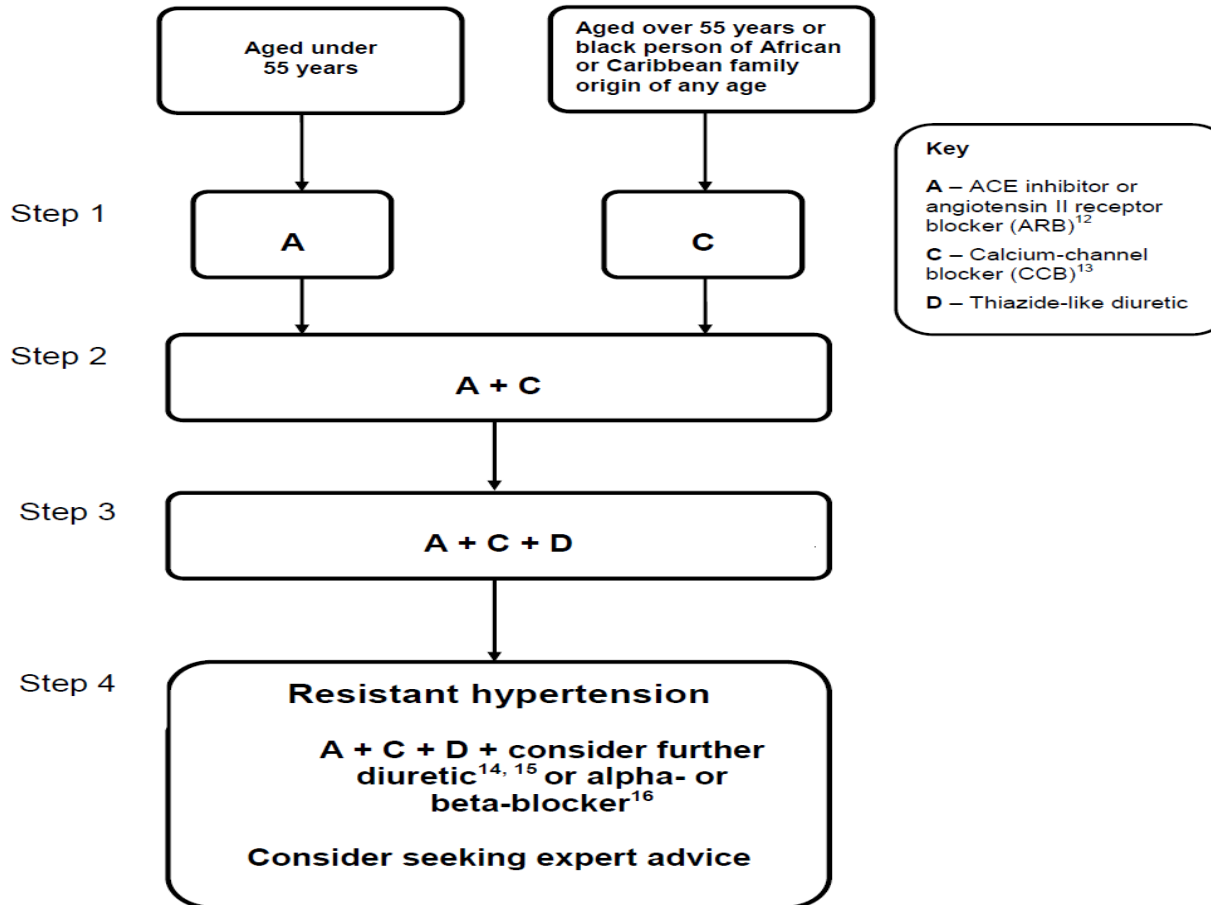
Kardiyorenal Süreç



Özel Durumlarda Tercih Edilecek İlaçlar

Durum	İlaç
Asemptomatik organ hasarı	
SVH	ACE inhibitörü, kalsiyum antagonisti, ARB
Asemptomatik ateroskleroz	Kalsiyum antagonisti, ACE inhibitörü
Mikroalbuminüri	ACE inhibitörü, ARB
Böbrek işlev bozukluğu	ACE inhibitörü, ARB
Klinik KV olay	
İnme öyküsü	KB'yi etkin şekilde düşüren herhangi bir ajan
Miyokart enfarktüsü öyküsü	BB, ACE inhibitörü, ARB
Angina pectoris	BB, kalsiyum antagonisti
Kalp yetersizliği	Diüretik, BB, ACE inhibitörü, ARB, mineralokortikoid reseptör antagonistleri
Aort anevrizması	BB
Atriyal fibrilasyon	ARB, ACE inhibitörü, BB veya mineralokortikoid reseptör antagonisti düşünün
