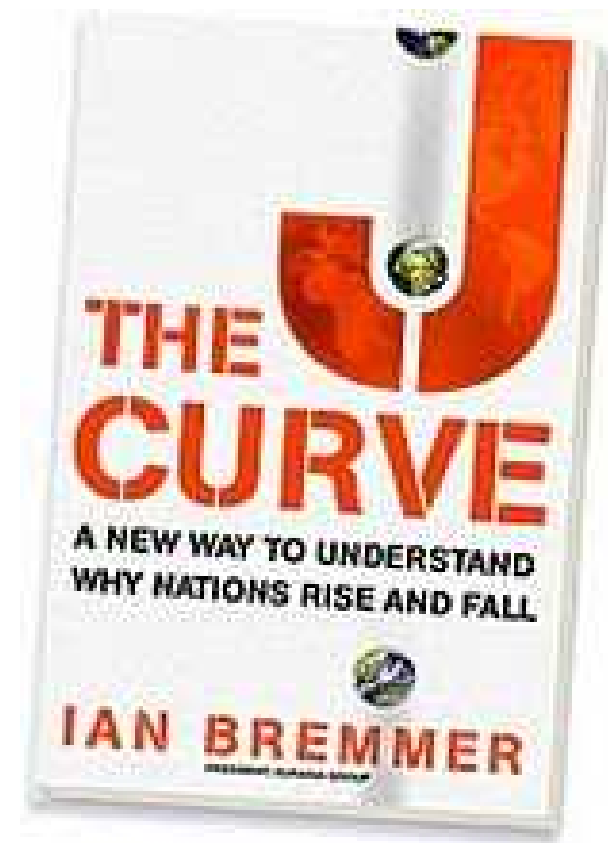
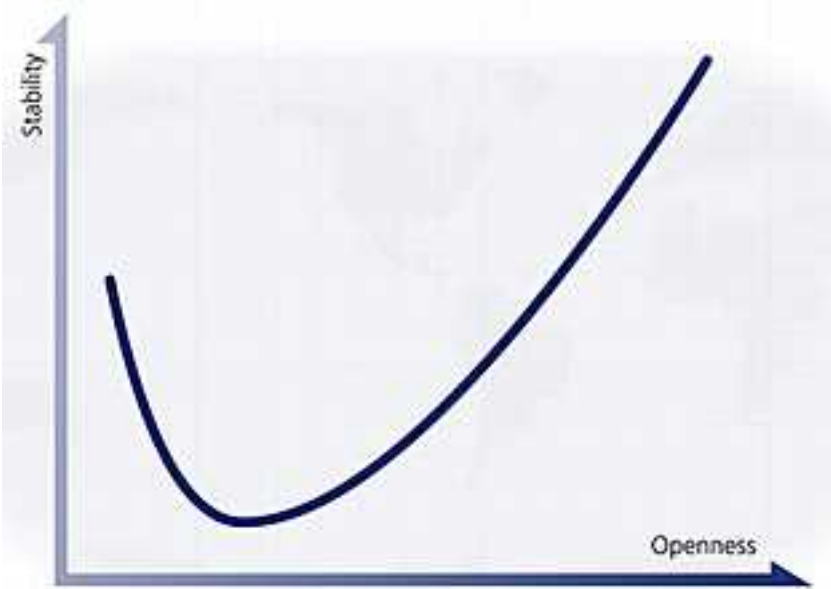
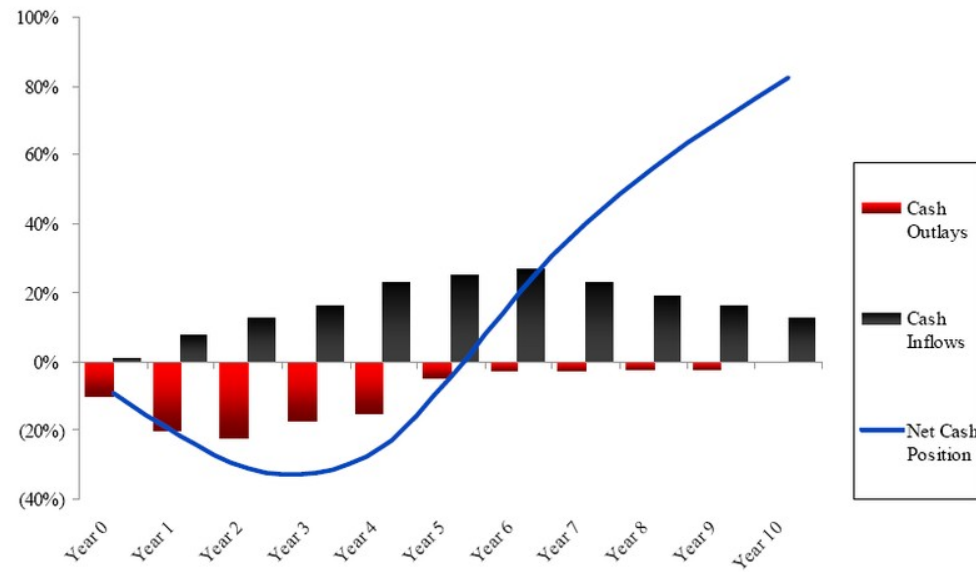


Hipertansiyon ve J egrisi

Prof. Dr. Bülent ALTUN
Hacettepe Üniversitesi Tıp Fakültesi
İç Hastalıkları Anabilim Dalı
Nefroloji Ünitesi

J EGRISI



J Egrisi İle İlgili Görüşler

a. Yoktur.

b. Vardır.

c . Vardır ama benim tedavimi etkilemez.

d. Ben zaten yan salona girecektim....

KAN BASINCI VE ÖLÜM



TARIHTE J Egrisi

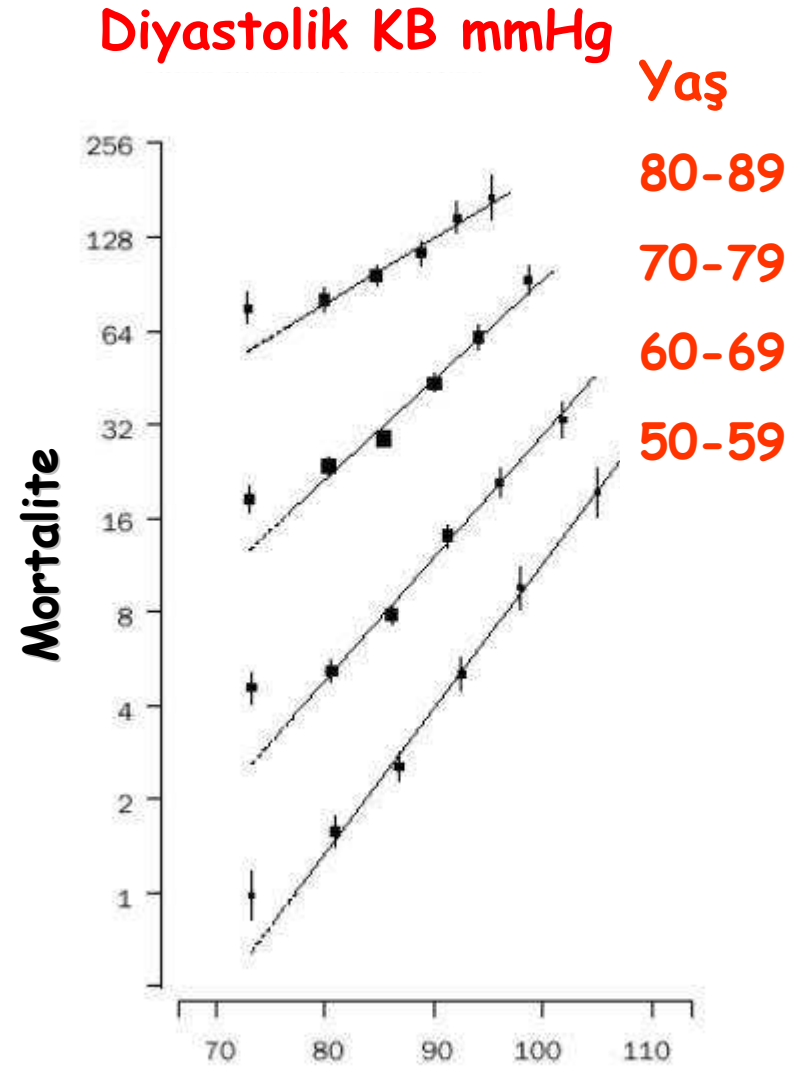
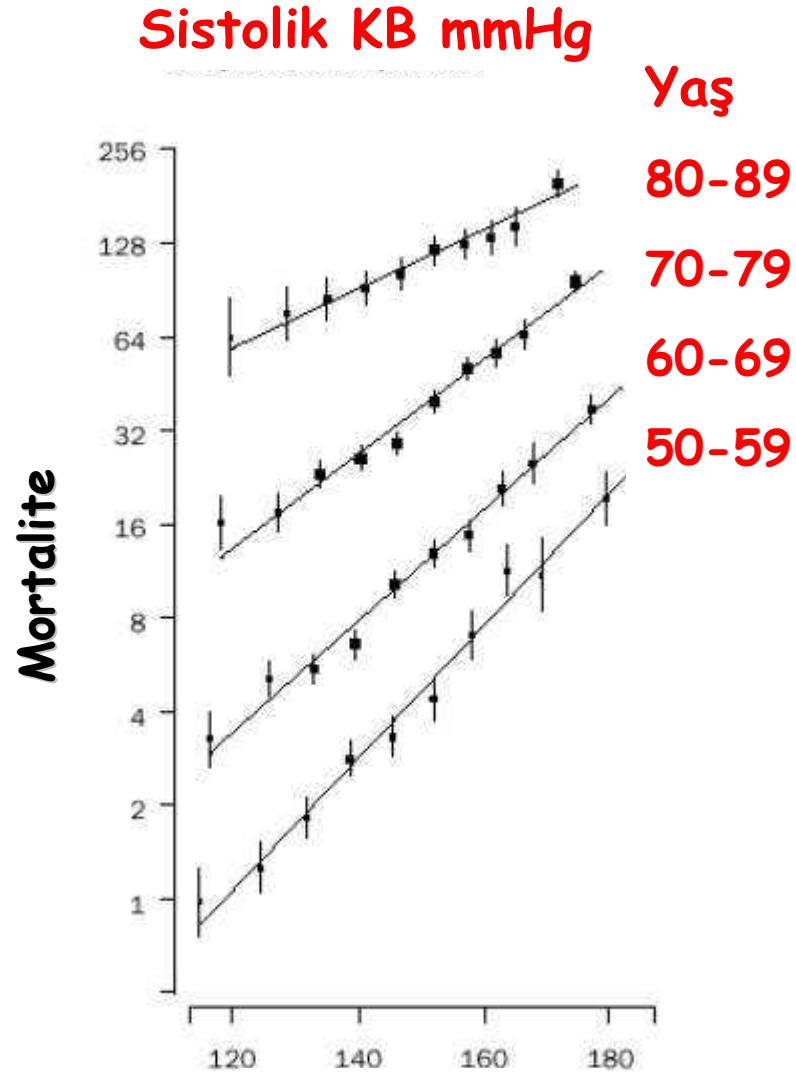
Because in this disease the increase in tone of the small arteries in the whole body (which leads to an increase in blood pressure) is the primary event I will, in the following, name this disease, essential hypertension (essentielle Hypertonie)."

Frank E. Deutsches Archiv Fur Klin. Medizin 1911;103:397- 412.

"the hypertension may be an important compensatory mechanism which should not be tampered with, even were it certain that we could control it.

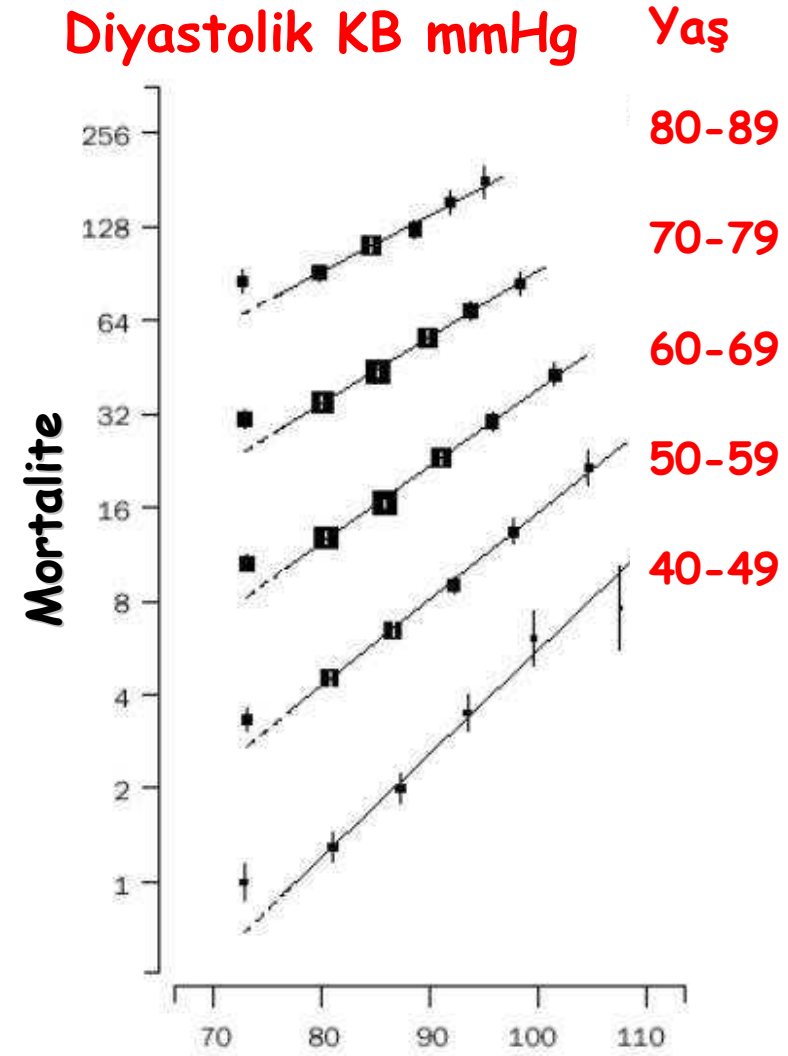
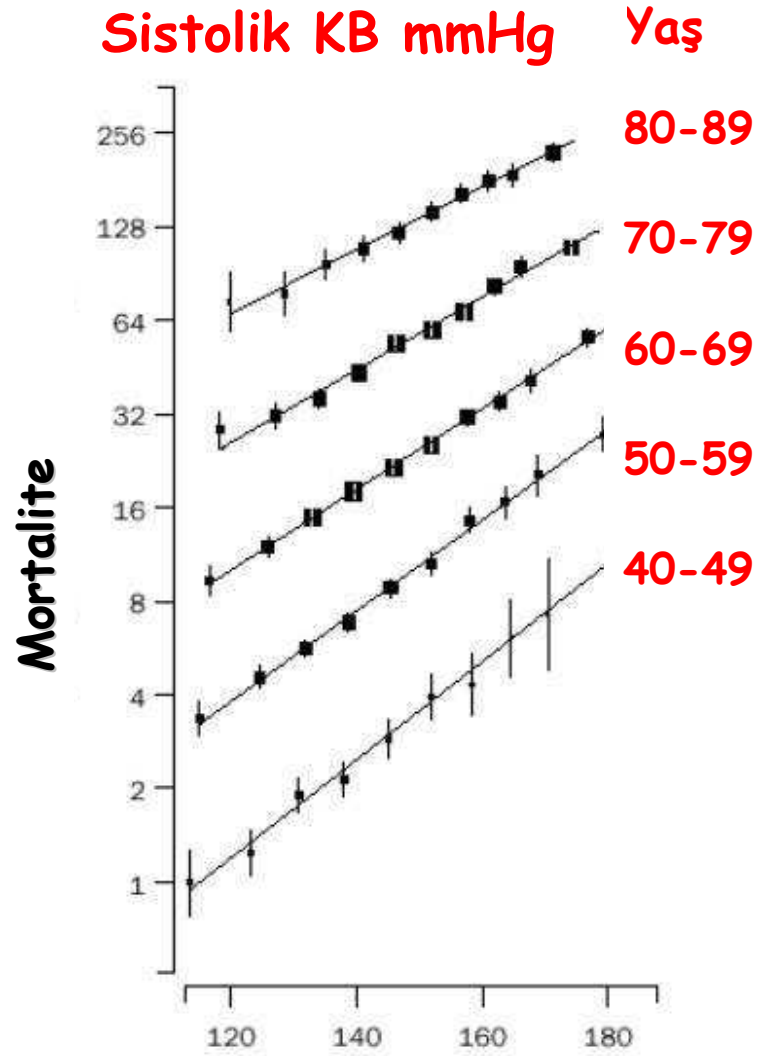
White PD. Heart disease. 2nd ed. New York: Macmillan, 1937:326.

Kan Basıncı - İnmeye Bağlı Mortalite İlişkisi



Lancet 2002; 360: 1903-13

Kan Basıncı - Kalp Hastalığına Bağlı Mortalite İlişkisi

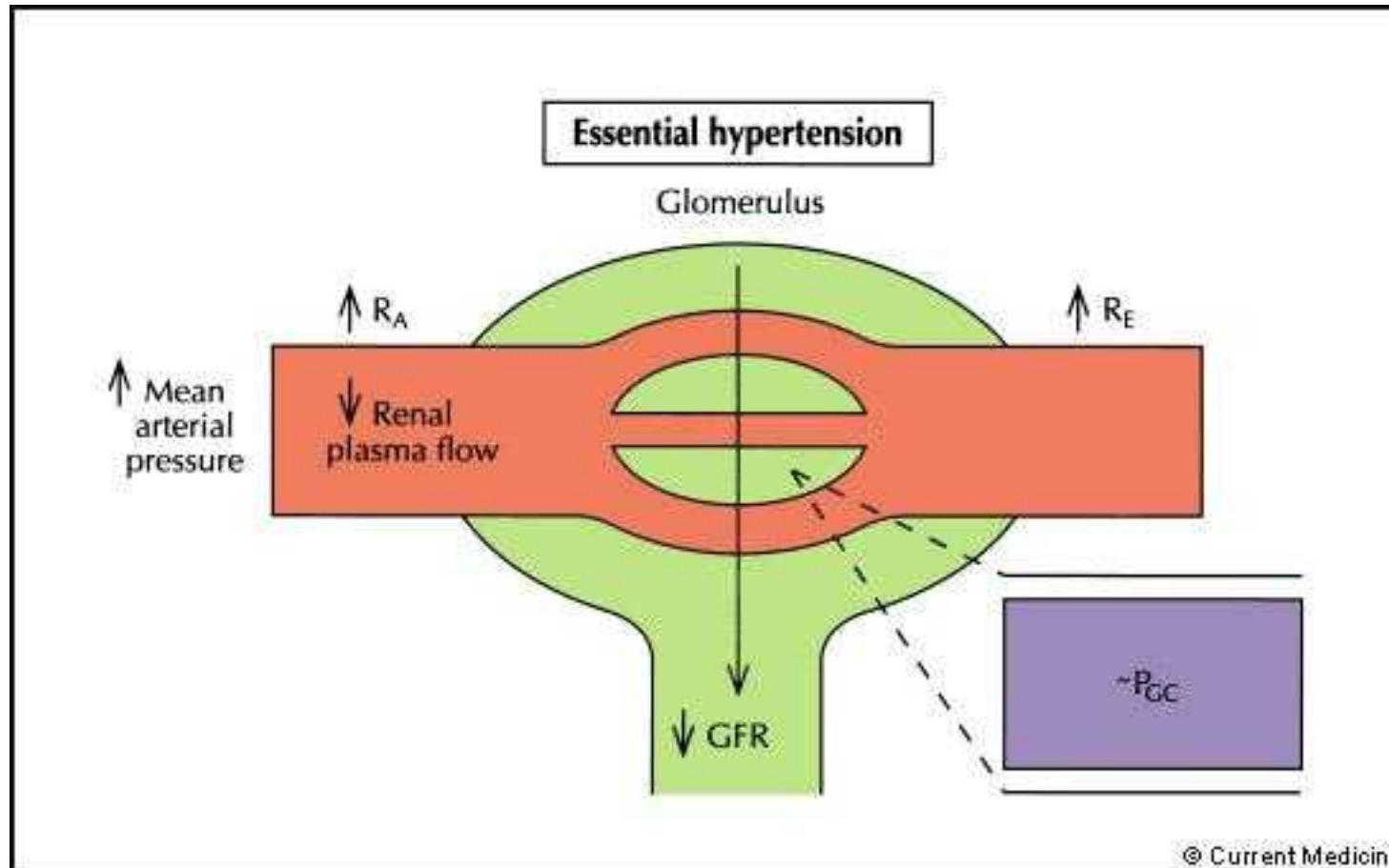


"J-CURVE" Vardır (+), ya da Yoktur (-) Diyen Çalışmalar

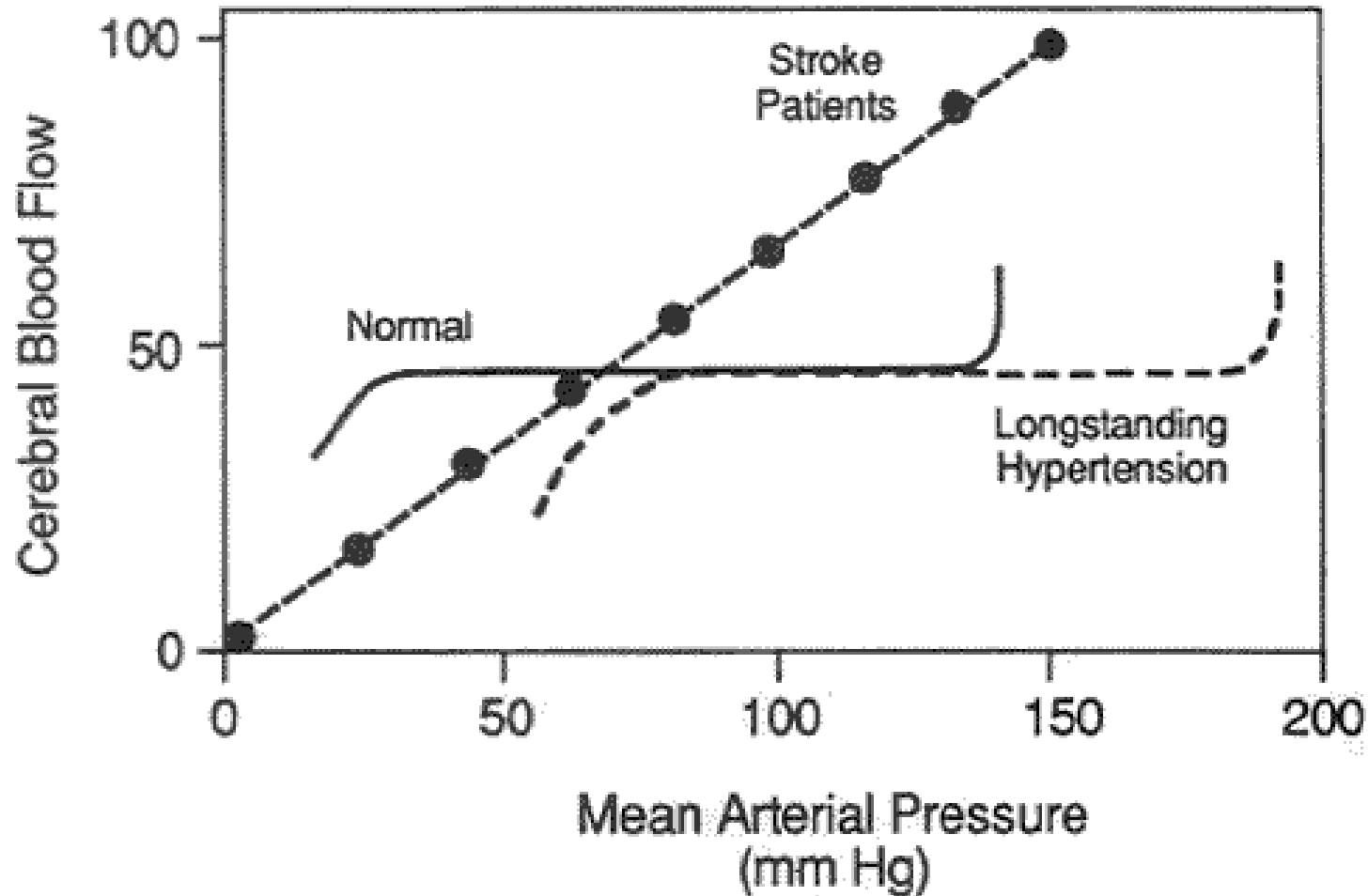
ÇALIŞMA	MI- İnsidans	MI- Mortalite	DKB İçin Eşik J Değer
Cruickshank et al ¹	(-)	(+)	85-90
DHCP ²	(-)	(+)	86-91
HDFP ³	(+)	(+)	* 26
Waller et al ⁴	(-)	(+)	91-98
HEP ⁵	(+)	(+)	80-89
Stewart ⁶	(+)	(+)	100-109
NYEC ⁷	(+)	(+)	>17*
EWPHE ⁸	(-)	(+)	J Eğrisi VAR, Eşik YOK
PPT ⁹	(+)	(+)	86-89
IPPPSH ¹⁰	(+)	(+)	92
ANBP ¹¹	(+)	(+)	85-89
MRC ¹²	(-)	(-)	J Eğrisi YOK
HAPPHY ¹³	(+)	(+)	85
SHEP ¹⁴	(-)	(-)	J Eğrisi YOK
BBB ¹⁵	(-)	(-)	J Eğrisi YOK