Atriyal fibrilasyon, korunma, ventrikül hızı kontrolü	BB, dihidropidin grubu dışı kalsiyum antagonisti
SDBH/proteinüri	ACE inhibitörü, ARB
Periferik arter hastalığı	ACE inhibitörü, kalsiyum antagonisti
Diğer	
ISH (yaşlılarda)	Diüretik, kalsiyum antagonisti
Metabolik sendrom	ACE inhibitörü, ARB, kalsiyum antagonisti
Diabetes mellitus	ACE inhibitörü, ARB
Gebelik	Metildopa, BB, kalsiyum antagonisti
Siyahlar	Diüretik, kalsiyum antagonisti

2011



¹² Choose a low-cost ARB.

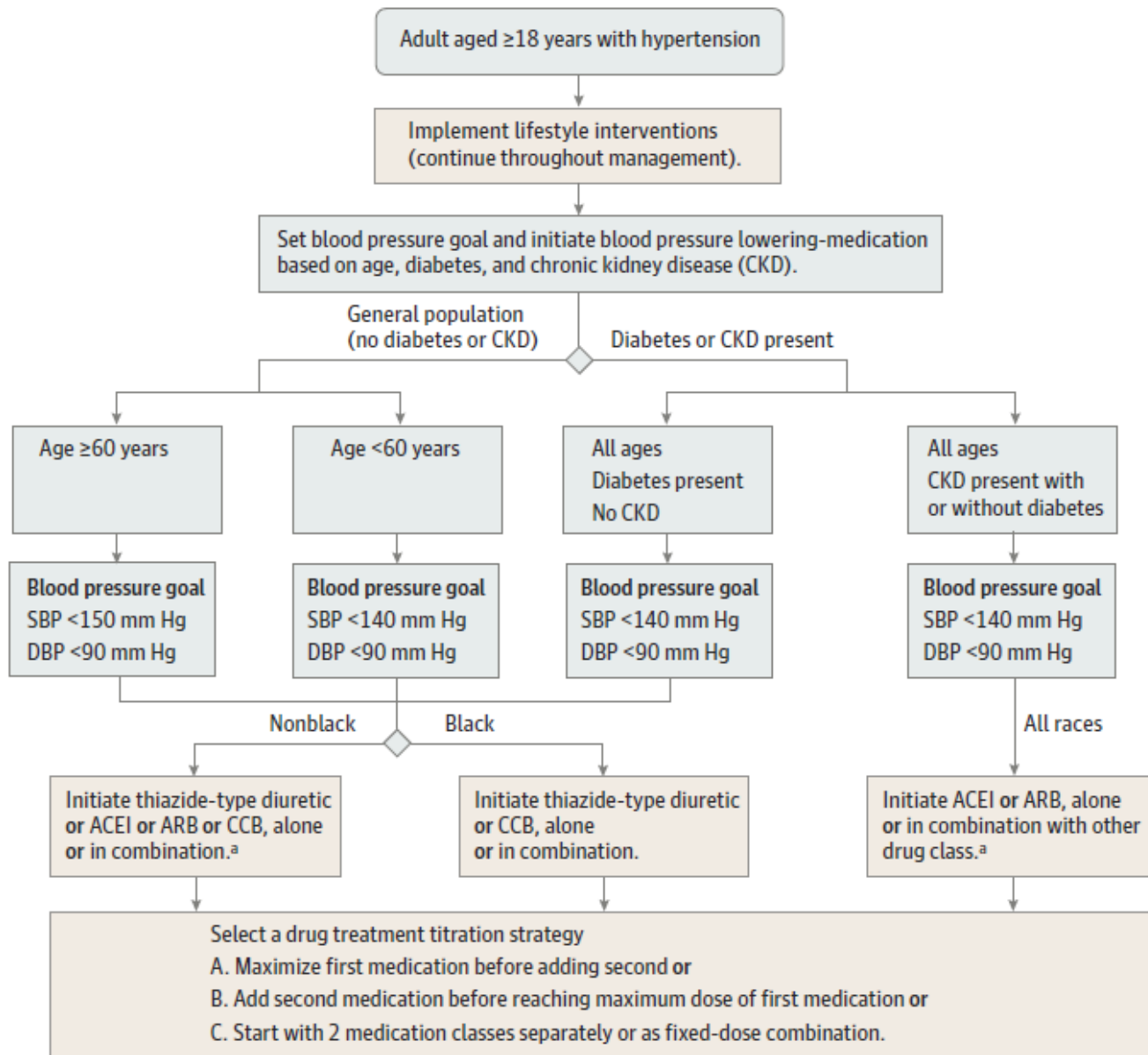
¹³ A CCB is preferred but consider a thiazide-like diuretic if a CCB is not tolerated or the person has oedema, evidence of heart failure or a high risk of heart failure.

¹⁴ Consider a low dose of spironolactone¹⁵ or higher doses of a thiazide-like diuretic.

¹⁵ At the time of publication (August 2011), spironolactone did not have a UK marketing authorisation for this indication. Informed consent should be obtained and documented.

¹⁶ Consider an alpha- or beta-blocker if further diuretic therapy is not tolerated, or is contraindicated or ineffective.

2014 Guideline for the Management of High Blood Pressure in Adults (JNC 8)



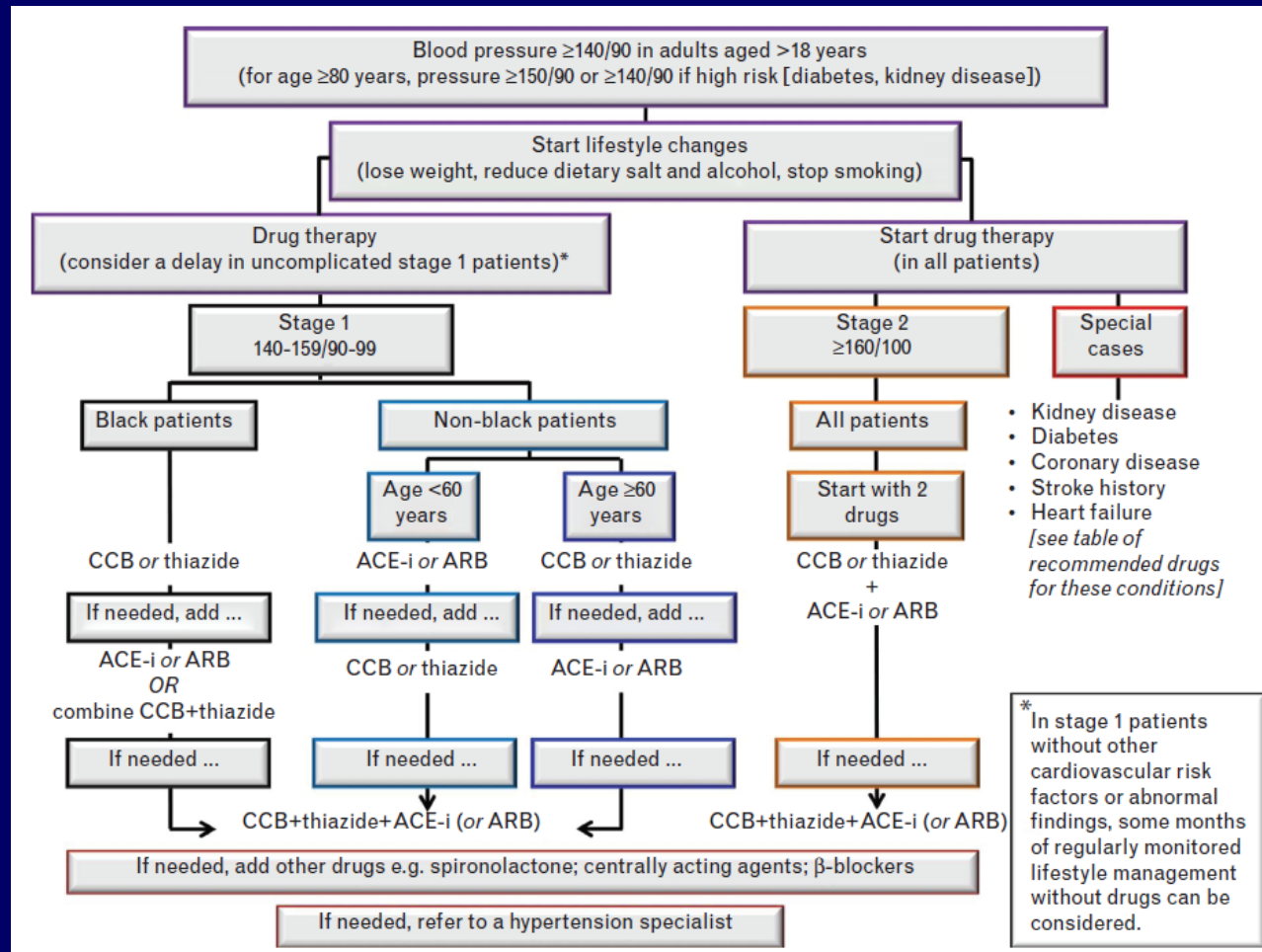
Clinical Practice Guidelines for the Management of Hypertension in the Community