*Diyastolik KB daki düşüş miktarı

Renal Autoregulation

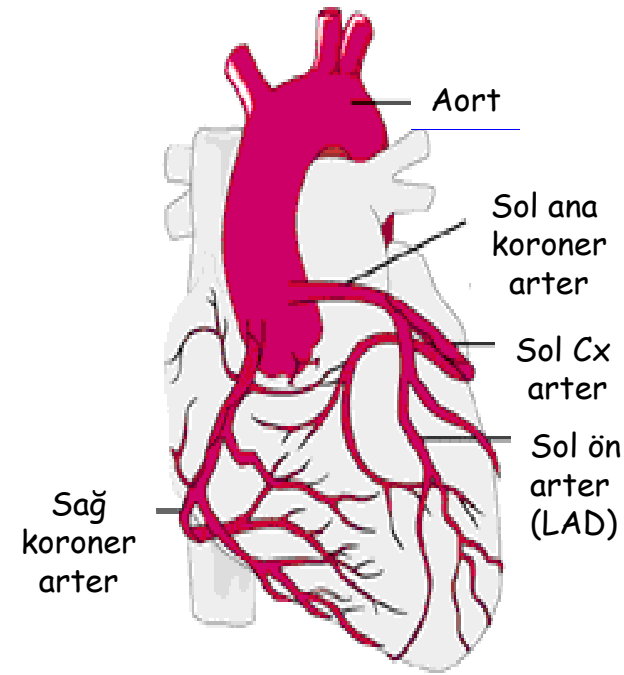
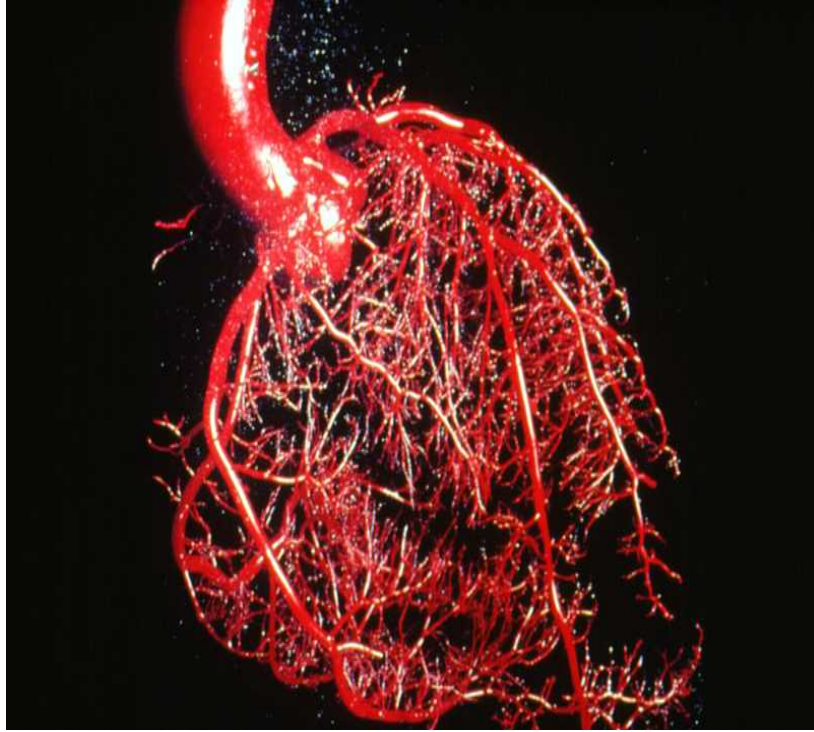


Cerebral Autoregulation

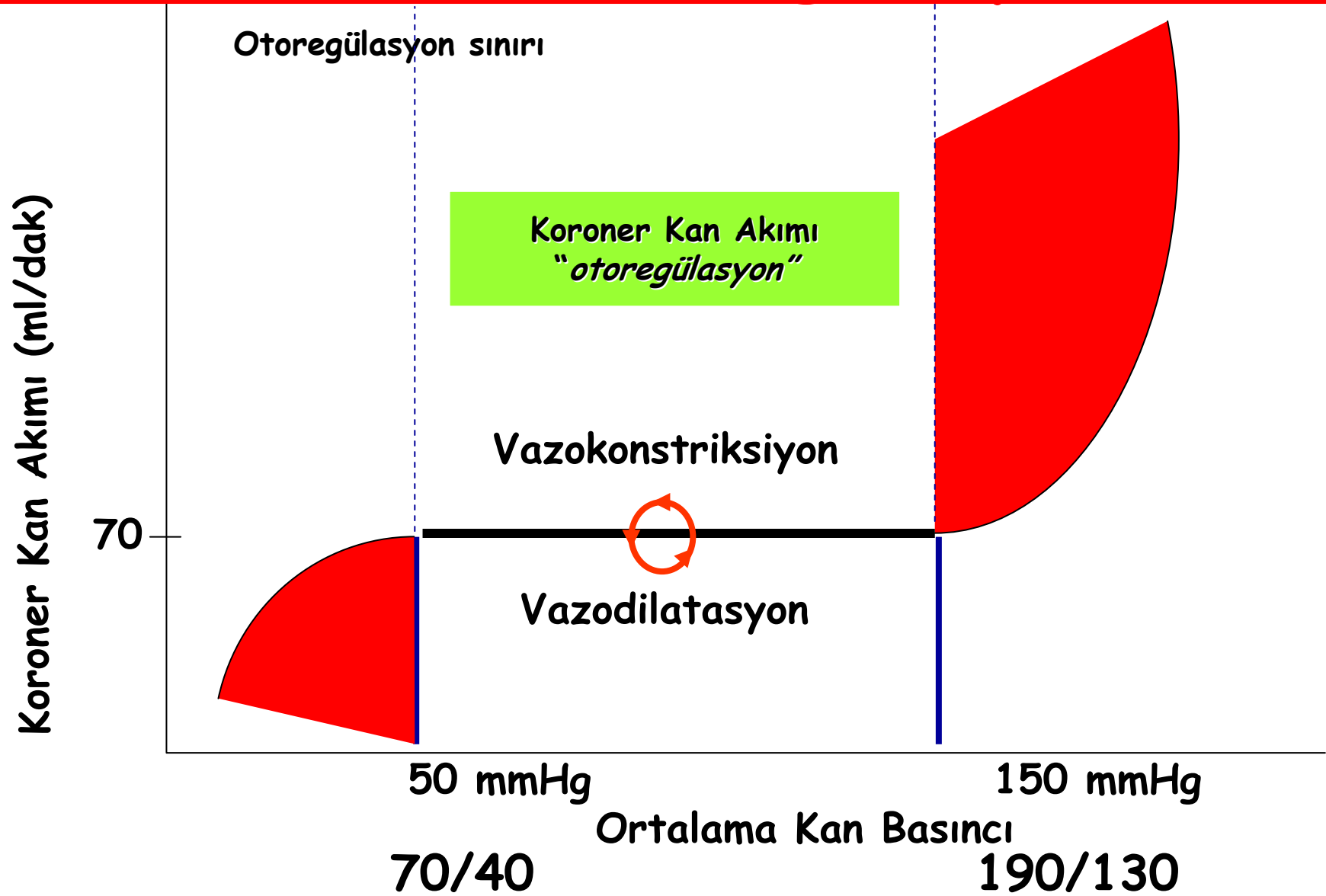


Koroner Kan Akımı

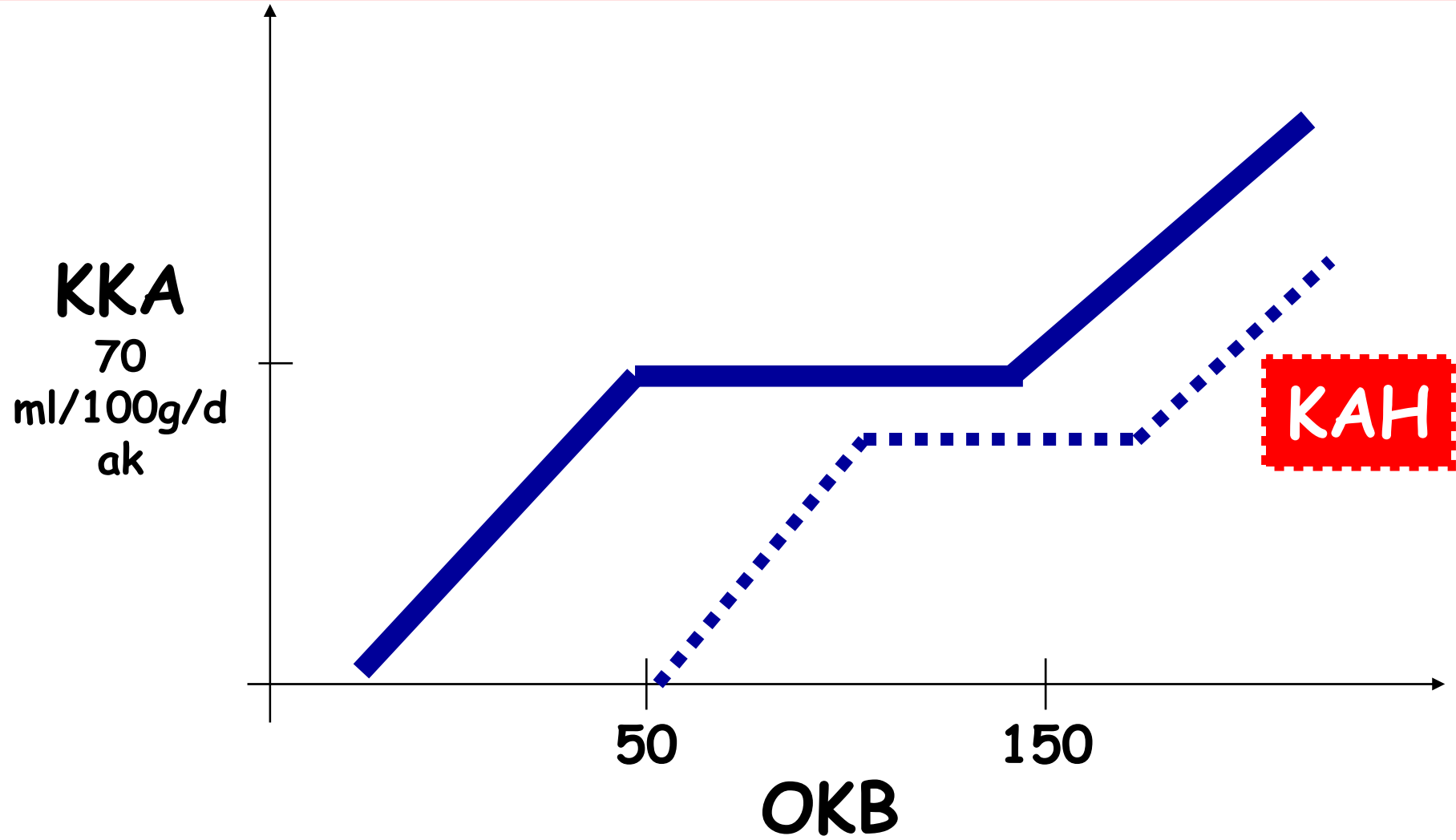
$$\text{Koroner Kan Akımı} = \frac{\text{Koroner perfüzyon basıncı}}{\text{Koroner vasküler rezistans}}$$



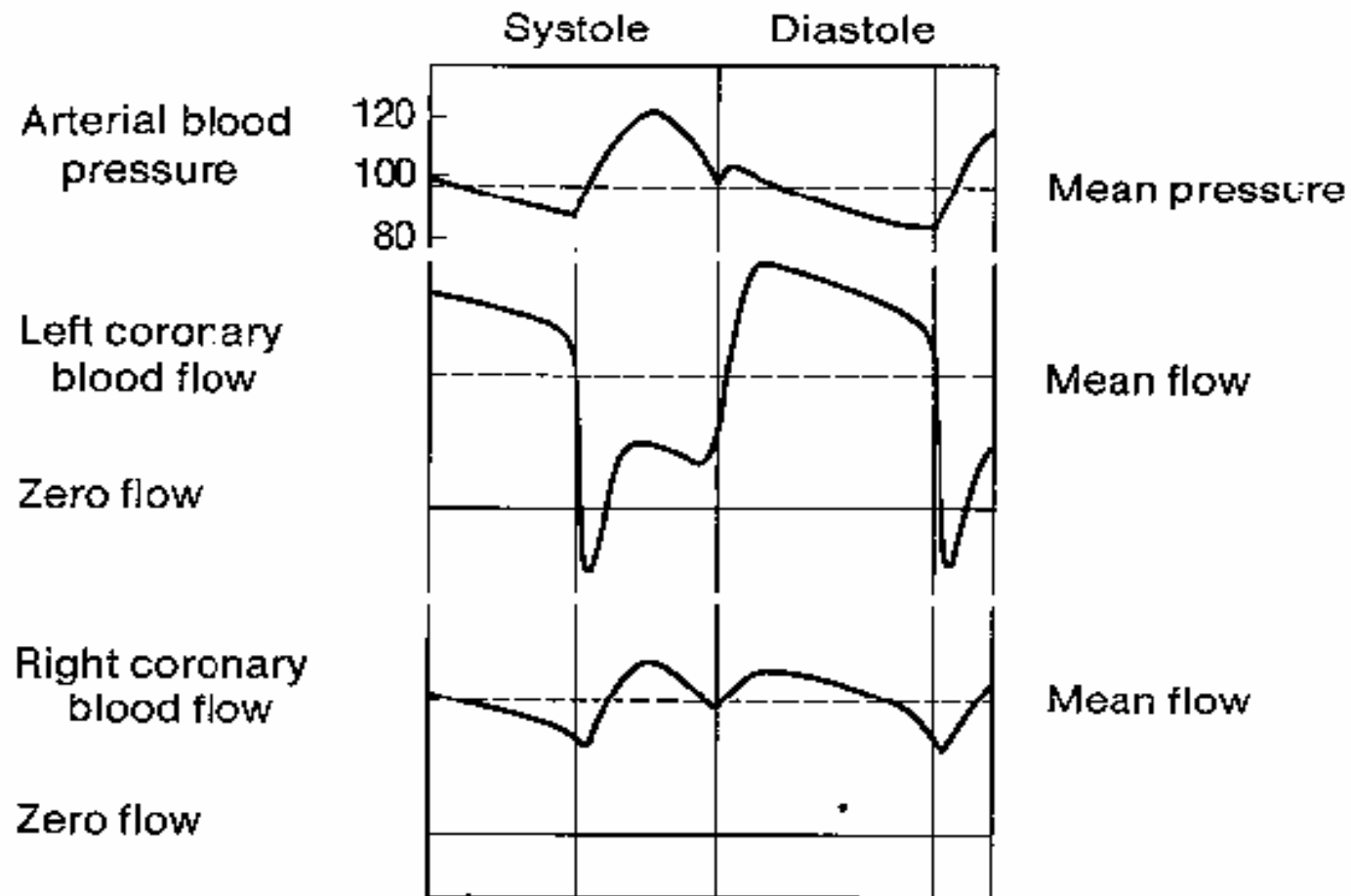
Koroner Otoregülasyon



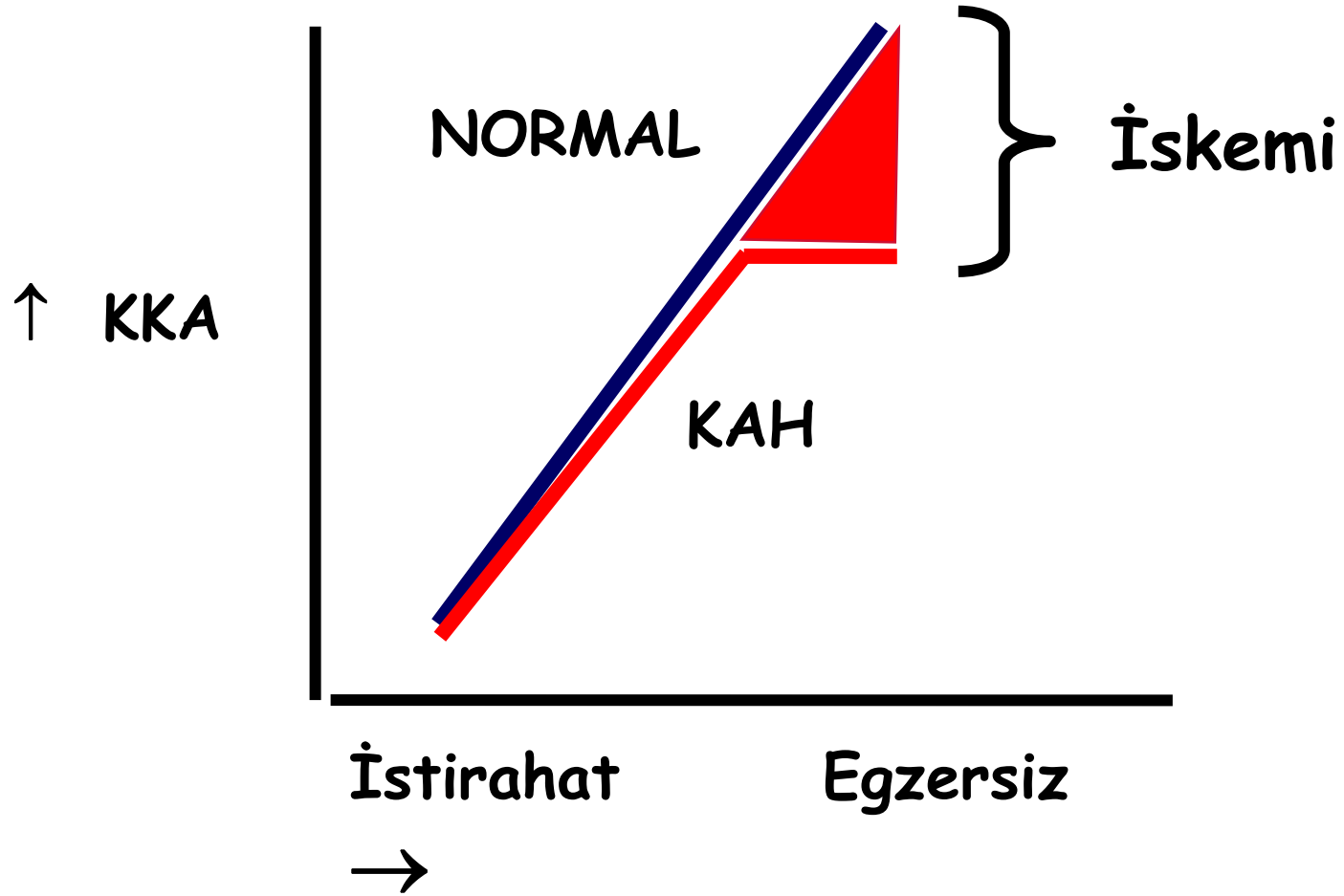
Vasküler Otoregüasyon



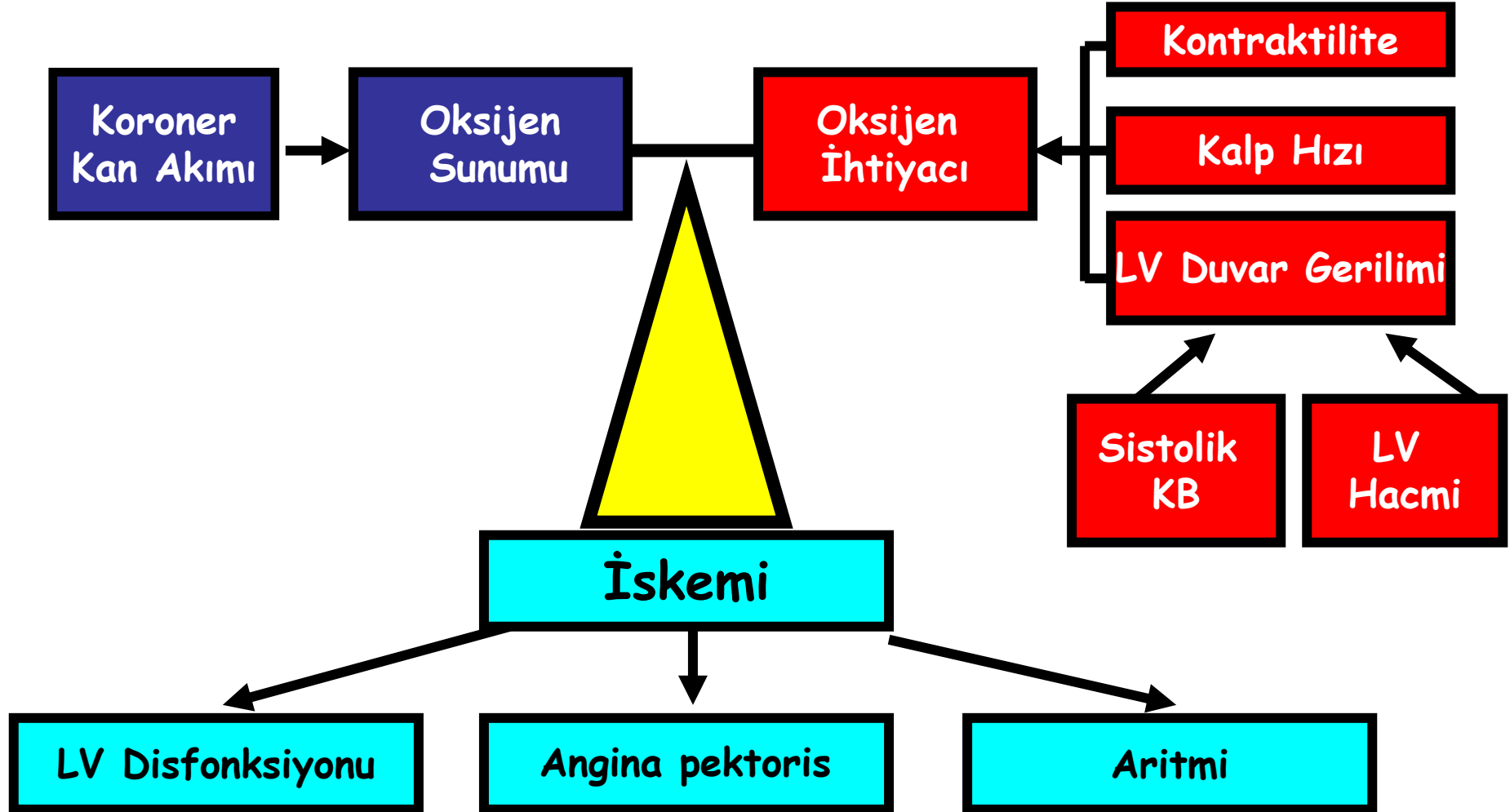
Koroner Kan Akımı



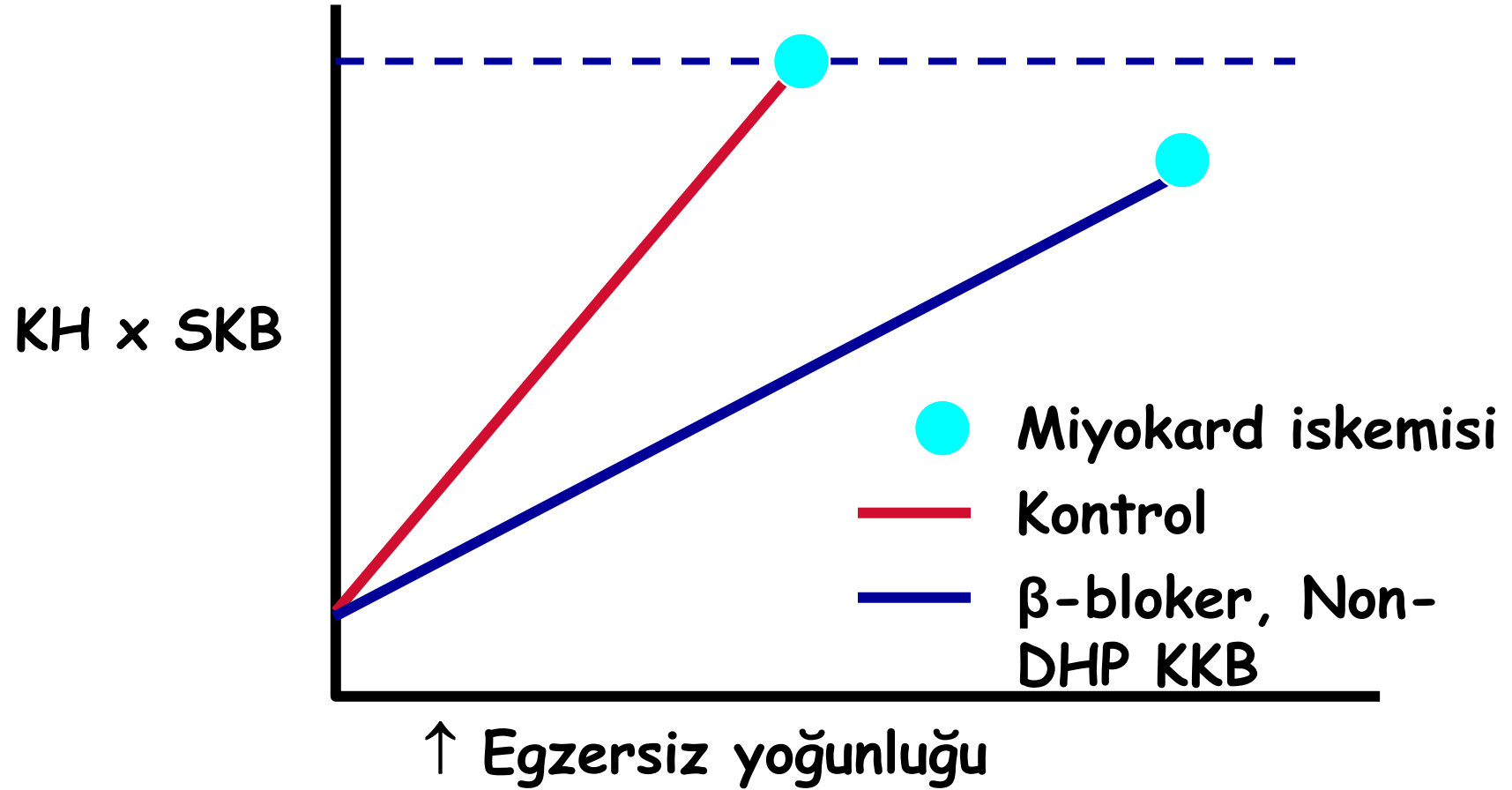
Koroner Vazodilatör Rezerv



Miyokardiyal O₂ Sunum-İhtiyaç İlişkisi

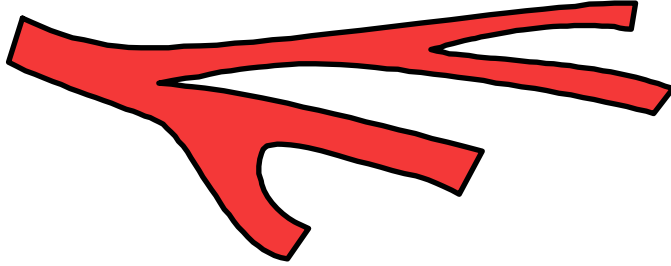


Kalp Hızı ve Kan Basıncının Düşürülmesi Miyokardın O₂ İhtiyacını Azaltır



Normal vs. Iskemik Kalp Hastalığı

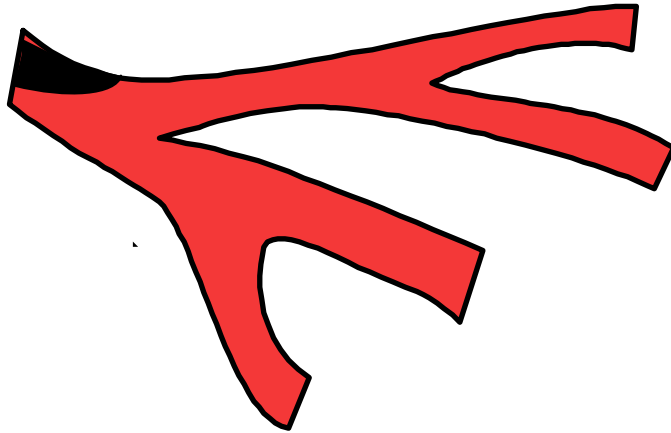
Normal



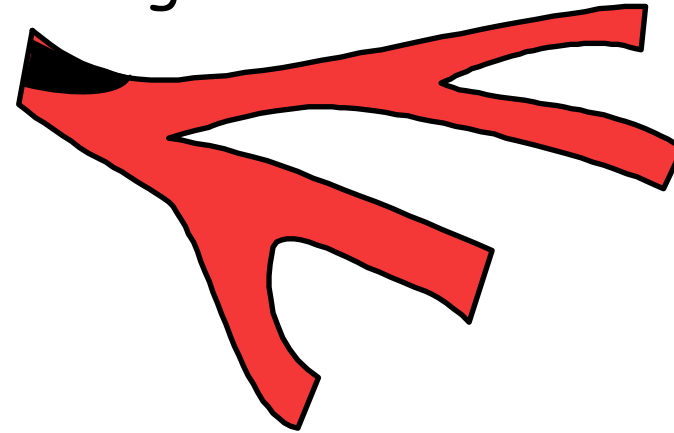
Normal Egzersiz



Aterosklerotik



Aterosklerotik
Egzersiziz



J Eğrisi Vardır

Farnett L, Mulrow CD, Linn WD, et al. The J-curve phenomenon and the treatment of hypertension: Is there a point beyond which pressure reduction is dangerous? JAMA 1991;265:489-495.

1. Düşük DKB sebebi morbidite ve mortaliteden asıl sorumlu olan altta yatan başka bir kronik hastalık olabilir ("reverse causation").
2. Düşük DKB büyük arterlerin sertliğindeki artışı yansıtabilir, ki bu da ileri derecede damar hastalığını yansıtır.
3. Düşük DKB koroner kan akımını bozabilir ve miyokard iskemisine yol açabilir.

Ters Nedensellik (Reverse Causality)

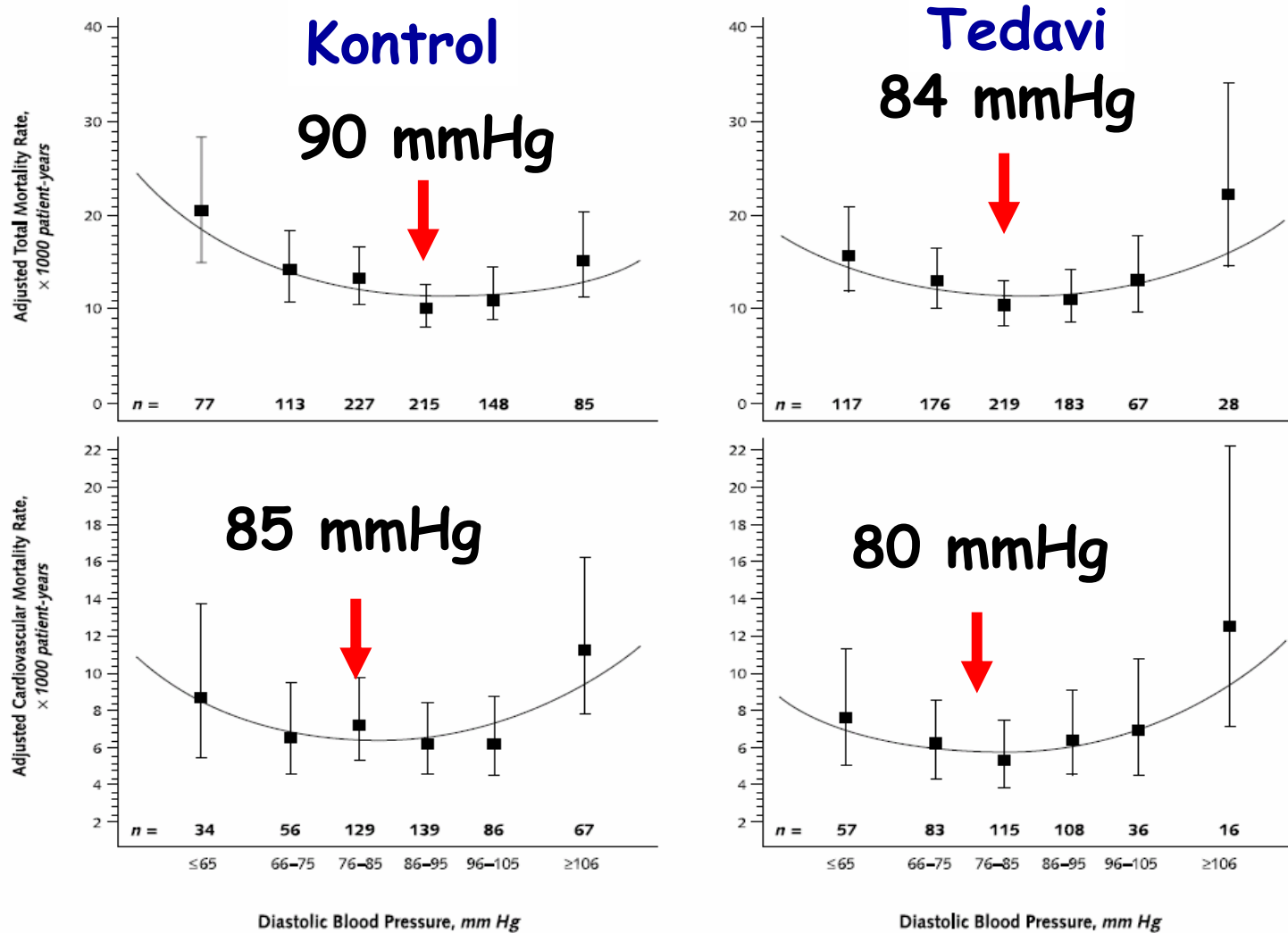
□ Kronik hastalık

- Neoplazm,
- İnfeksiyon,
- Malnutrisyon

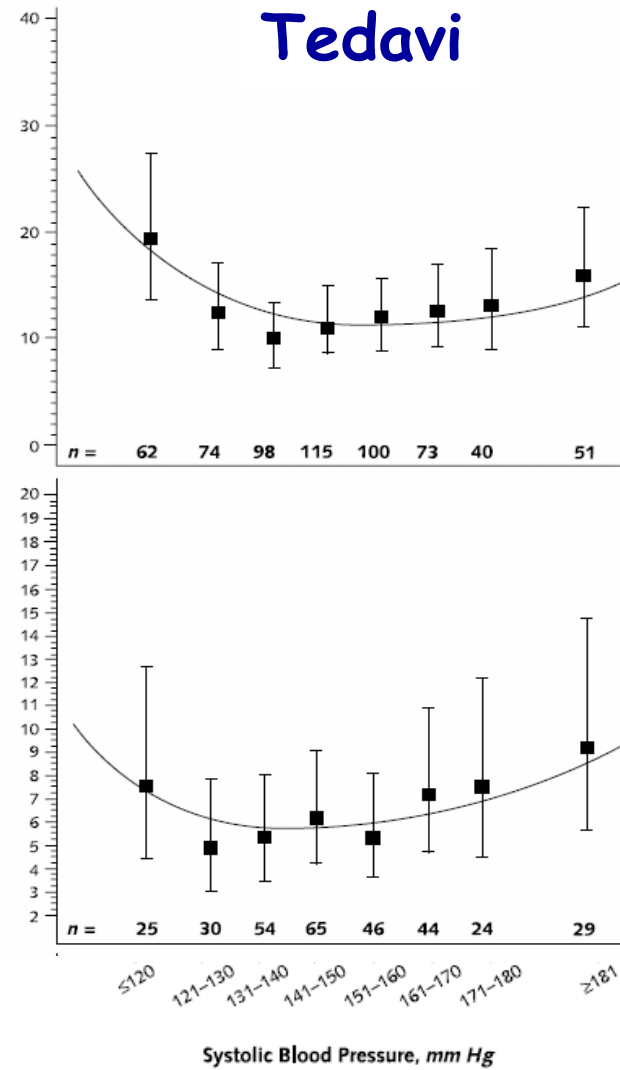
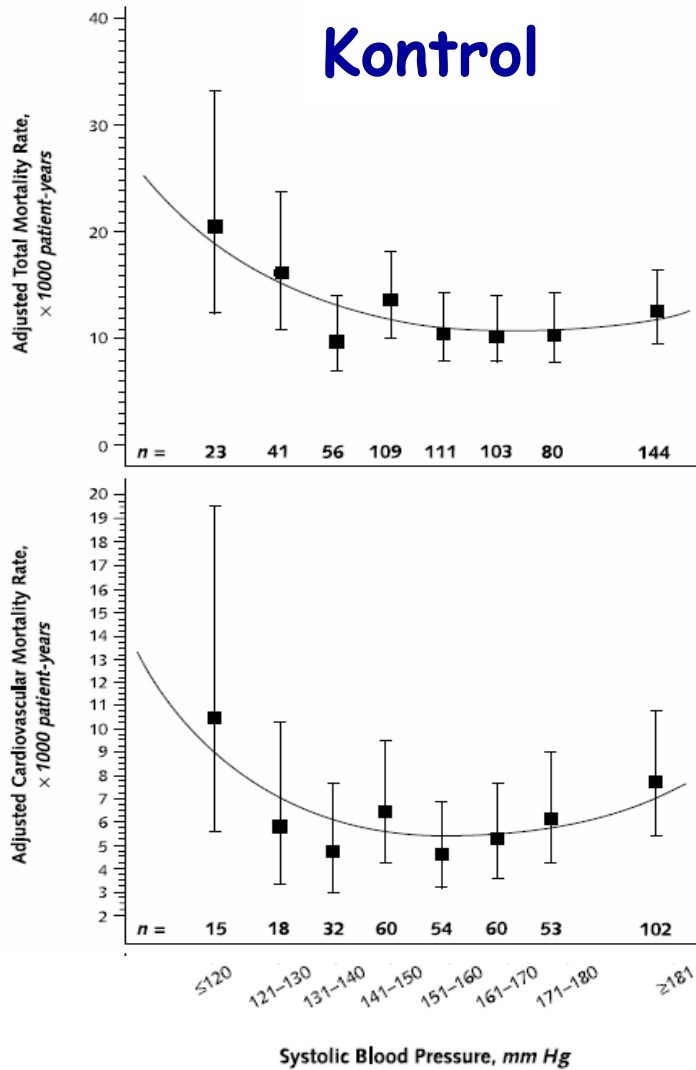
□ SV disfonksiyon

- İskemik
- İskemik olmayan

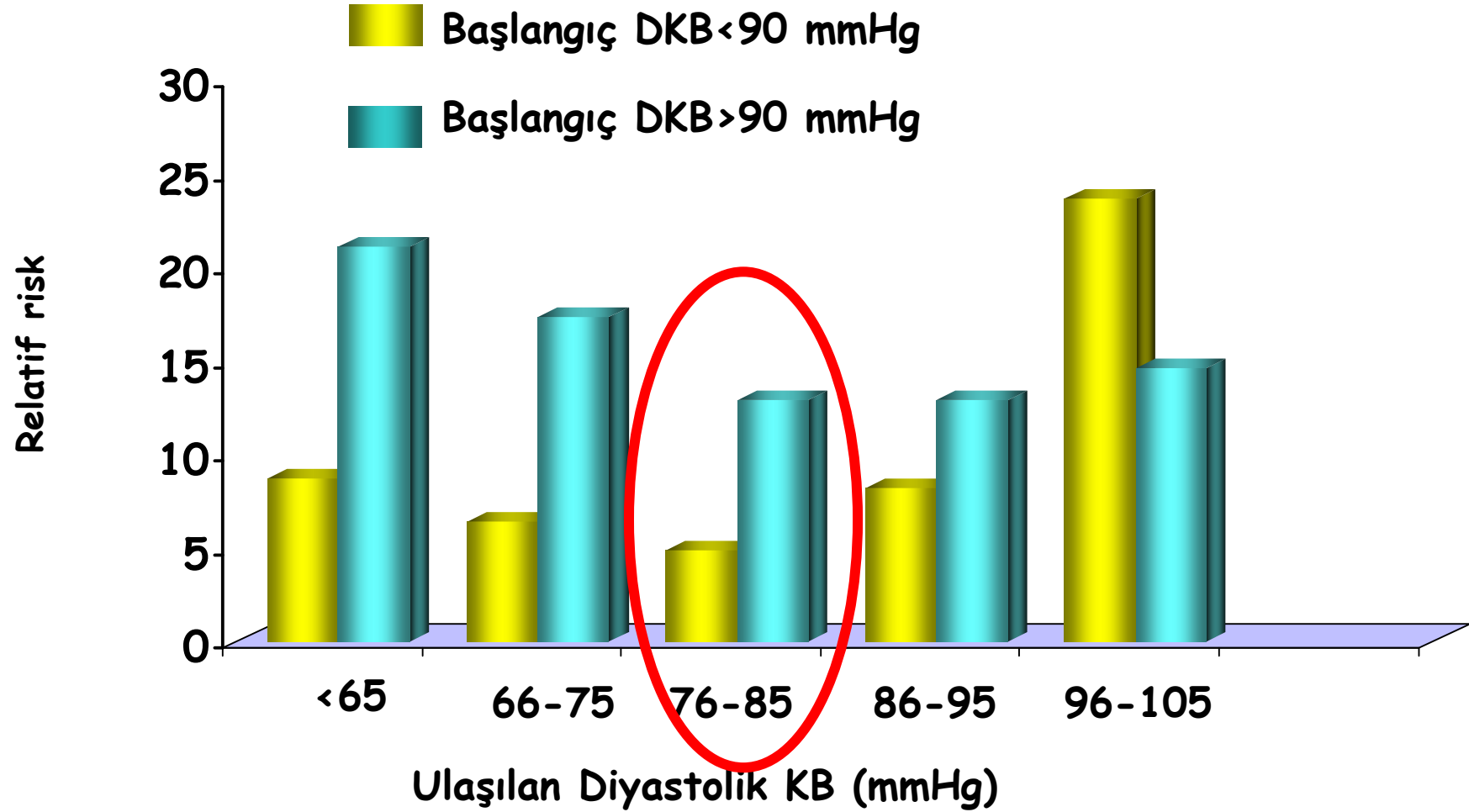
Plasebo ve Tedavi Gruplarında J Eğrisi Var mı? Meta Analiz (n: 40.233)



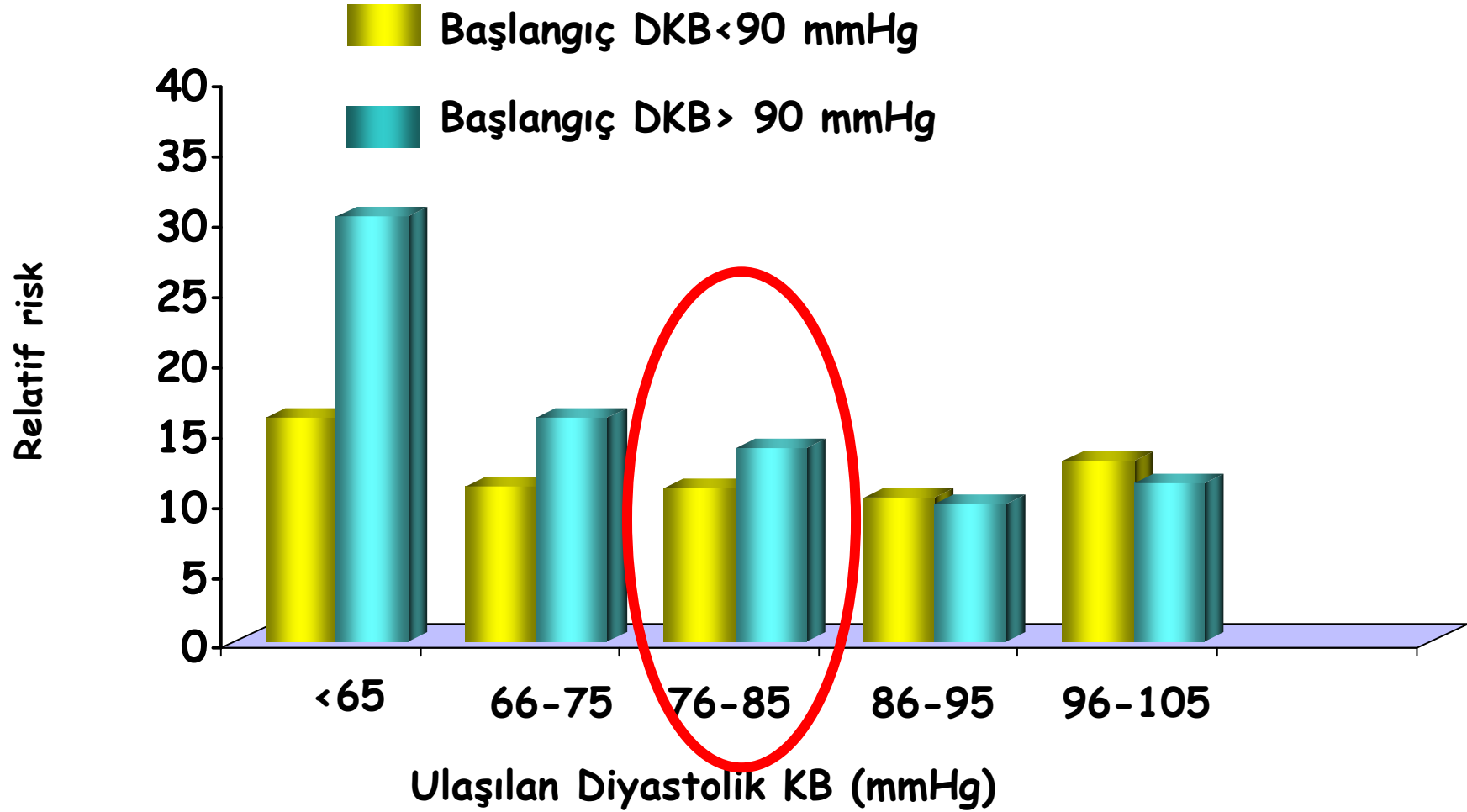
Plasebo ve Tedavi Gruplarında J Eğrisi Var mı? Meta Analiz (n: 40.233)



Tedavi Grubunda Başlangıç DKB: J eğrisi



Plasebo Grubunda Başlangıç DKB: J eğrisi



J Eğrisi Vardır

Farnett L, Mulrow CD, Linn WD, et al. The J-curve phenomenon and the treatment of hypertension: Is there a point beyond which pressure reduction is dangerous? JAMA 1991;265:489-495.

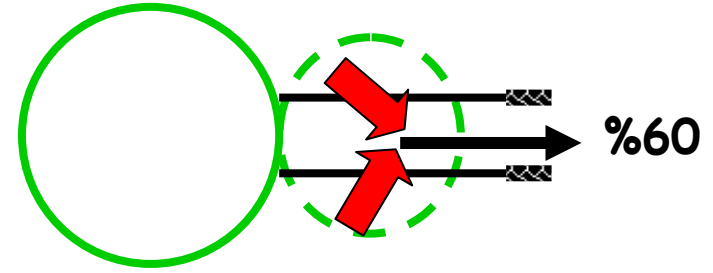
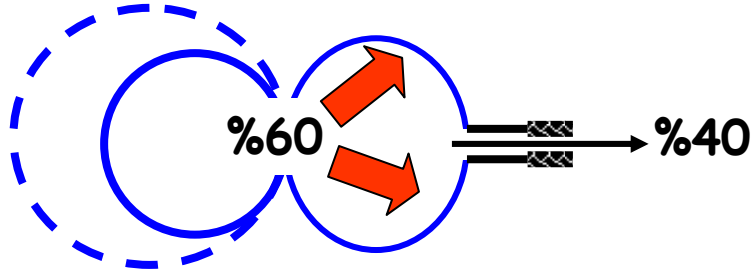
1. Düşük DKB sebebi morbidite ve mortaliteden asıl sorumlu olan altta yatan başka bir kronik hastalık olabilir ("reverse causation").
2. Düşük DKB büyük arterlerin sertliğindeki artışı yansıtabilir, ki bu da ileri derecede damar hastalığını yansıtır.
3. Düşük DKB koroner kan akımını bozabilir ve miyokard iskemisine yol açabilir.