A Statement by the American Society of Hypertension and the International Society of Hypertension

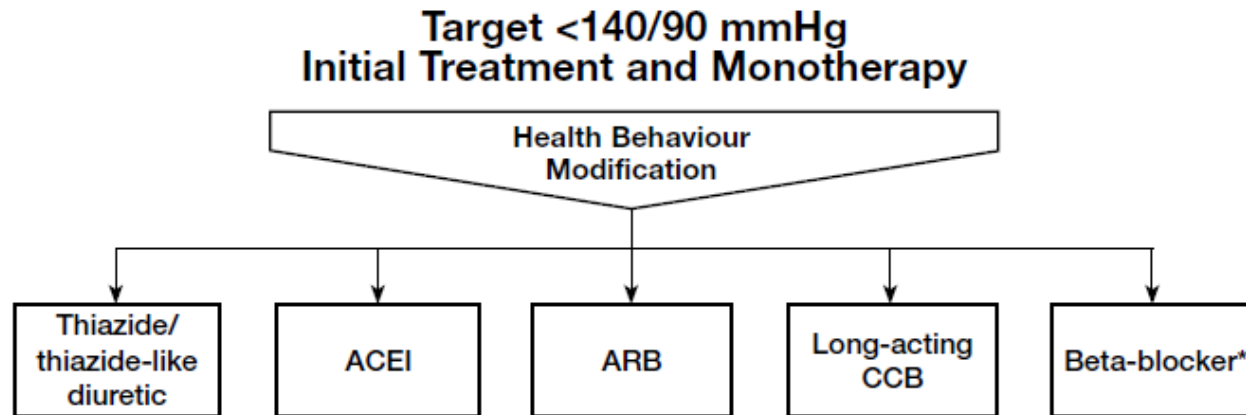
Michael A. Weber^a, Ernesto L. Schiffrin^b, William B. White^c, Samuel Mann^d, Lars H. Lindholm^e, John G. Kenerson^f, John M. Flack^g, Barry L. Carter^h, Barry J. Matersonⁱ, C. Venkata S. Ram^j, Debbie L. Cohen^k, Jean-Claude Cadet^l, Roger R. Jean-Charles^m, Sandra Talerⁿ, David Kountz^o, Raymond Townsend^p, John Chalmers^q, Agustin J. Ramirez^r, George L. Bakris^s, Jiguang Wang^t, Aletta E. Schutte^u, John D. Bisognano^v, Rhian M. Touyz^w, Dominic Sica^x, and Stephen B. Harrap^y



International Society of Hypertension



Treatment of Adults with Systolic/Diastolic Hypertension Without Compelling Indications for a Specific Agent



A combination of two first-line drugs may be considered as initial therapy if the blood pressure is ≥ 20 mmHg systolic or ≥ 10 mmHg diastolic above target.

* Beta-blockers are not indicated as first line therapy for age 60 and above

ACEI, ARB and direct renin inhibitors are contraindicated in pregnancy and caution is required in prescribing to women of child bearing potential