Bir Yastık Olarak Arterler

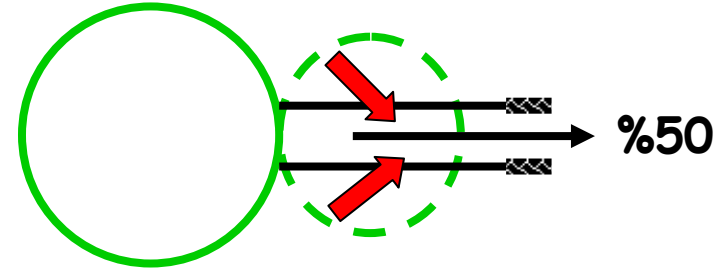
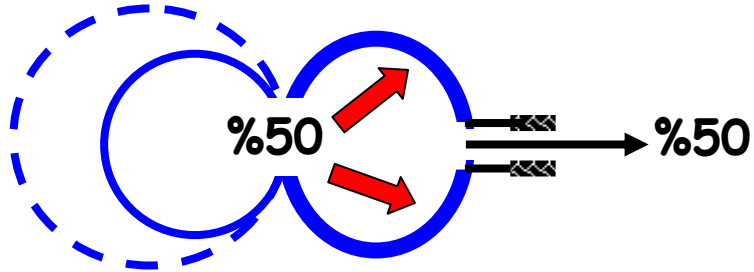
Sistol

Normal

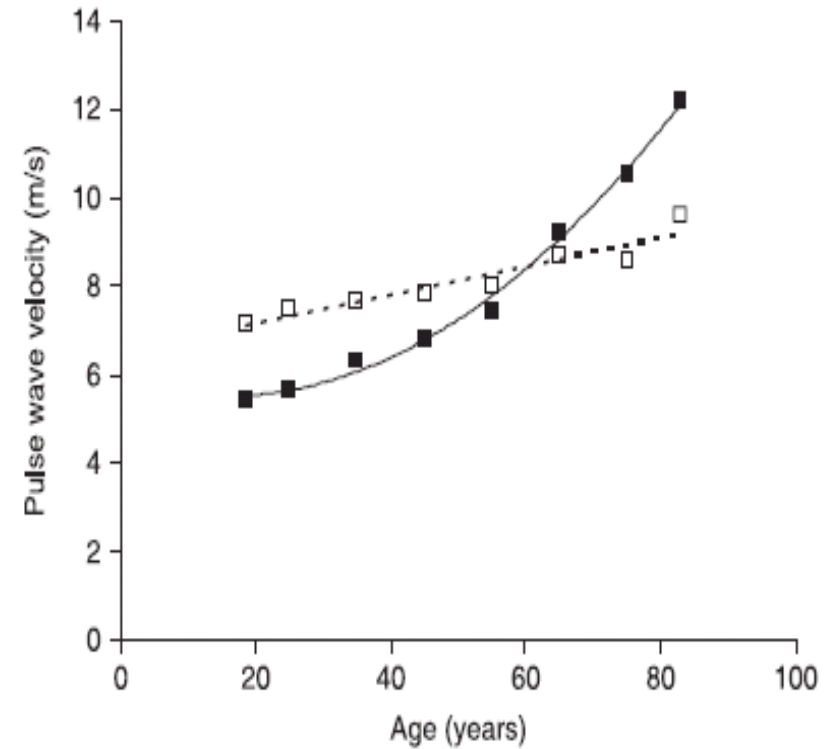
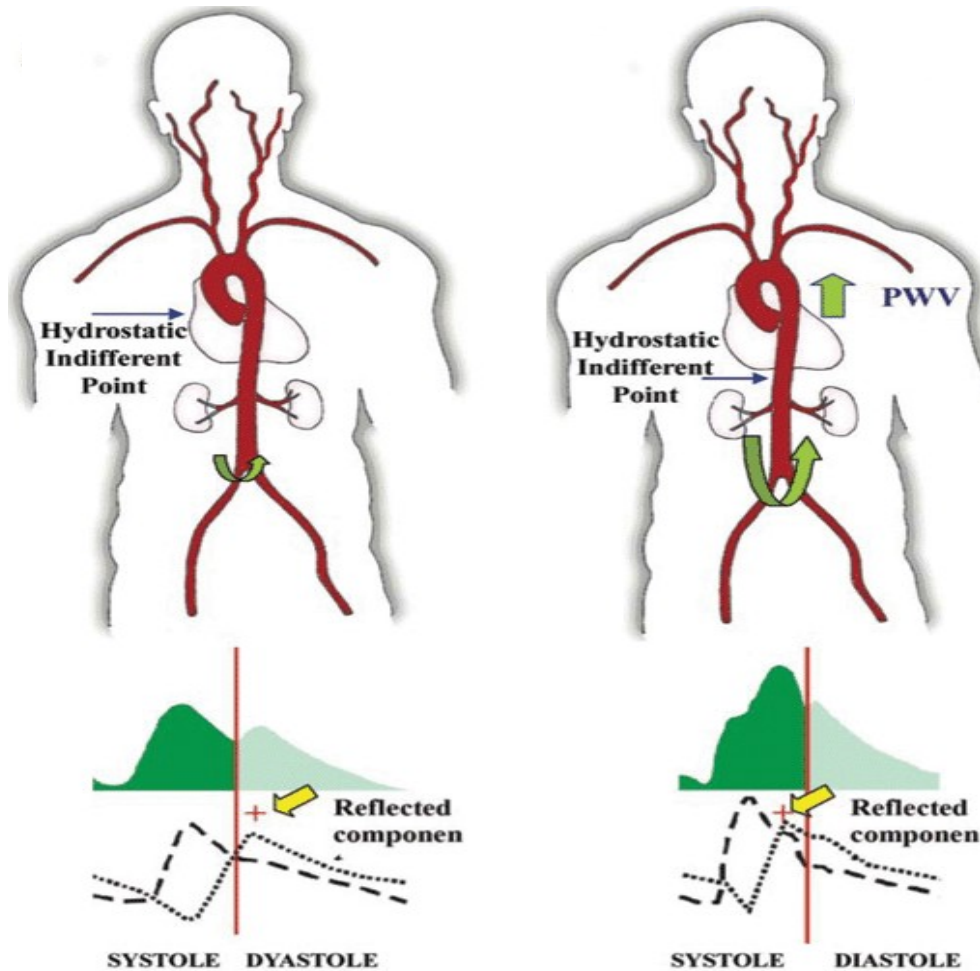
Diyastol



Azalmış Esneklik: Arteriosklerozis

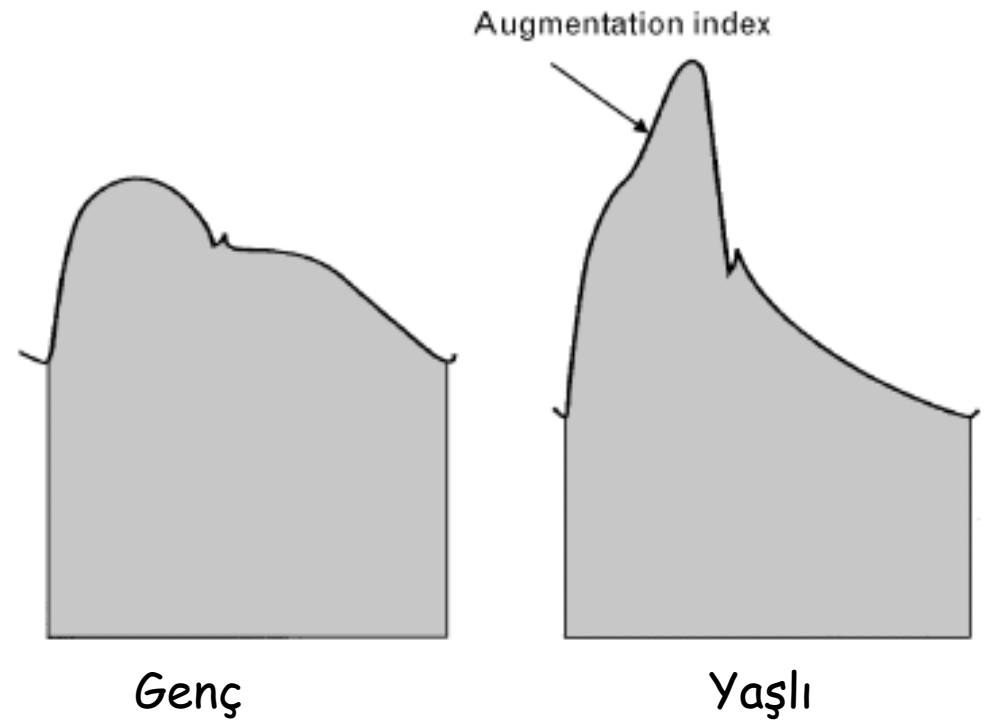
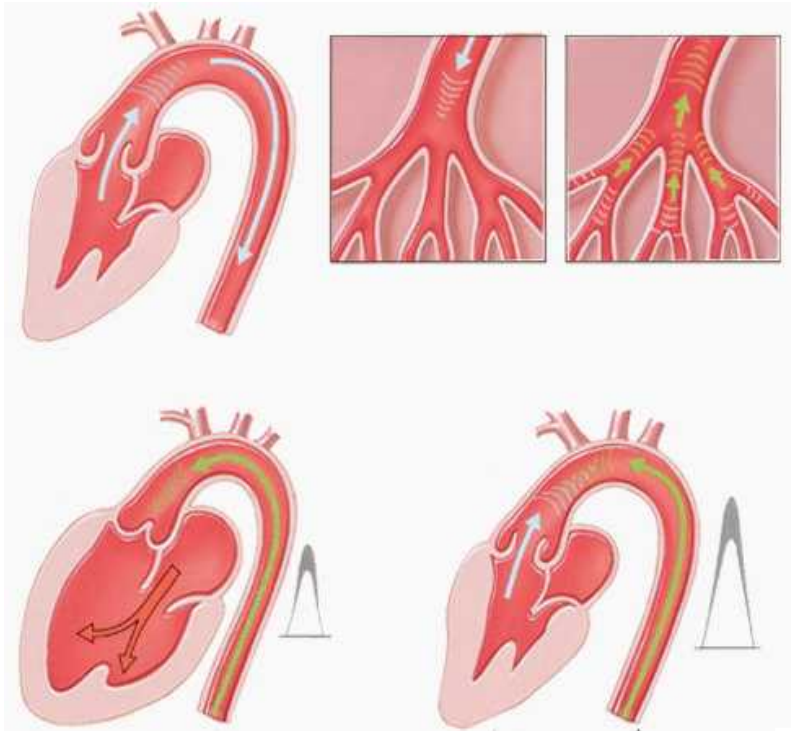
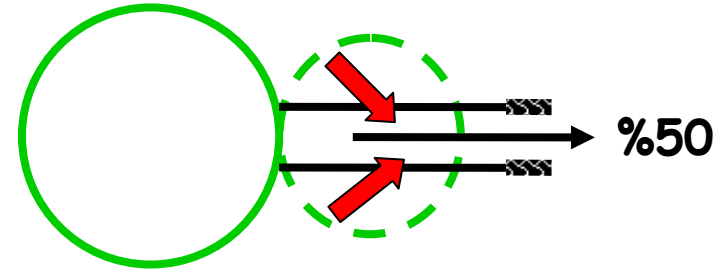
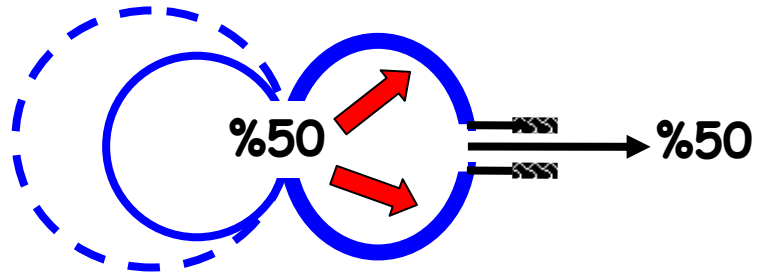


Yaşlılarda Nabız Dalga Hızı



MC Enieri JM ve ark JACC 2005

Arter Sertleşmesi ve Kan Basıncı



Epidemiology

Single Versus Combined Blood Pressure Components and Risk for Cardiovascular Disease

The Framingham Heart Study

Stanley S. Franklin, MD; Victor A. Lopez, BS; Nathan D. Wong, PhD; Gary F. Mitchell, MD; Martin G. Larson, ScD; Ramachandran S. Vasan, MD; Daniel Levy, MD

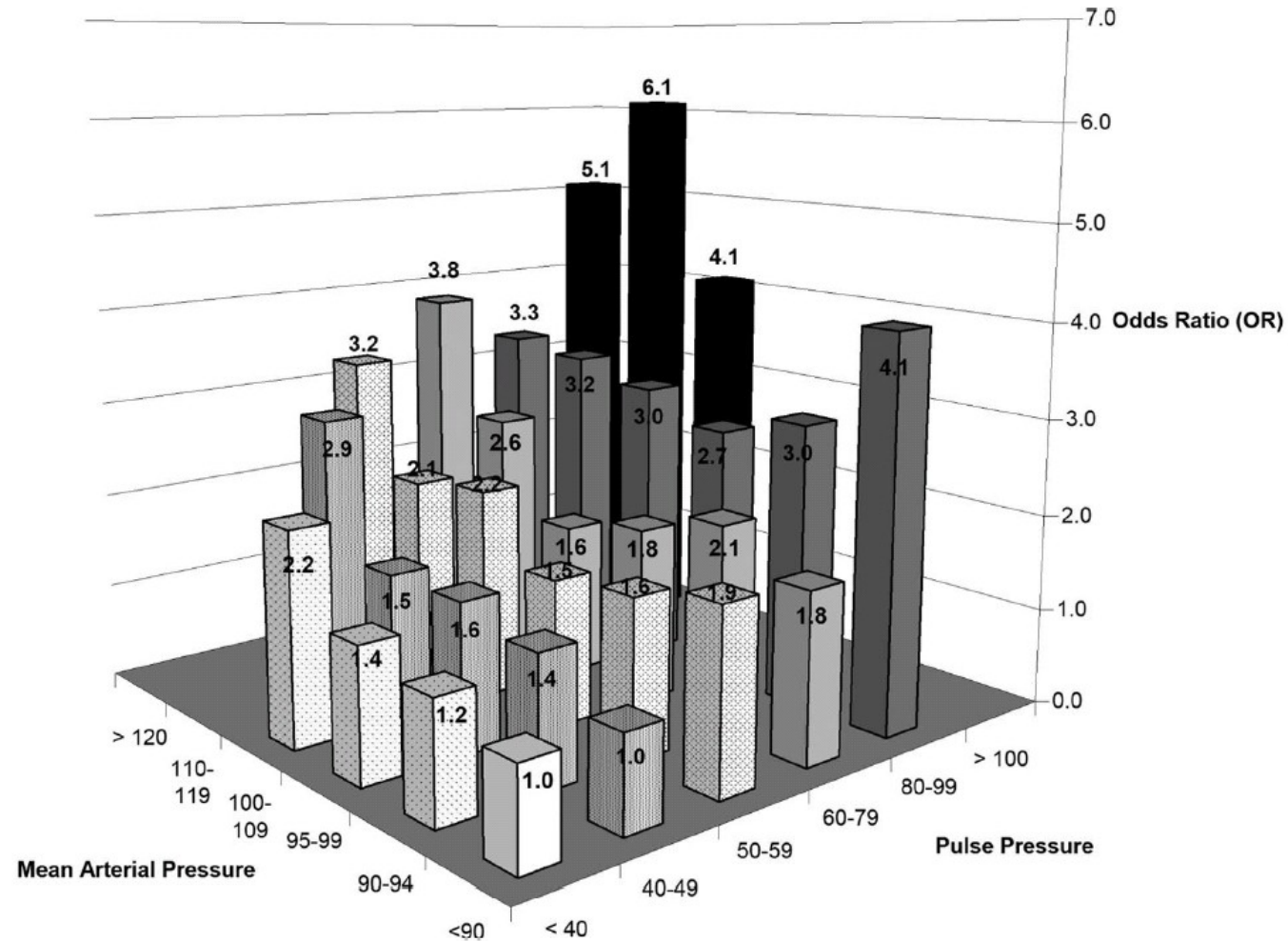
Background—The utility of single versus combined blood pressure (BP) components in predicting cardiovascular disease (CVD) events is not established. We compared systolic BP (SBP) and diastolic BP (DBP) versus pulse pressure (PP) and mean arterial pressure (MAP) combined and each of these 4 BP components alone in predicting CVD events.

Methods and Results—In participants in the original (n=4760) and offspring (n=4897) Framingham Heart Study who were free of CVD events and BP-lowering therapy, 1439 CVD events occurred over serial 4-year intervals from 1952 to 2001. In pooled logistic regression with the use of BP categories, combining SBP with DBP and PP with MAP improved model fit compared with individual BP components ($P<0.05$ to $P<0.0001$). Significant interactions were noted between SBP and DBP ($P=0.02$) and between PP and MAP ($P=0.01$) in their respective multivariable models. Models with continuous variables for SBP+DBP and PP+MAP proved identical in predicting CVD events (Akaike Information Criteria=10 625 for both). Addition of a quadratic DBP² term to DBP and SBP further improved fit ($P=0.0016$).

Conclusions—Combining PP with MAP and SBP with DBP produced models that were superior to single BP components for predicting CVD, and the extent of CVD risk varied with the level of each BP component. The combination of PP+MAP (unlike SBP+DBP) has a monotonic relation with risk and may provide greater insight into hemodynamics of altered arterial stiffness versus impaired peripheral resistance but is not superior to SBP+DBP in predicting CVD events. (*Circulation*. 2009;119:243-250.)

Key Words: blood pressure ■ cardiovascular diseases ■ hypertension ■ mean arterial pressure ■ pulse pressure

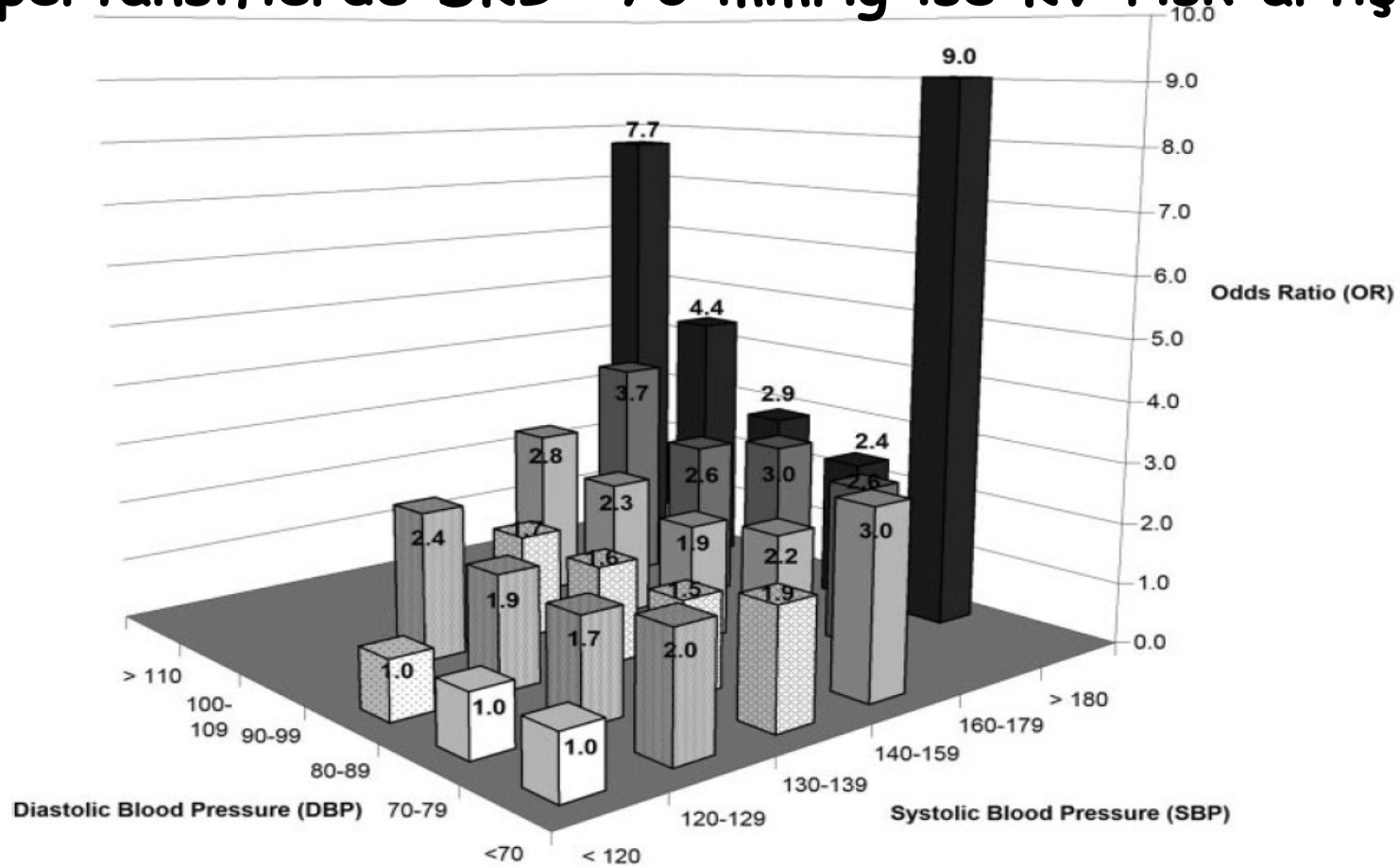
Framingham Çalışması KVH Olmayan Bireylerde OKB /NB: KVH Riski (n:4760, n: 4897)



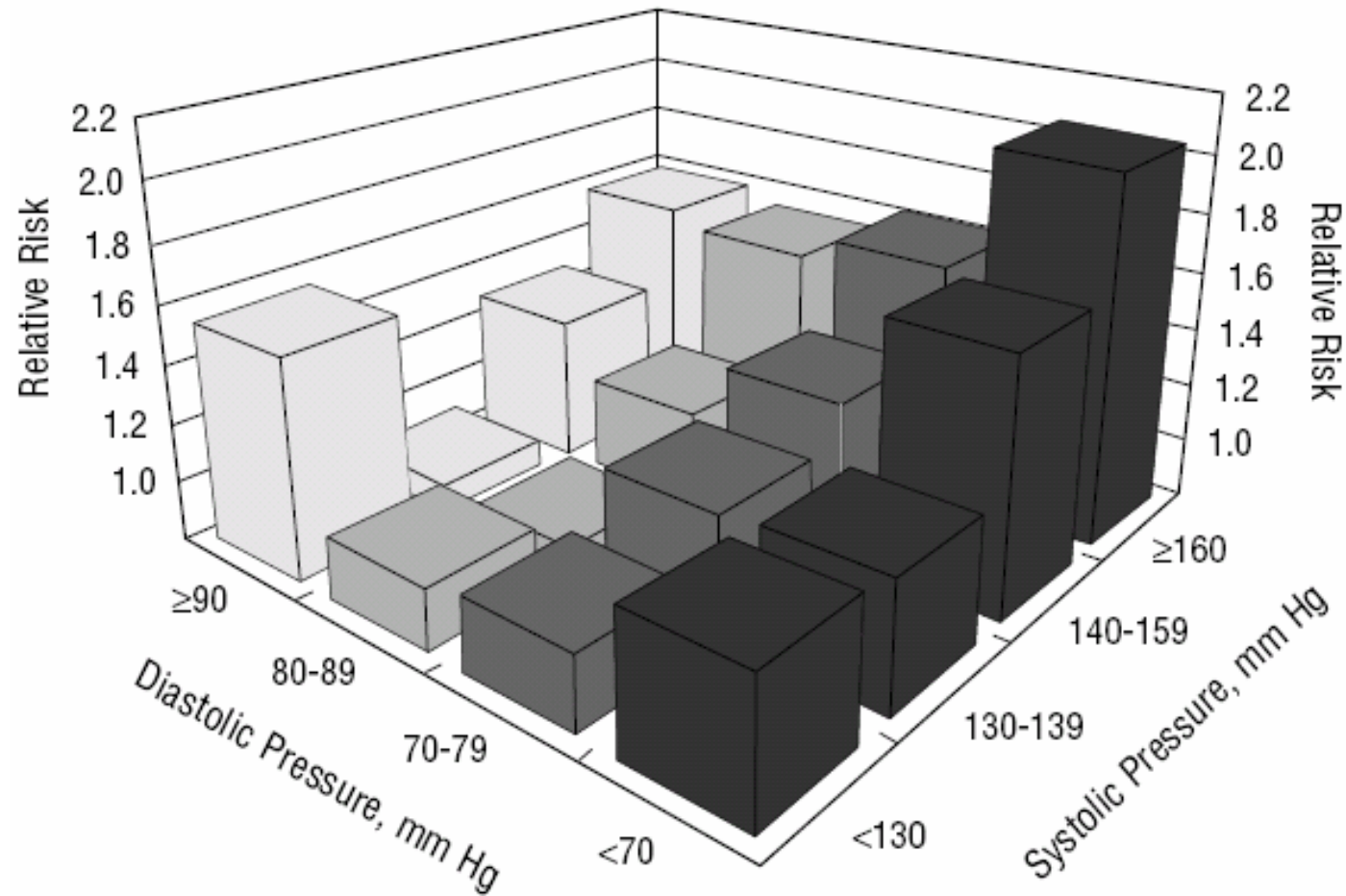
Franklin S. et. al Circulation 2009

Framingham Çalışması KVH Olmayan Bireylerde DKB /SKB: KVH Riski (n:4760, n: 4897)

DKB Doğrusal İlişki Ø
Prehipertansiflerde DKB <70 mmHg ise KV risk artış



Yaşlılarda DKB /NB: KVH Riski (n:9431)



Glynn R. et. al Arch Intern Med 2000

A Likely Explanation for the J-Curve of Blood Pressure Cardiovascular Risk

William B. Kannel, MD, Peter W. F. Wilson, MD, Byung-Ho Nam, PhD,
Ralph B. D'Agostino, PhD, and J. Li, PhD

THE AMERICAN JOURNAL OF CARDIOLOGY® VOL. 94 AUGUST 1, 2004

TABLE 3 Cardiovascular Disease Mortality by Diastolic Blood Pressure*

Diastolic BP (mm Hg)	Men			Women		
	At risk	Events	Rate	At risk	Events	Rate
10-yr crude rate						
<80	1,224	31	2.5%	2,083	24	1.2%
80-89	1,471	48	3.3%	1,378	28	2.0%
≥90	931	50	5.4%	701	23	3.3%
Age-adjusted relative risk						
<80	Reference			Reference		
80-89	1.41 (0.90, 2.21)			1.50 (0.87, 2.59)		
≥90	2.08 [†] (1.33, 3.24)			1.97 [†] (1.05, 3.31)		
Multivariable-adjusted risk						
<80	Reference			Reference		
80-89	1.45 (0.92, 2.30)			1.48 (0.84, 2.59)		
≥90	2.10 [‡] (1.31, 3.37)			1.74 [†] (0.96, 3.16)		

*Framingham Study original and offspring cohorts, subjects ages 35 to 80 years. [†]p <0.05; [‡]p <0.005.

Risk factors adjusted for: age, hypertension treatment, total cholesterol, body mass index, smoking, high-density lipoprotein cholesterol, diabetes.

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TABLE 5 Cardiovascular Risk by Diastolic Blood Pressure in Subjects With Elevated Systolic Blood Pressure (>140 mm Hg)*			
Diastolic BP (mm Hg)	Men	Women	Combined
Crude rate			
<80	45.5%	24.6%	31.1%
80-89	24.9%	15.5%	19.4%
≥90	24.1%	18.6%	21.6%
Age-adjusted risk ratio (95% CI)			
<80	1.0 (reference)	1.0 (reference)	1.0 (reference)
80-89	0.54 [‡] (0.36-0.82)	0.68 [§] (0.45-1.01)	0.68 [‡] (0.50-0.89)
≥90	0.63 [†] (0.43-0.93)	0.94 (0.65-1.37)	0.89 (0.68-1.16)
Multivariable risk factor adjusted risk ratio (95% CI)			
<80	1.0 (reference)	1.0 (reference)	1.0 (reference)
80-89	0.51 [‡] (0.34-0.78)	0.68 [§] (0.45-1.02)	0.68 [‡] (0.51-0.90)
≥90	0.59 [‡] (0.41-0.87)	0.92 (0.63-1.35)	0.87 (0.67-1.14)
*Framingham Study cohorts, subjects ages 35-80 years. Mean elevated systolic blood pressure: men 159.6 mm Hg, women 160.3 mm Hg. Covariates: age, hypertension treatment, smoking, diabetes, body mass index, total and high-density lipoprotein cholesterol. Difference from reference value: [†] p <0.05; [‡] p <0.01; [§] p <0.1.			

A Likely Explanation for the J-Curve of Blood Pressure Cardiovascular Risk

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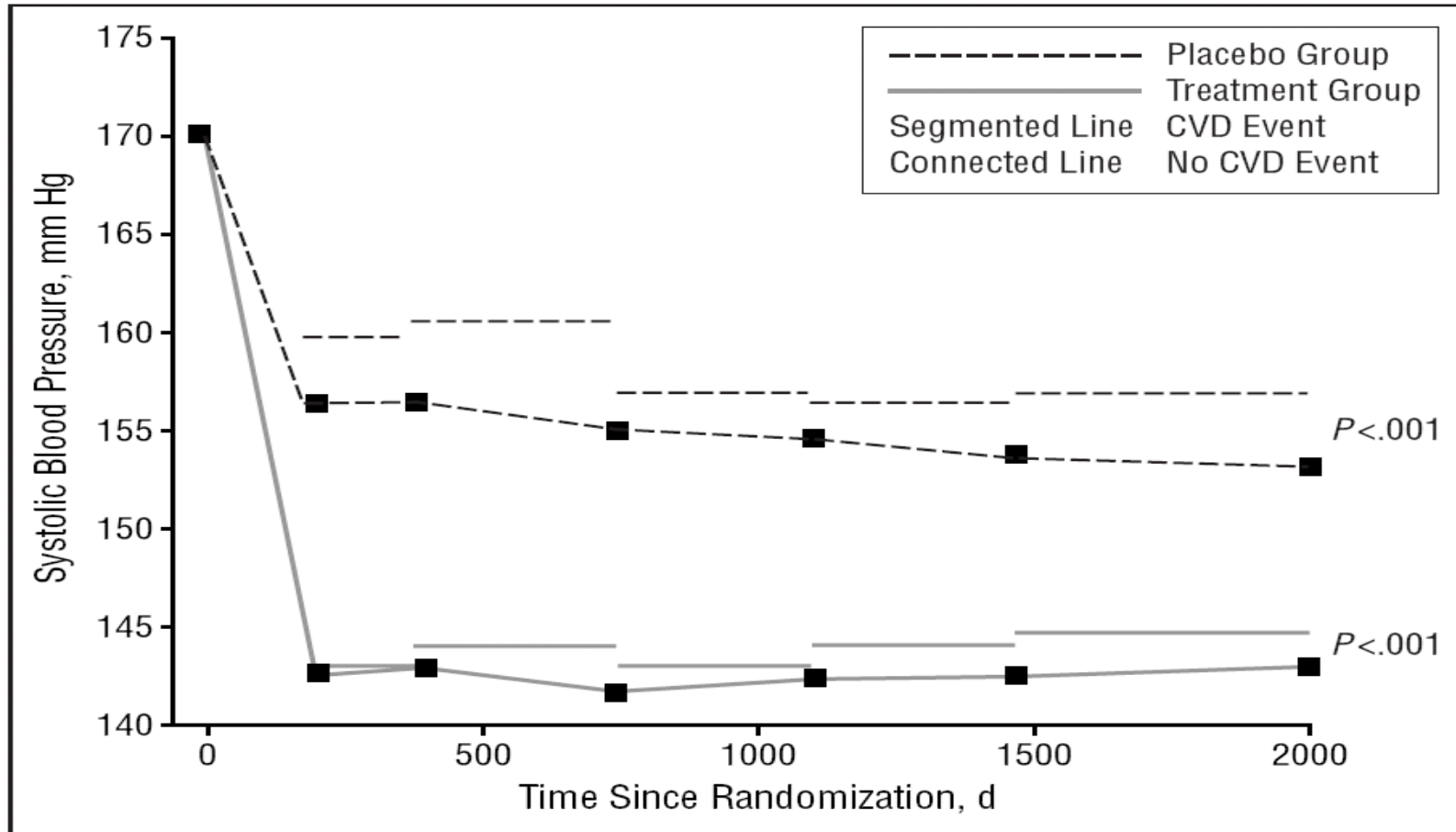
THE AMERICAN JOURNAL OF CARDIOLOGY® VOL. 94 AUGUST 1, 2004

TABLE 6 Risk of Nonfatal Cardiovascular Events by Pulse Pressure (Framingham Study Cohorts)

Pulse Pressure Quartile (mm Hg)	Combined Men and Women
Age-adjusted risk ratio (95% CI)	
1: 13.5–38.5	1.0 (reference)
2: 39–45.5	1.13 (0.89–1.42)
3: 46–55	1.31 [†] (1.05–1.64)
4: 55.5–136	2.00 [‡] (1.61–2.50)
Multivariable risk factor adjusted risk ratio (95% CI)	
1: 13.5–38.5	1.0 (reference)
2: 39–45.5	1.05 (0.83–1.33)
3: 46–55	1.22* (0.97–1.52)
4: 55.5–136	1.66 [‡] (1.32–2.07)
*p < 0.1; [†] p < 0.05; [‡] p < 0.001. Multivariable risk factors: age, hypertension treatment, total and high-density lipoprotein cholesterol, body mass index, diabetes, smoking.	

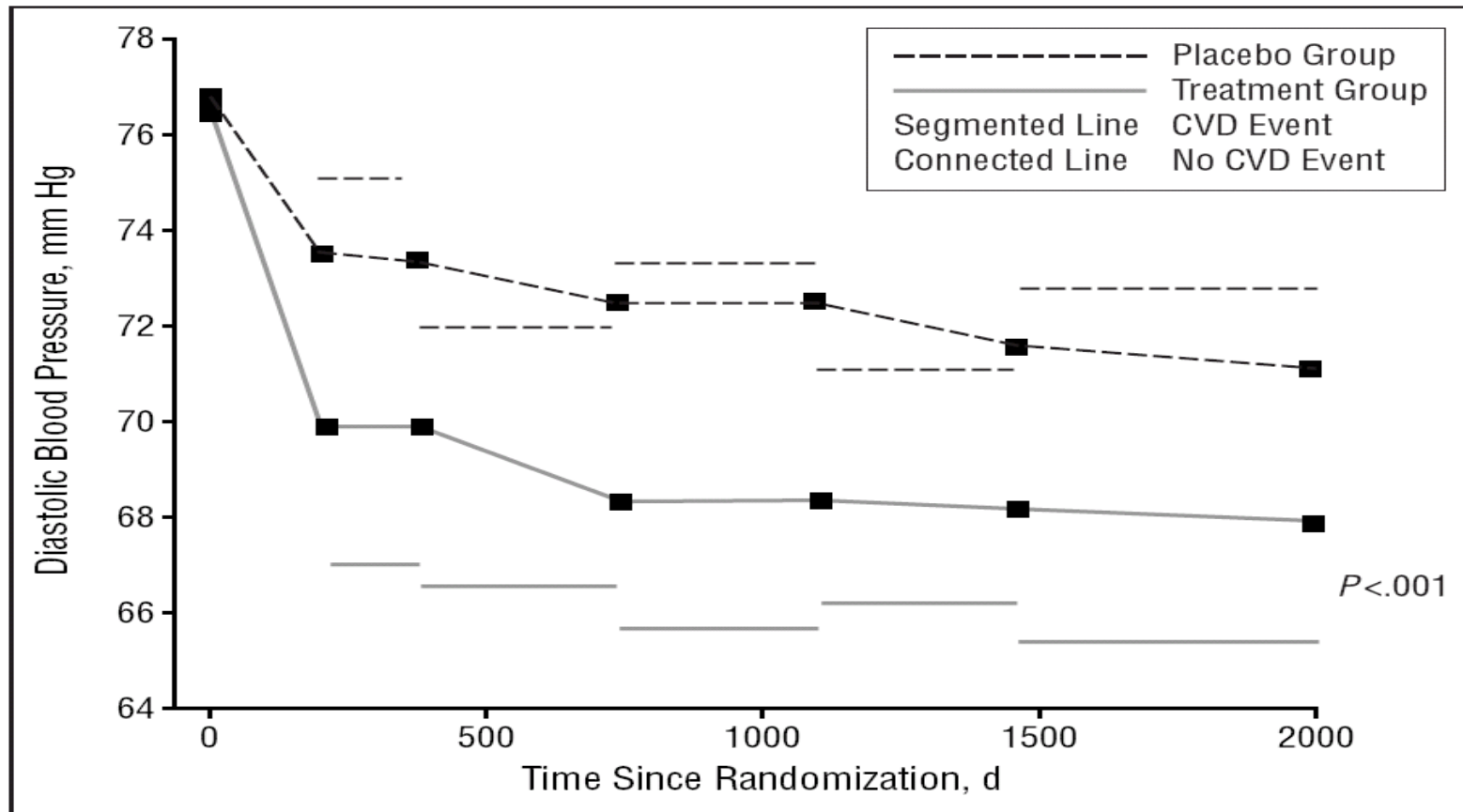


ISH olan Bireylerde SKB ve KV Olay (SHEP Çalışması Alt analizi n:4736)

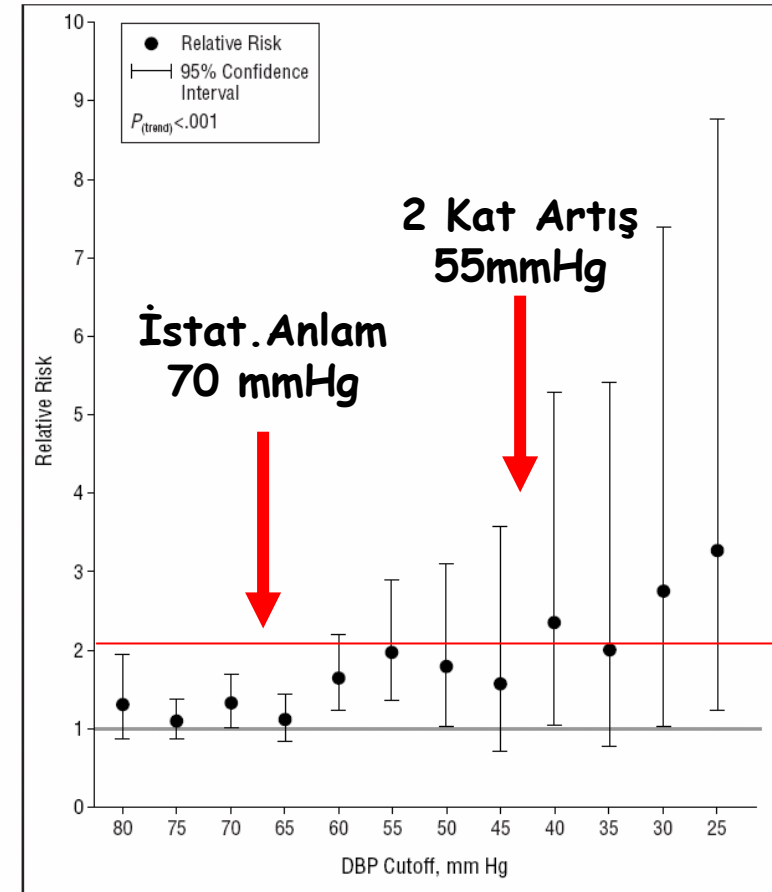
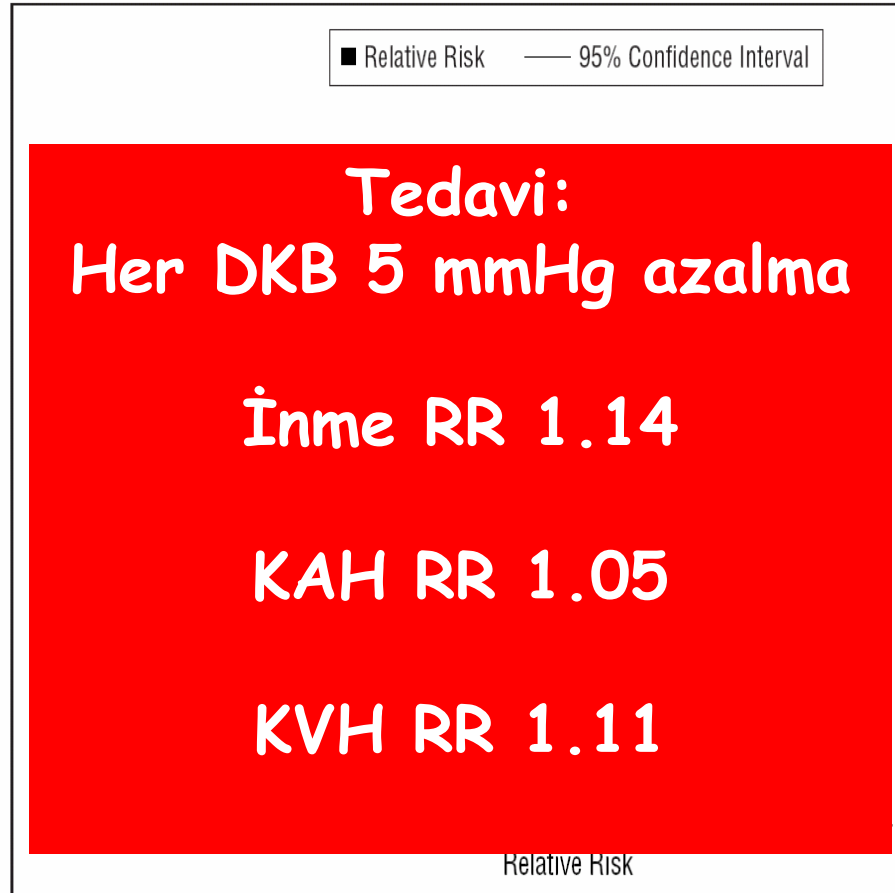


Somes G.et. al Arch Intern Med 1999

ISH olan Bireylerde DKB ve KV Olay (SHEP Çalışması Alt analizi n:4736)

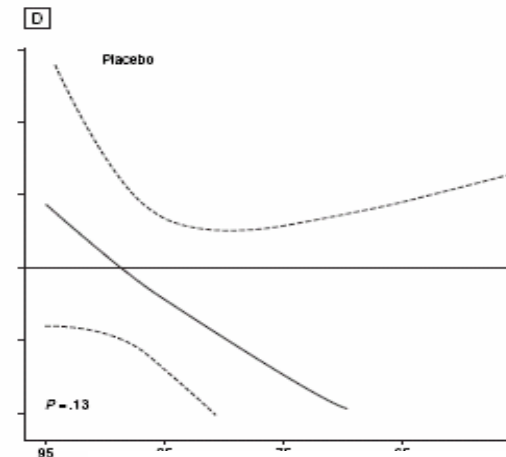
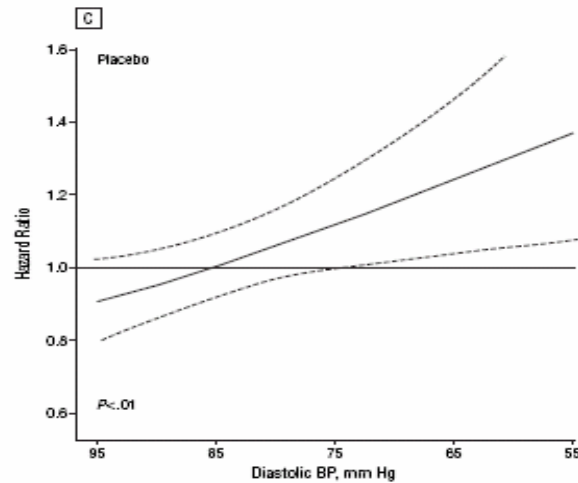
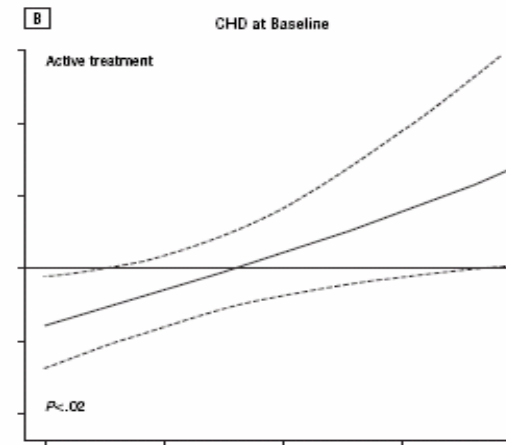
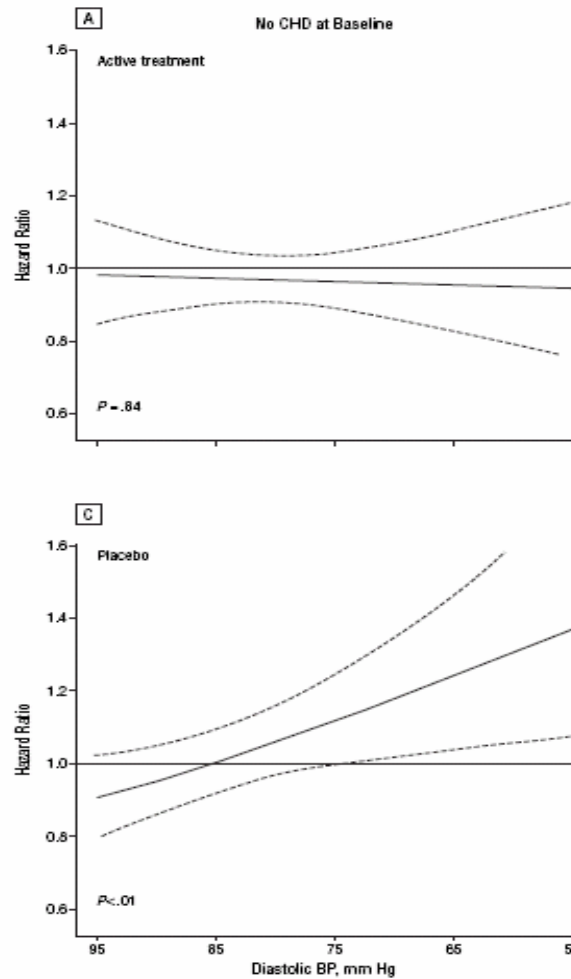


ISH olan Bireylerde DKB ve KV Olay (SHEP Çalışması Alt analizi n:4736)



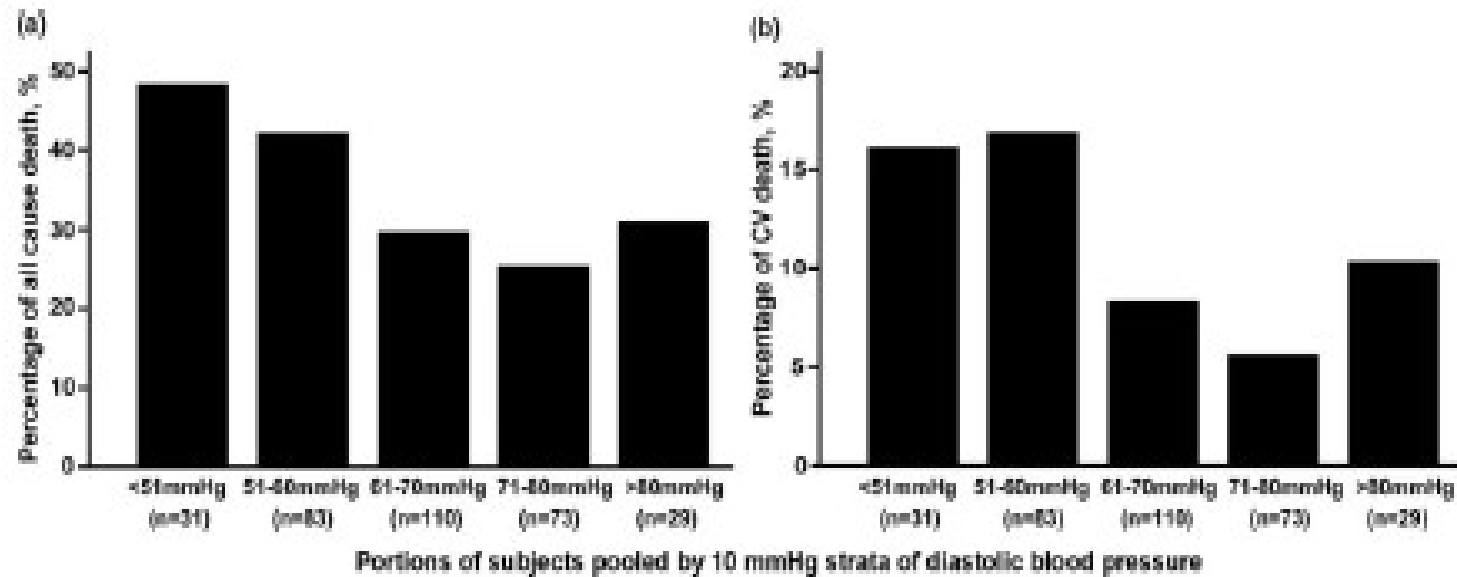
Somes G.et. al Arch Intern Med 1999

ISH olan Bireylerde SKB ve KV Olay (SHEP Çalışması Alt analizi n:4736)



Fogard R.et. al Arch Intern Med 2007

ISH Olan Bireylerde DKB ve KVH Riski



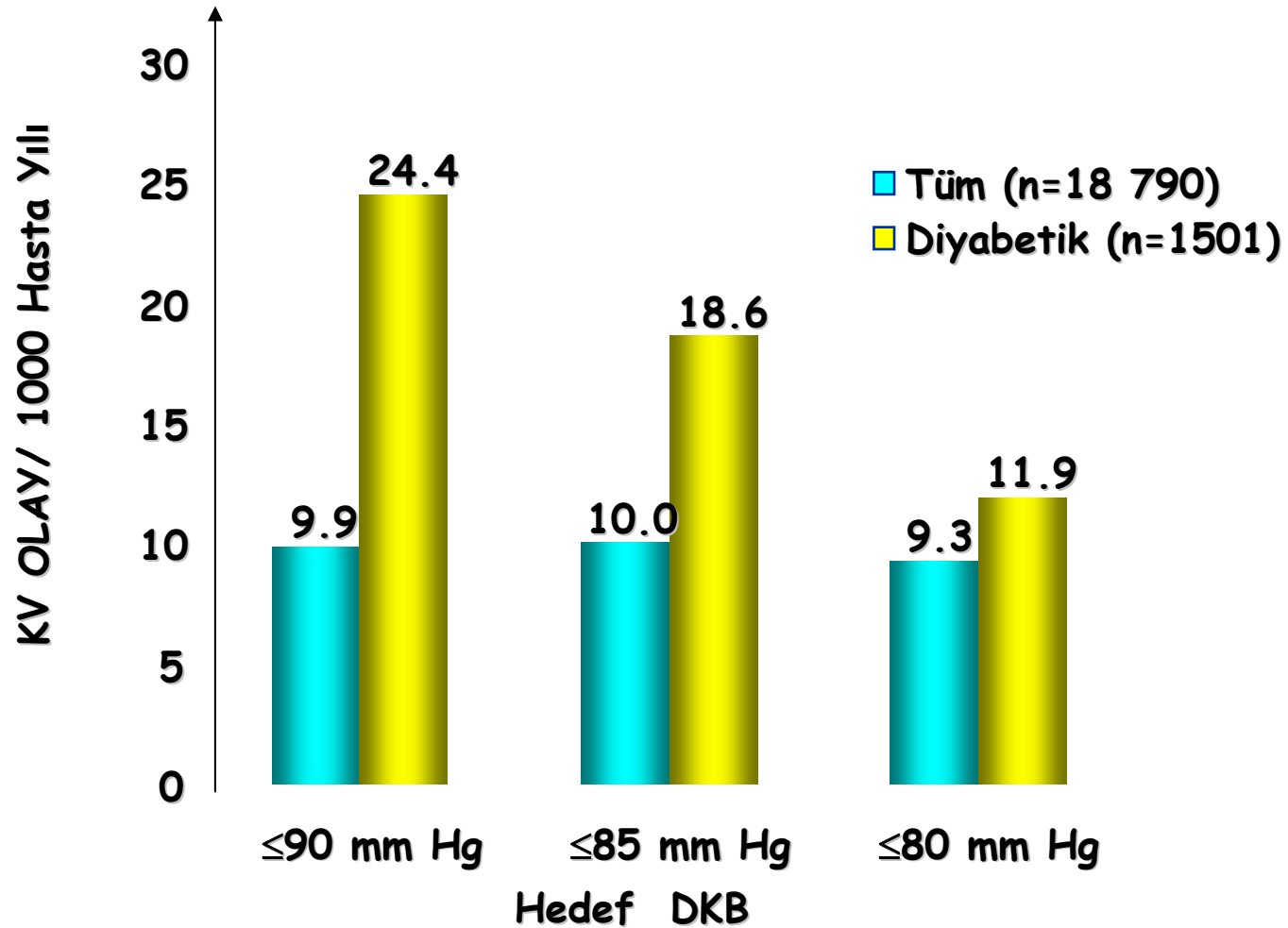
Hypertension Optimal Treatment (HOT) Study

	Diastolic blood pressure target group		
	≤90 mm Hg (n=6264)	≤85 mm Hg (n=6264)	≤80 mm Hg (n=6262)
Age (years)	61.5 (7.5)	61.5 (7.5)	61.5 (7.5)
Body-mass index (kg/m ²)	28.4 (4.7)	28.5 (4.7)	28.4 (4.6)
Diastolic blood pressure (mm Hg)	105 (3.4)	105 (3.4)	105 (3.4)
Systolic blood pressure (mm Hg)	170 (14.4)	170 (14.0)	170 (14.1)
Serum creatinine (μmol/L)	89 (26)	89 (23)	89 (23)
Serum cholesterol (mmol/L)	6.0 (1.1)	6.1 (1.1)	6.1 (1.2)
Men/women (%)	53/47	53/47	53/47
Previous treatment (%)	52.3	52.7	52.6
Smokers (%)	15.9	15.8	15.9
Previous MI (%)	1.6	1.5	1.5
Other previous CHD (%)	5.9	6.0	5.9
Previous stroke (%)	1.2	1.2	1.2
Diabetes mellitus (%)	8.0	8.0	8.0

Data are mean (SD) or % of group. MI=myocardial infarction; CHD=coronary heart disease.

Table 1: Characteristics at randomisation

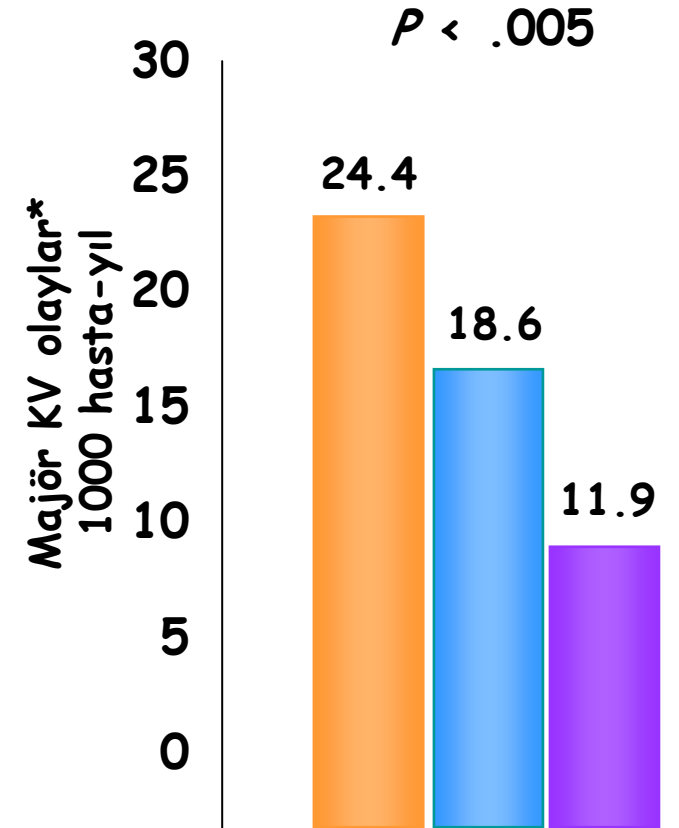
Hypertension Optimal Treatment (HOT) Study



HOT Çalışması- Diyabetik Altgrup: "J Eğrisi Yok"

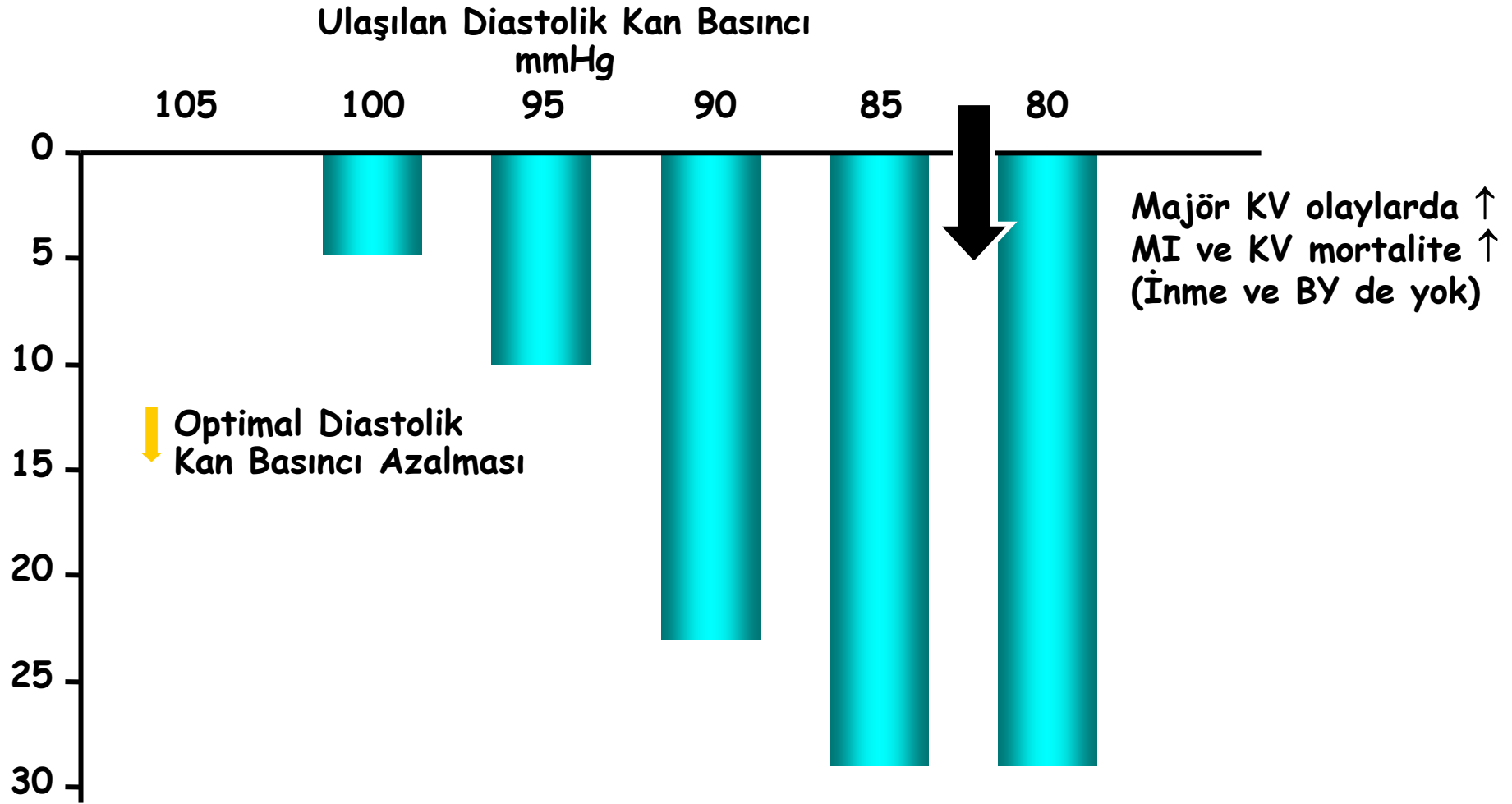
Diyabet			
Hedef Diyastolik KB (mmHg)	Hasta sayısı	Ulaşılan [†] Sistolik KB (mmHg)	Ulaşılan [†] Diyastolik KB (mmHg)
≤ 90	501	143.7	85.2
≤ 85	501	141.4	83.2
≤ 80	499	139.7	81.1

[†] Ulaşılan = 6. aydan itibaren çalışma sonuna kadarki tüm KB ların ortalaması



*Tüm MI, inme ve tüm öteki KV ölümler

HOT Çalışması- Hedef Kan Basınçlarına Göre Kardiyovasküler Olaylarda Azalma

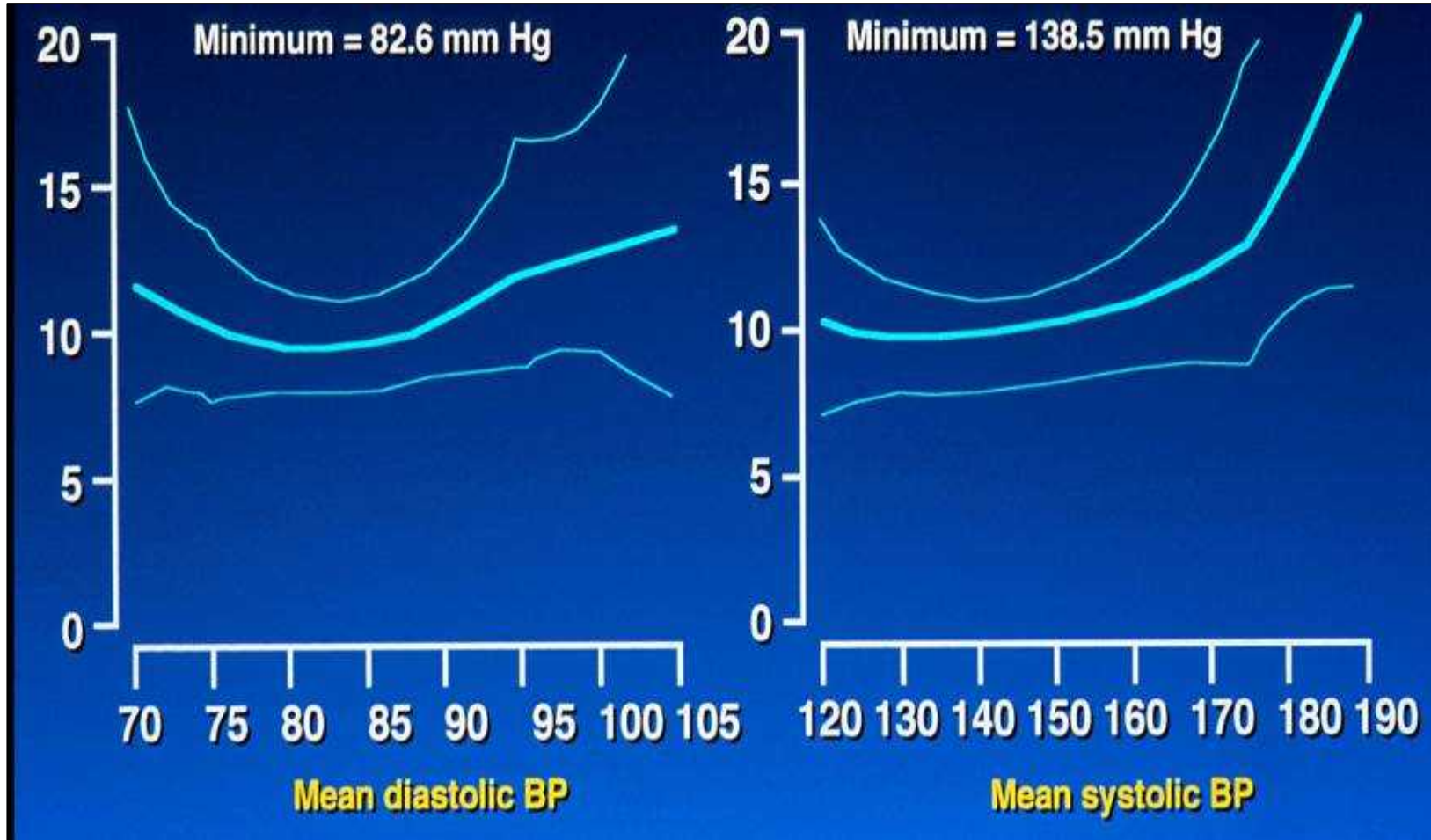


% risk azalması

Lennart Hansson et al. for the HOT Study Group: Effects of intensive blood-pressure lowering and low-dose aspirin in patients with hypertension: principal results of the Hypertension Optimal Treatment (HOT) randomised trial. Lancet 1998; 351: 1755-62.*

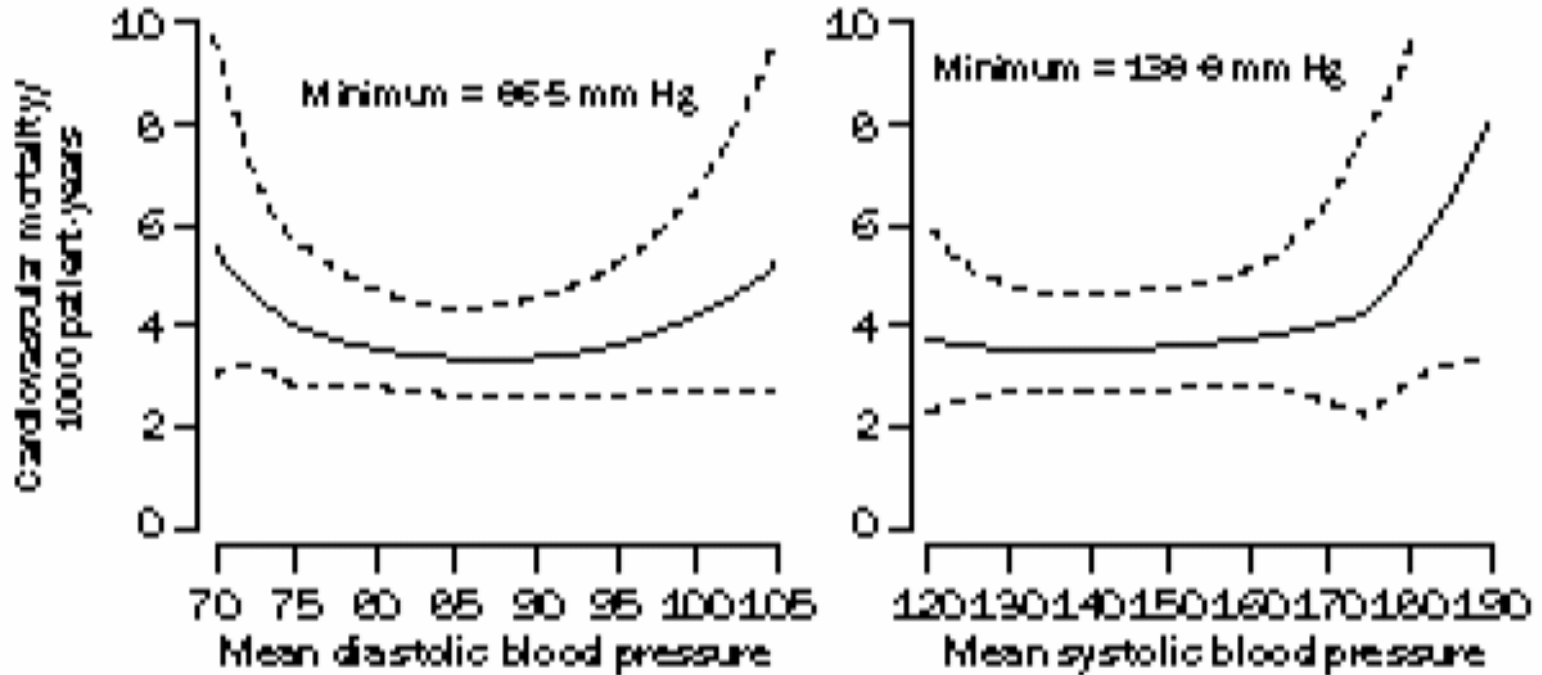
HOT Çalışması- Hedef Kan Basınçlarına Göre Kardiyovasküler Olaylarda Azalma

Major KV Olay /1000 hasta -yıl

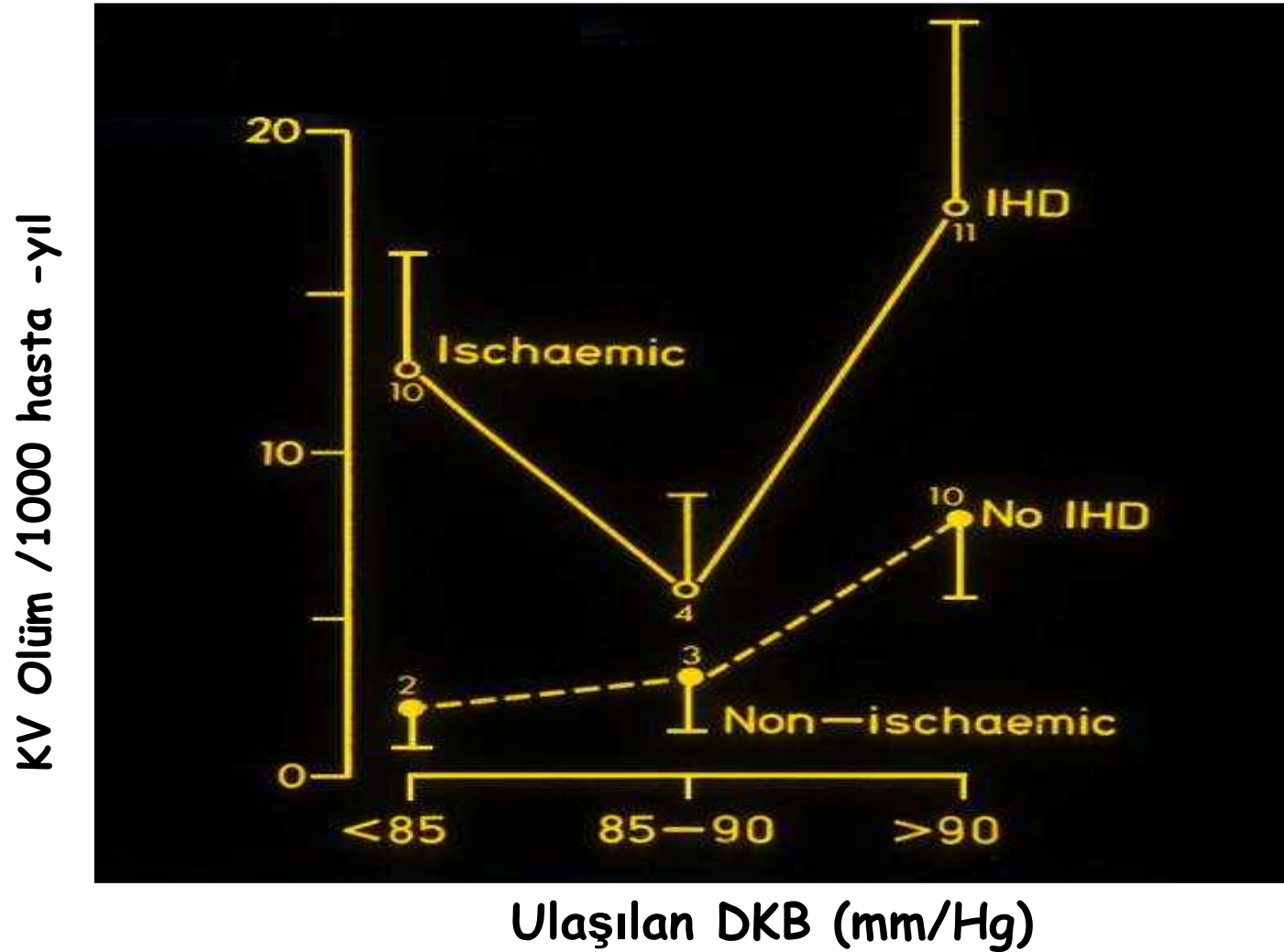


HOT Çalışması- Hedef Kan Basınçlarına Göre Kardiyovasküler Olaylarda Azalma

KV Ölüm /1000 hasta -yıl

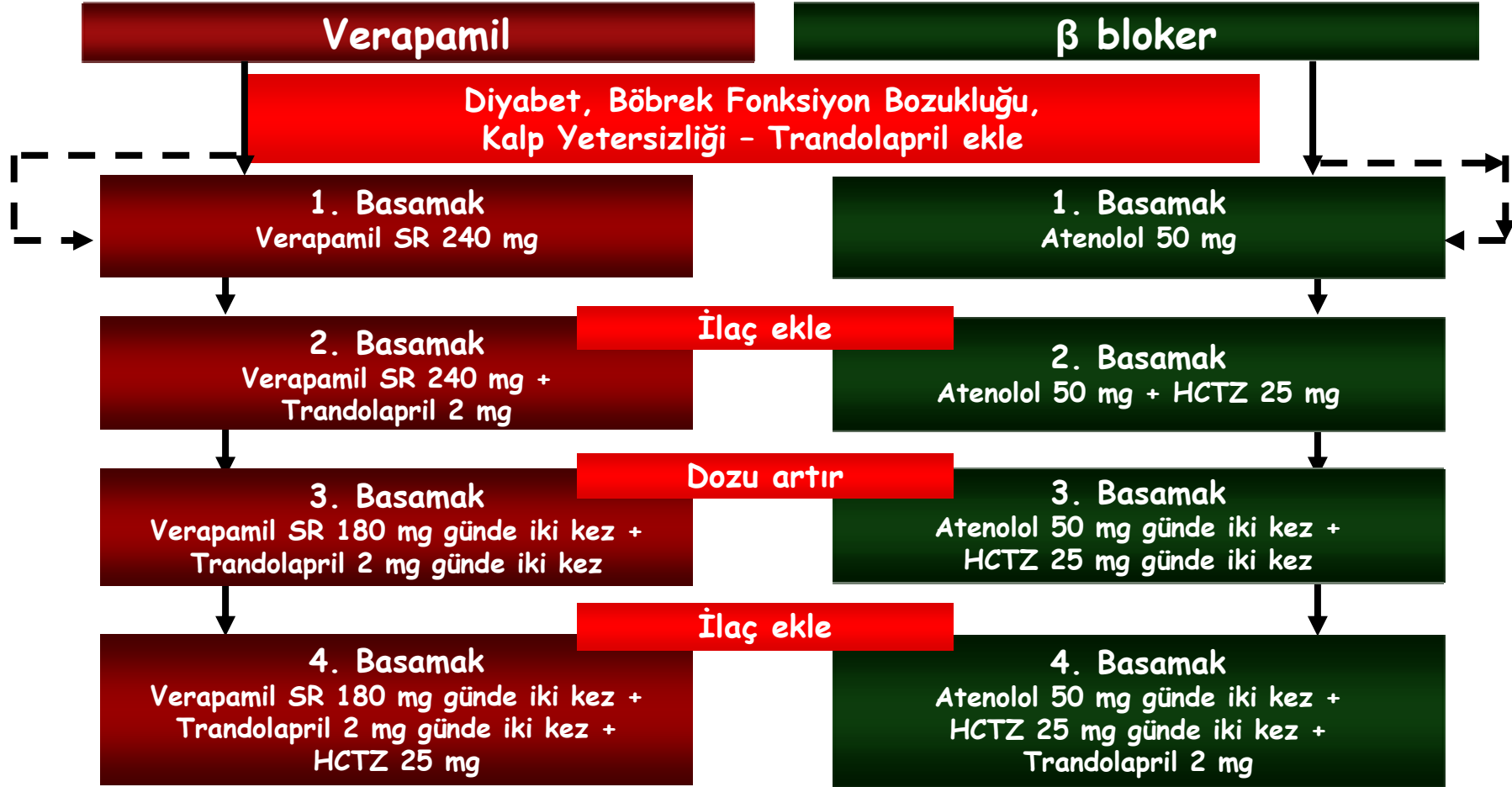


KVH ve J Eğrisi



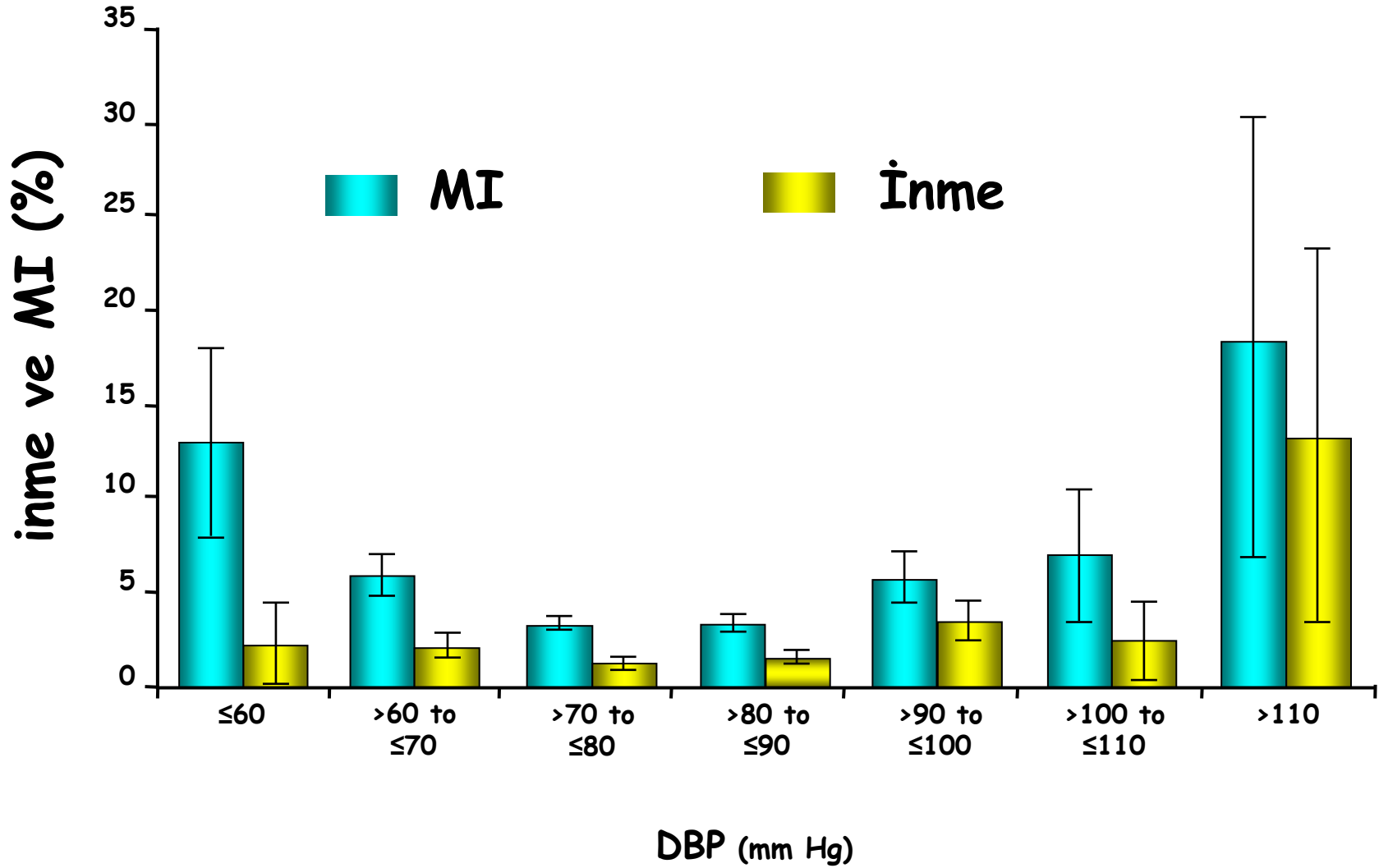
INVEST

Tedavi Stratejisi



Dozu artır ve/veya
çalışma dışı antihipertansif ilaç(lar) ekle

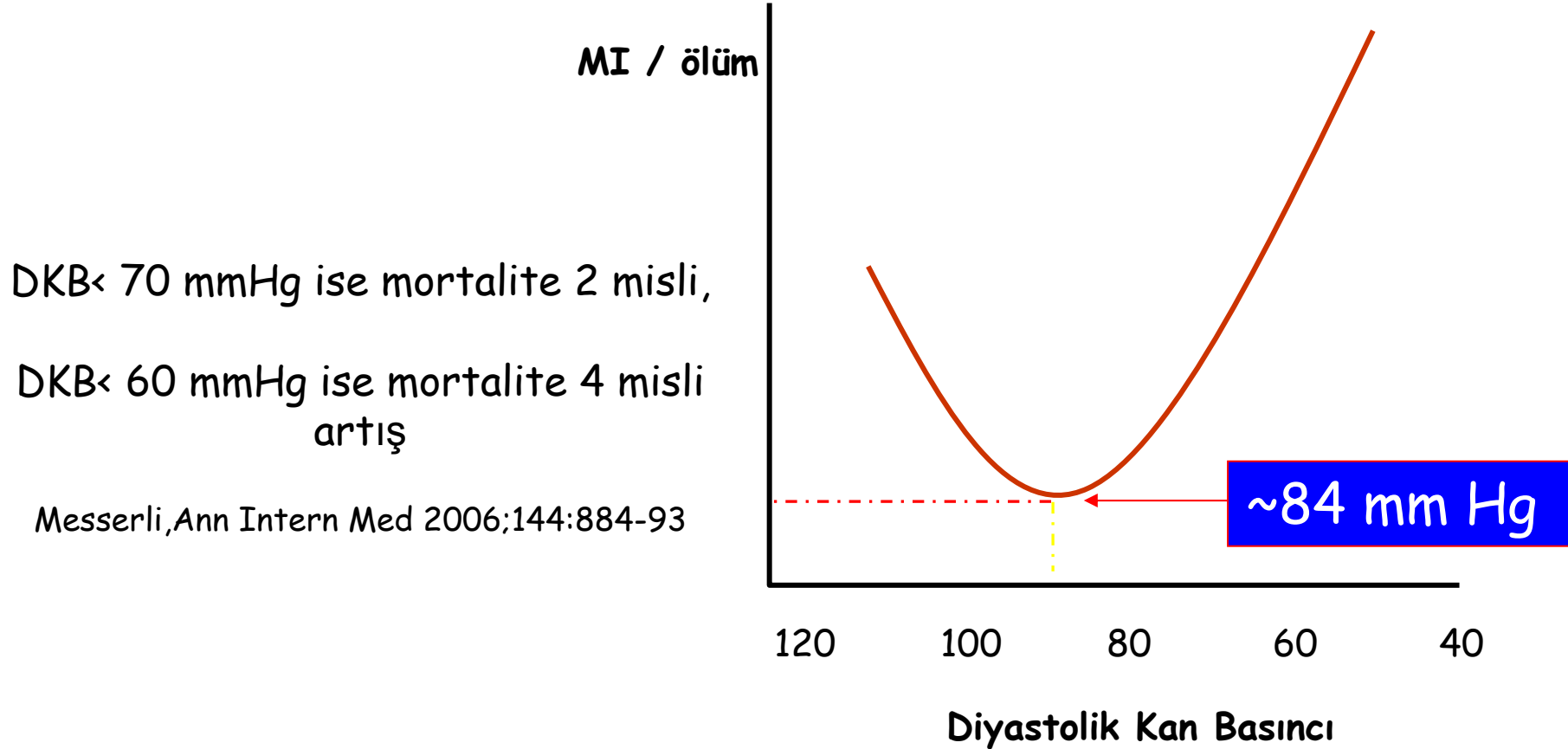
INVEST: Ulaşılan DKB ve İnme/MI Gelişimi



Messerli FH et al Ann Intern Med 2006; 144: 884 - 893

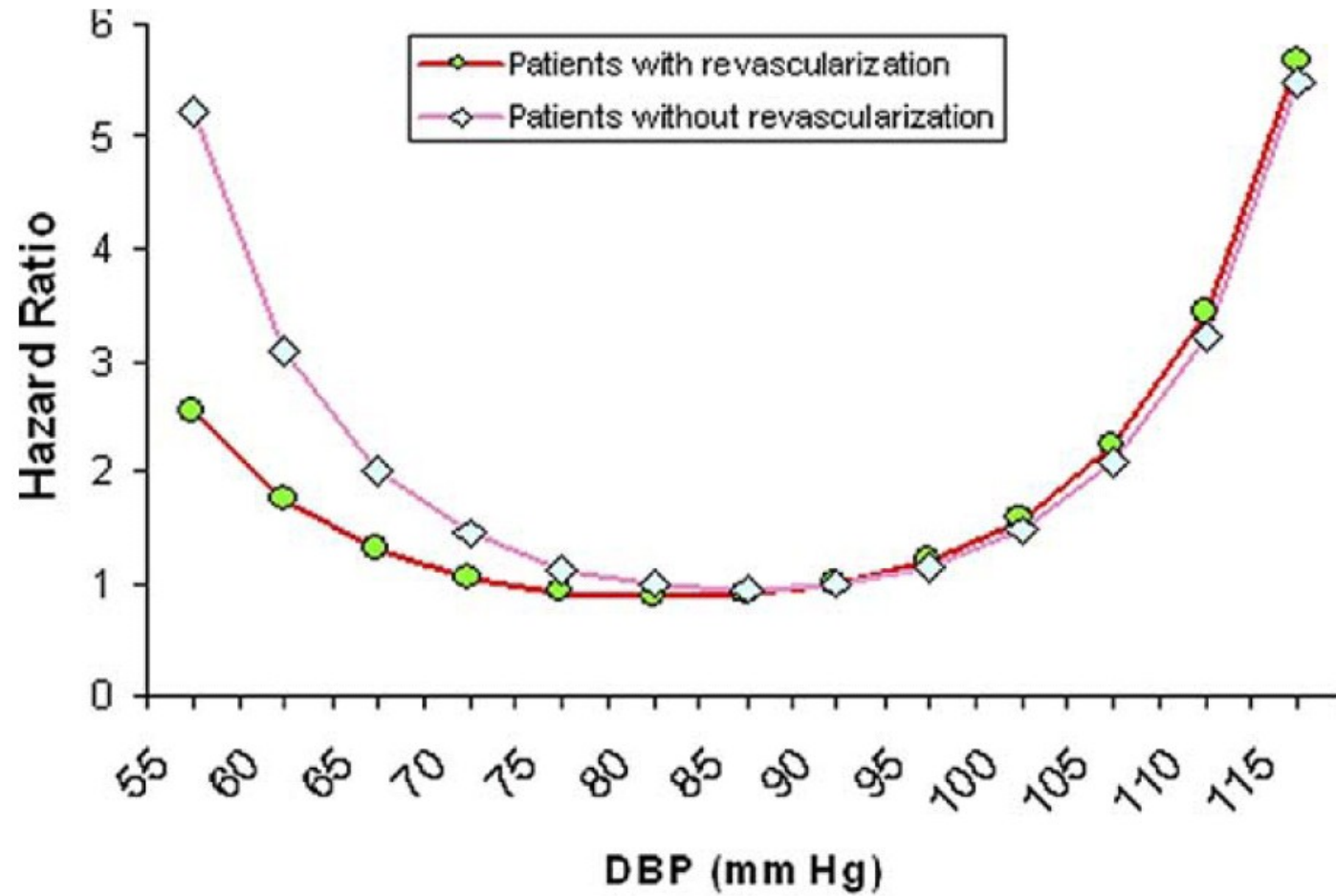
INVEST- Tedavinin Zararı

"J" Şeklinde Mortalite Eğrisi Hipotezi

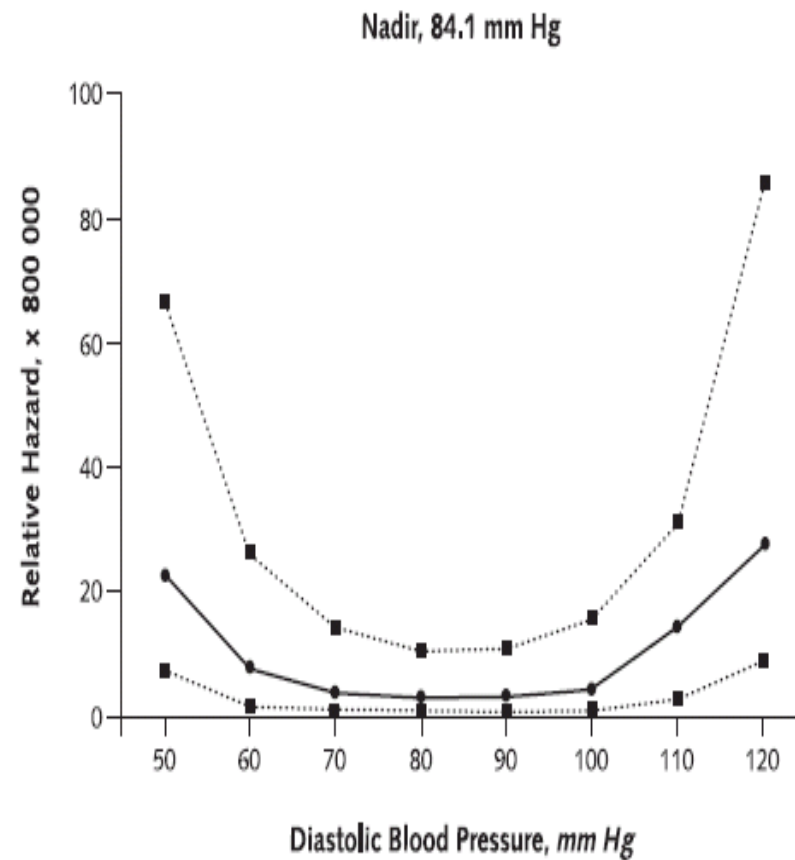
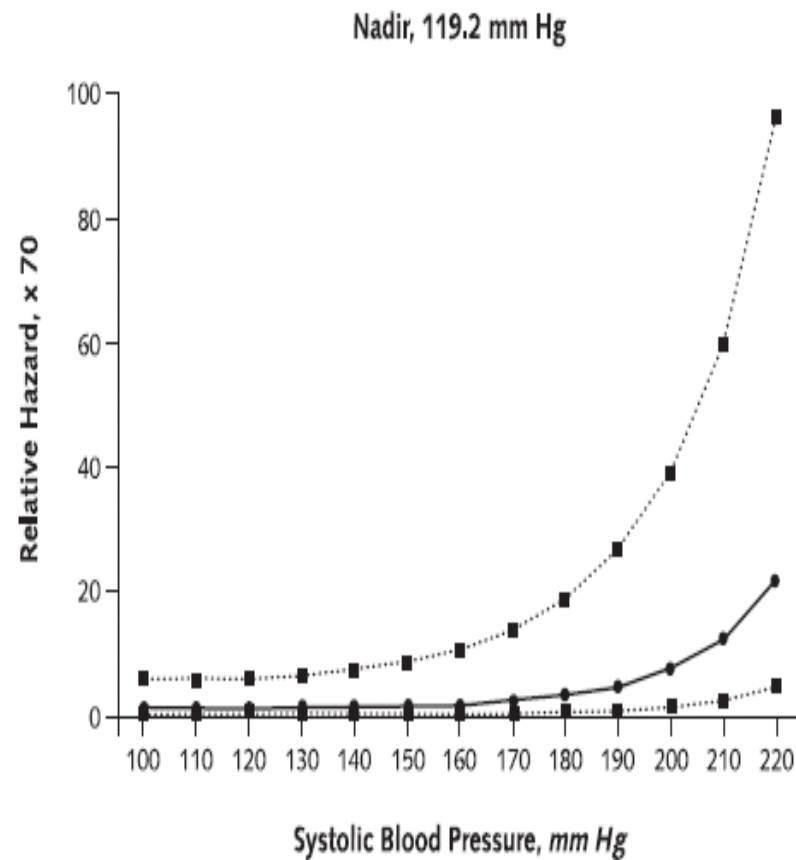


Messerli FH. Low blood pressure is associated with increased mortality and cardiovascular morbidity (J-shaped curve) in treated hypertensive patients with coronary artery disease. American College of Cardiology 53rd Annual Scientific Session; March 7-10, 2004; New Orleans, Louisiana. Late Breaking Clinical Trials II.

INVEST: Ulaşılan DKB ve KV Olay Gelişimi

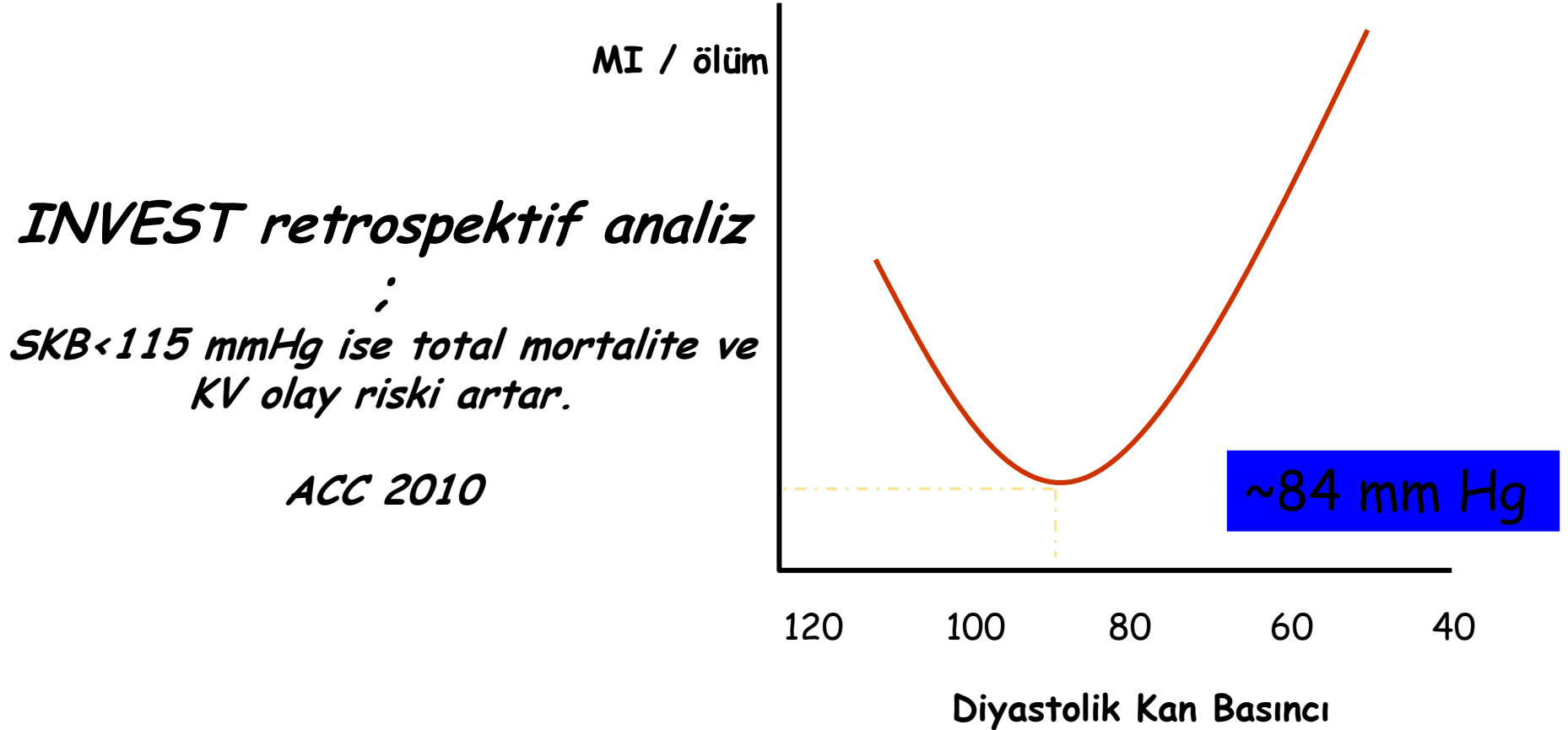


INVEST- Tedavinin Zararı



INVEST- Tedavinin Zararı

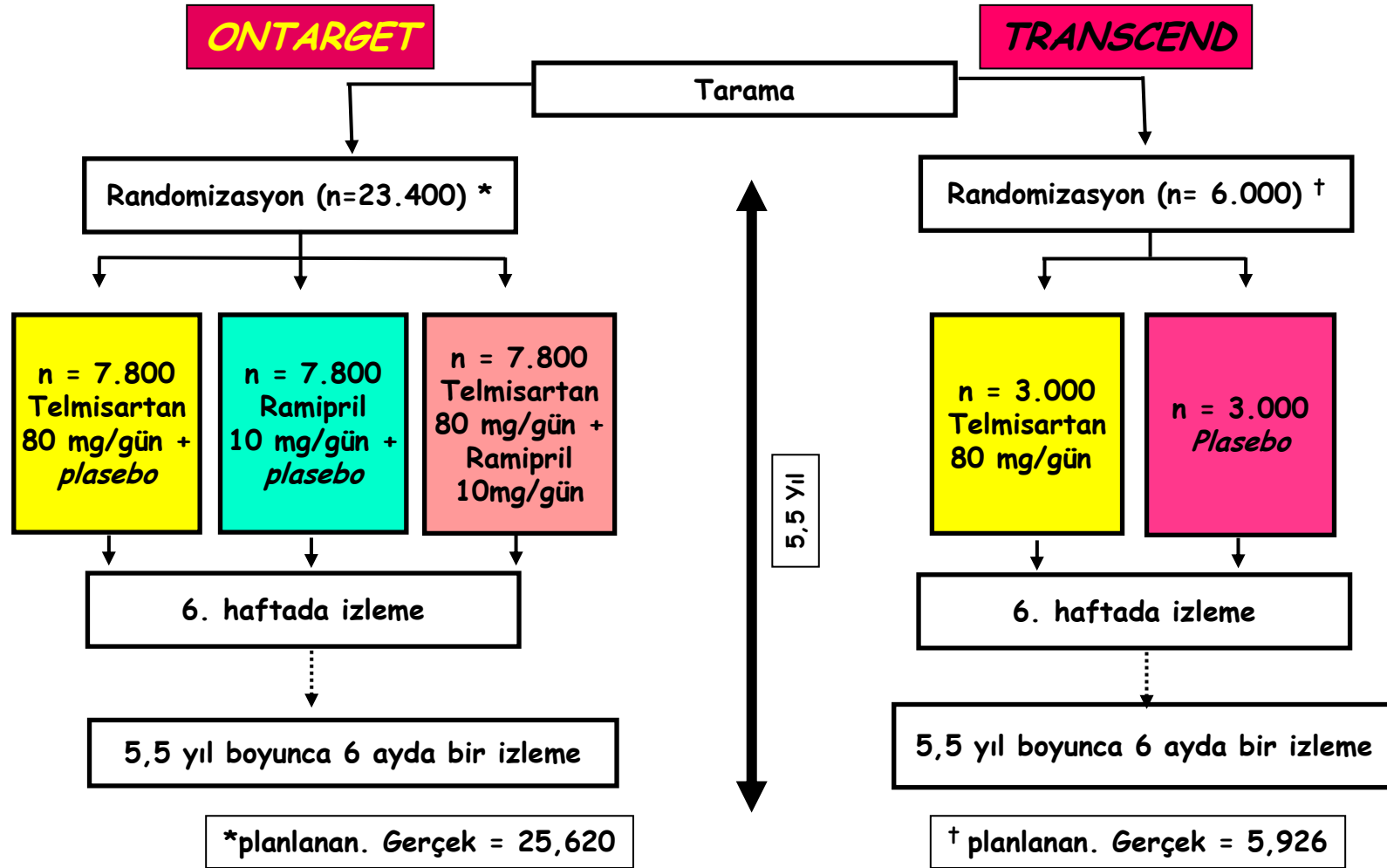
“J” Şeklinde Mortalite Eğrisi Hipotezi



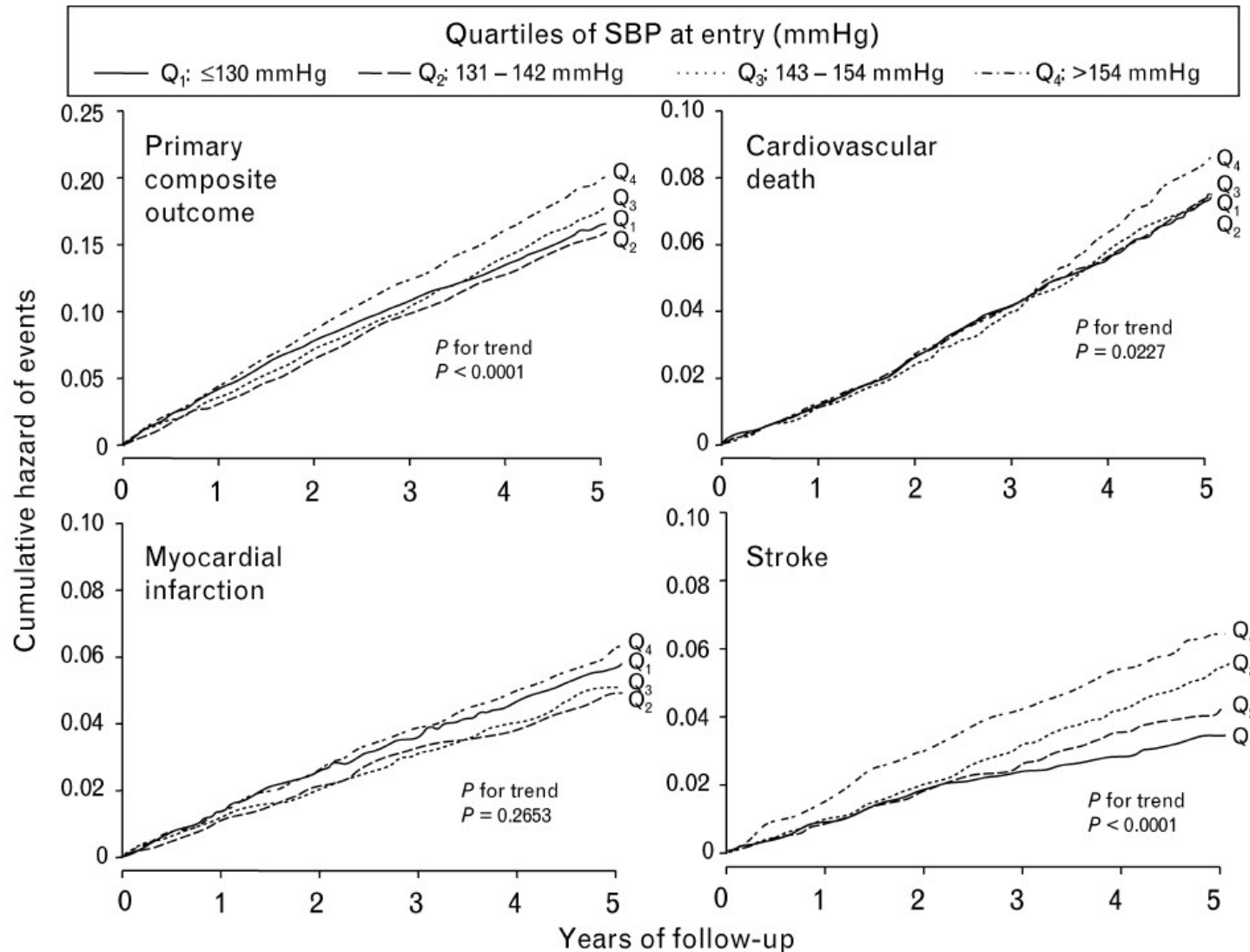
Messerli FH. Low blood pressure is associated with increased mortality and cardiovascular morbidity (J-shaped curve) in treated hypertensive patients with coronary artery disease. American College of Cardiology 53rd Annual Scientific Session; March 7-10, 2004; New Orleans, Louisiana. Late Breaking Clinical Trials II.

ONTARGET Çalışma Programı

Çalışma Tasarımı

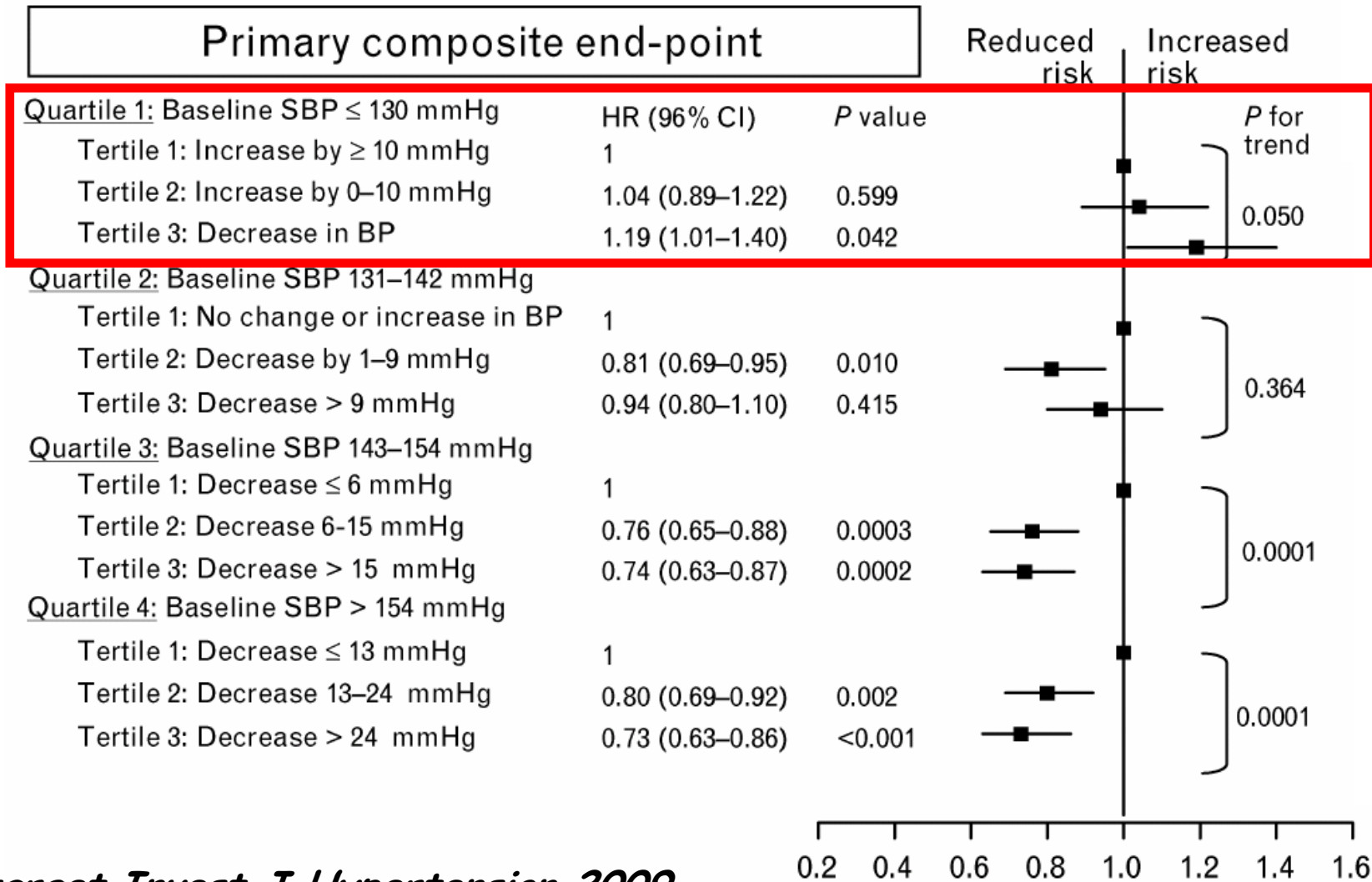


ONTARGET : KB Sonuçları



Ontarget Invest J Hypertension 2009

ONTARGET : KB Sonuçları



ONTARGET : KB Sonuçları

Quartile 1: Baseline SBP ≤ 130 mmHg

- Tertile 1: Increase by ≥ 10 mmHg
- Tertile 2: Increase by 0–10 mmHg
- Tertile 3: Decrease in BP

Quartile 2: Baseline SBP 131–142 mmHg

- Tertile 1: No change or increase in BP
- Tertile 2: Decrease by 1–9 mmHg
- Tertile 3: Decrease > 9 mmHg

Quartile 3: Baseline SBP 143–154 mmHg

- Tertile 1: Decrease ≤ 6 mmHg
- Tertile 2: Decrease 6–15 mmHg
- Tertile 3: Decrease > 15 mmHg

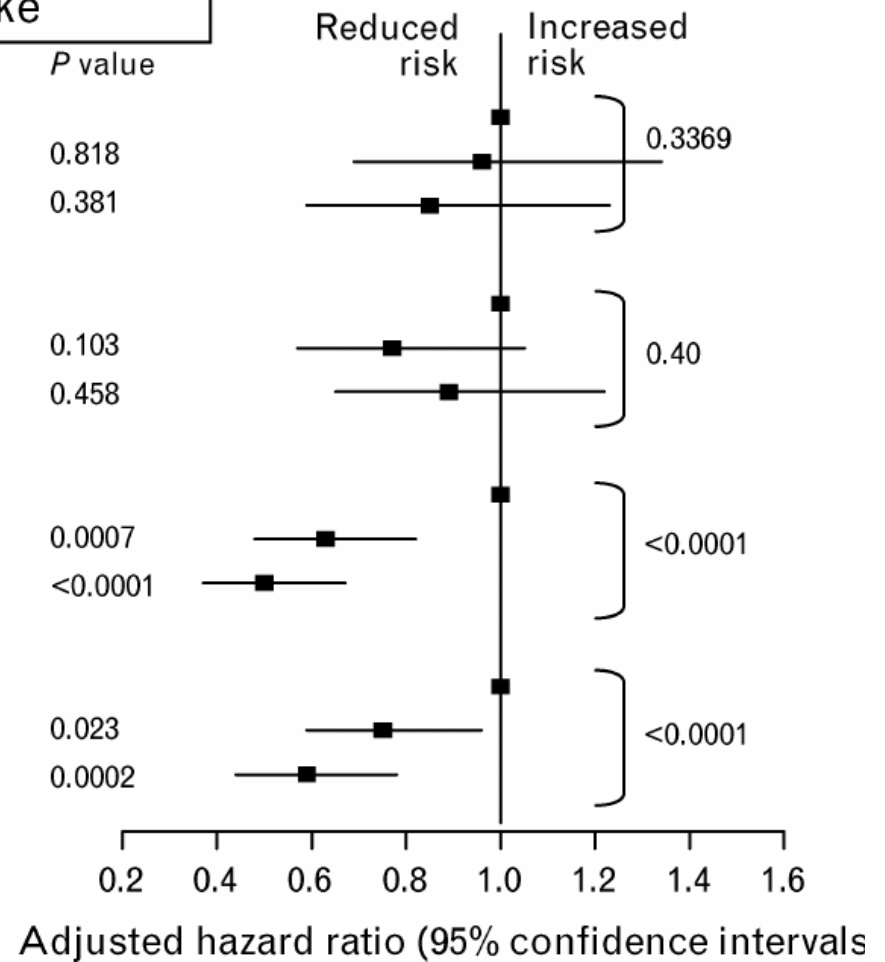
Quartile 4: Baseline SBP > 154 mmHg

- Tertile 1: Decrease ≤ 13 mmHg
- Tertile 2: Decrease 13–24 mmHg
- Tertile 3: Decrease > 24 mmHg

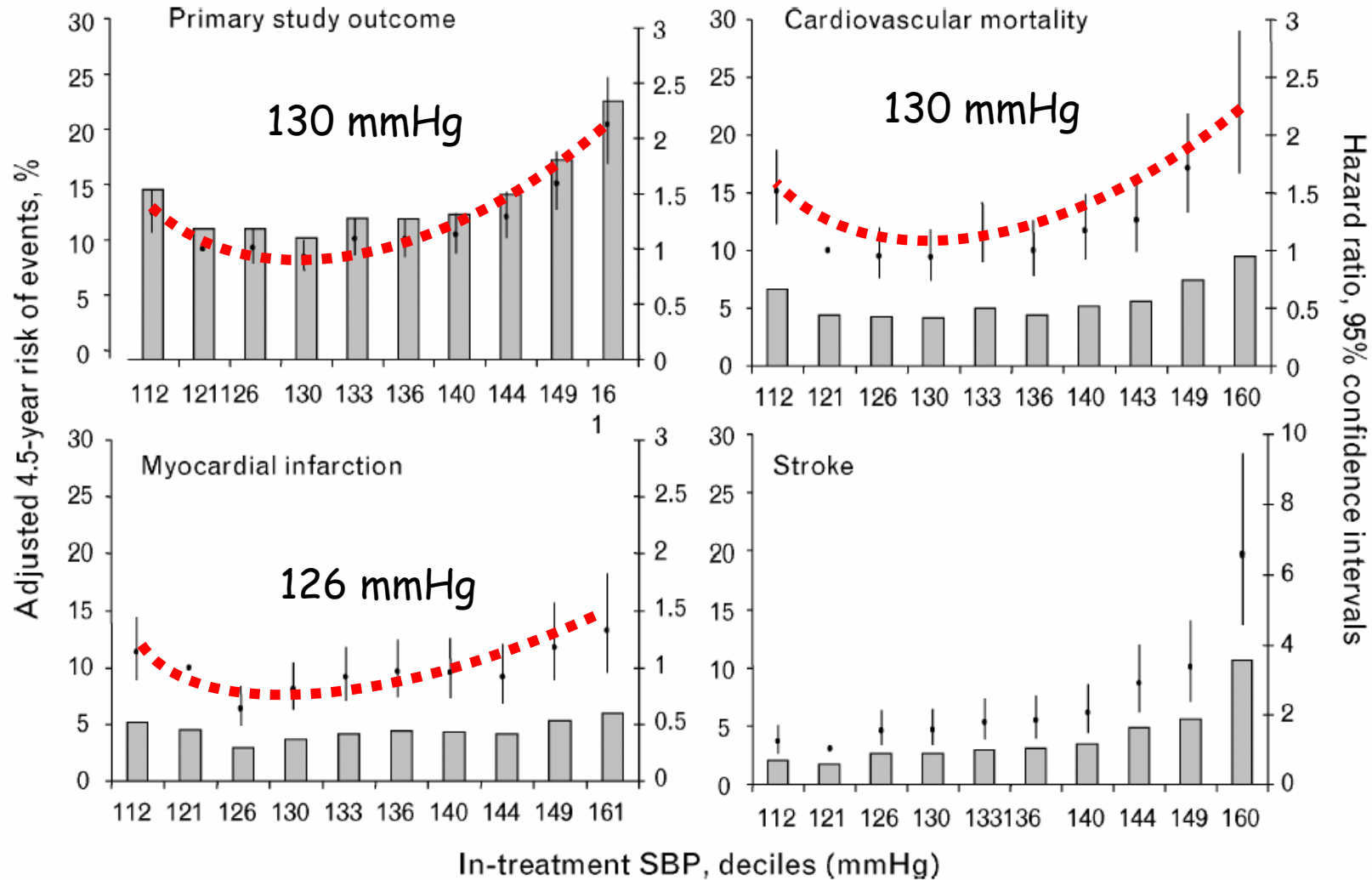
Stroke

HR (96% CI) P value

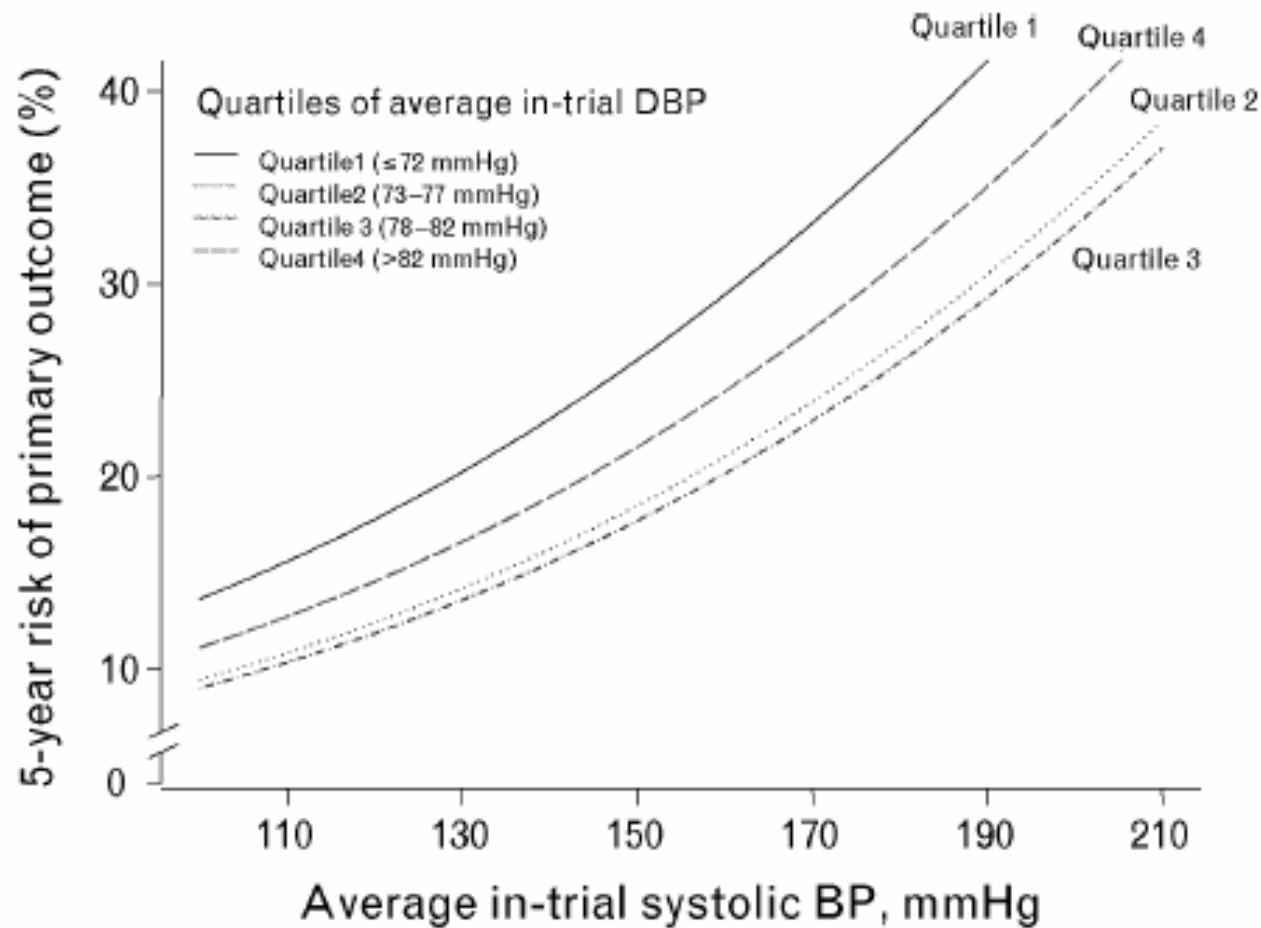
1		
0.96 (0.69–1.34)	0.818	
0.85 (0.59–1.23)	0.381	
1		
0.77 (0.57–1.05)	0.103	
0.89 (0.65–1.22)	0.458	
1		
0.63 (0.48–0.82)	0.0007	
0.50 (0.37–0.67)	<0.0001	
1		
0.75 (0.59–0.96)	0.023	
0.59 (0.44–0.78)	0.0002	



ONTARGET : KB Sonuçları



ONTARGET : KB Sonuçları



Blood Pressure Components and the Risk for End-Stage Renal Disease and Death in Chronic Kidney Disease

Rajiv Agarwal

Department of Medicine, Indiana University School of Medicine and Richard L. Roudebush Veterans Administration Medical Center, Indianapolis, Indiana

Background and objectives: Mean arterial pressure has been used in clinical trials in nephrology to randomly assign and treat patients, yet the pulsatile component of BP is recognized to influence outcomes in older people. I examined the unique contributions of systolic (SBP) and diastolic BP (DBP) on the risk for ESRD and death in patients with chronic kidney disease (CKD).

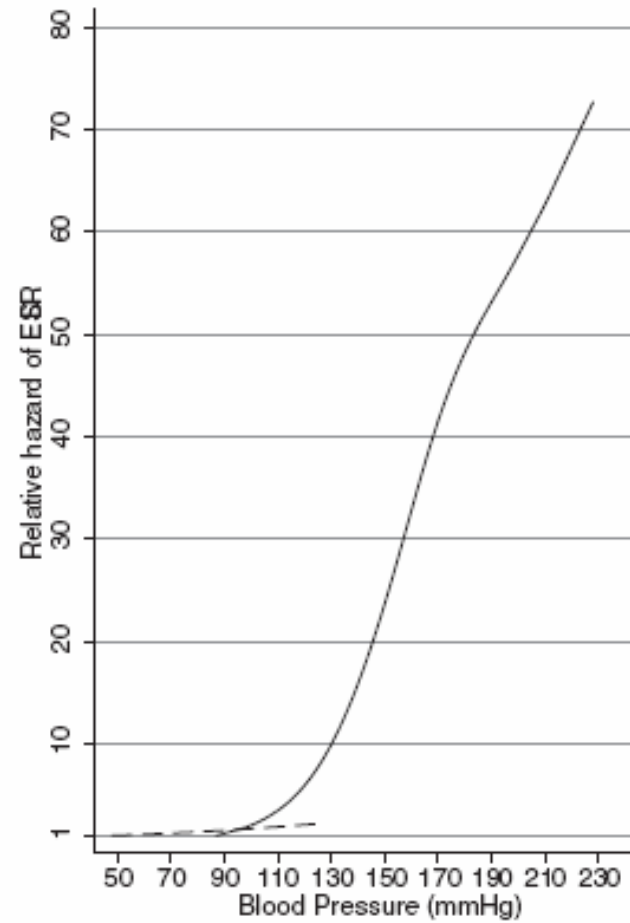
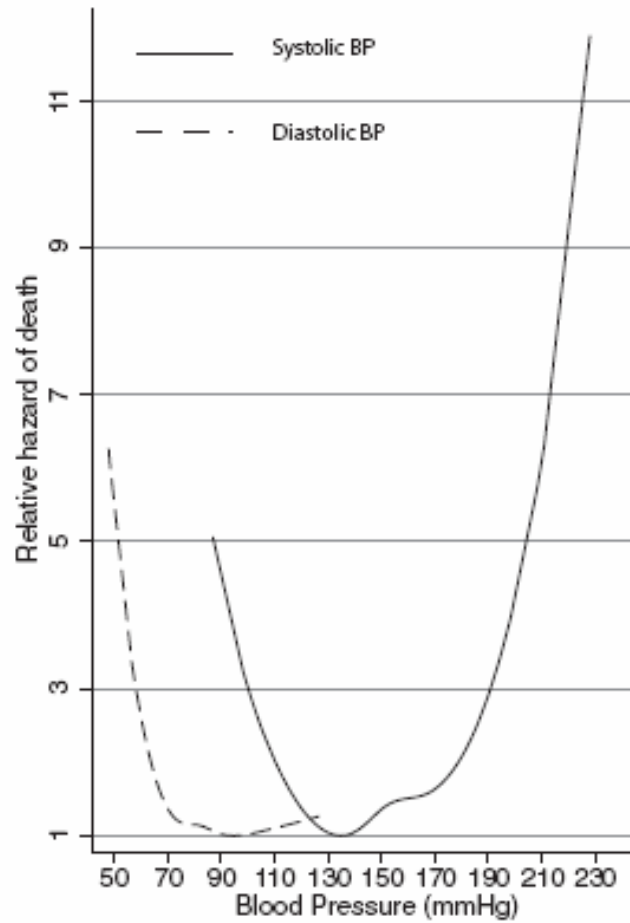
Design, setting, participants, & measurements: A single-center, prospective cohort study was conducted of 218 veterans with CKD (22% black, 4% women, mean age 68 yr, clinic BP $154.1 \pm 25.1/85.2 \pm 13.9$ mmHg, 48% with diabetes).

Results: During follow-up of up to 7 yr, 63 patients had ESRD and 102 patients died. Compared with those with controlled SBP (<130 mmHg), patients with moderate control (130 to 149 mmHg) had hazard ratio of 3.87 and those with poor control hazard ratio of 9.09 for ESRD. DBP had no direct ability to predict ESRD. For all-cause mortality, a J-shaped relationship was seen for SBP and an inverse relationship was seen for DBP. Considered jointly in the Cox model, a higher SBP and lower DBP improved the prediction of all-cause mortality compared with either BP component alone. The presence of J curve was especially pronounced in patients with advanced CKD, absence of clinical proteinuria, or age >65 yr.

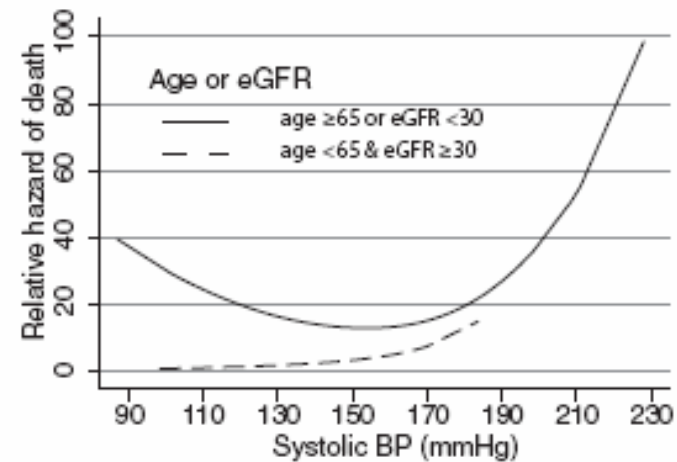
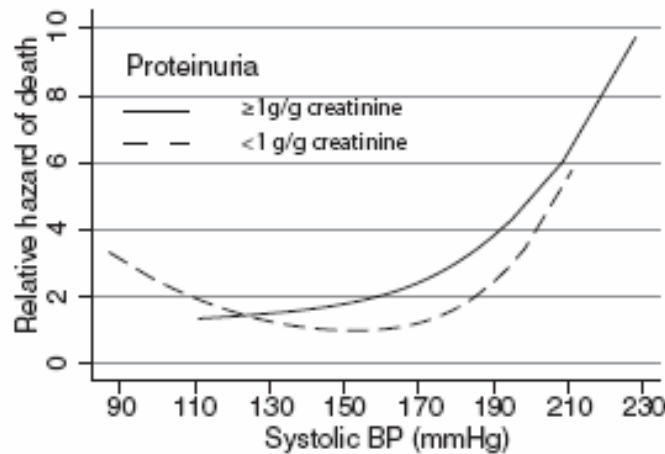
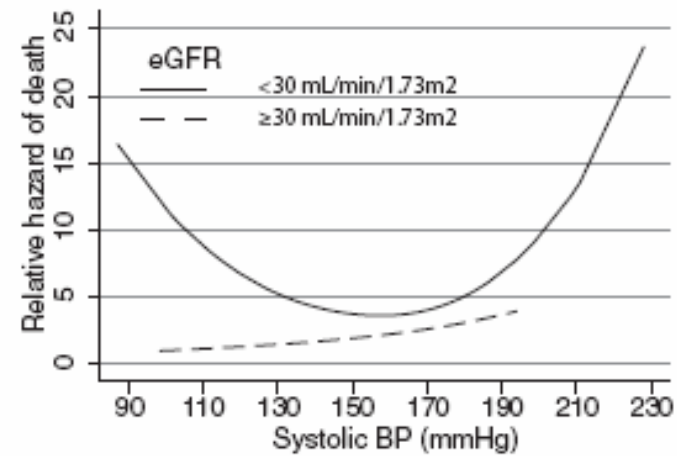
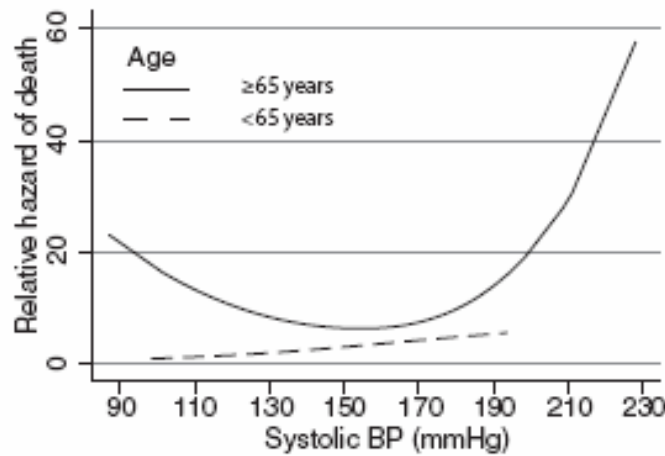
Conclusions: In older patients with CKD, SBP predicts ESRD and a higher SBP and lower DBP predicts all-cause mortality. Lower BP of <110/70 mmHg is a marker of higher mortality in older individuals with advanced CKD.

Clin J Am Soc Nephrol 4: 830–837, 2009. doi: 10.2215/CJN.06201208

KBH 'da SKB/DKB ve Mortalite



KBH 'da SKB/DKB ve Mortalite



2007 ESH/ESC Kan Basıncı Sınıflandırması

Kan Basıncı	SKB mmHg		DKB mmHg
Optimal	<120	ve	<80
Normal	120-129	veya	80-84
Yüksek Normal	130-139	veya	84-89
Evre 1 HT	140-159	veya	90-99
Evre 2 HT	160-179	veya	100-109
Evre 3 HT	<u>≥</u> 180	veya	<u>≥</u> 110
İzole Sistolik HT	<u>≥</u> 140	veya	<90 *

*Risk artışı: DKB < 70mmHg

Kilavuzlarda J CURVE ESH 2009

Reappraisal of European guidelines on hypertension management: a European Society of Hypertension Task Force document

Giuseppe Mancia^a, Stéphane Laurent^b, Enrico Agabiti-Rosei^c,
Ettore Ambrosioni^d, Michel Burnier^e, Mark J. Caulfield^f, Renata Cifkova^g,
Denis Clément^h, Antonio Cocaⁱ, Anna Dominiczak^j, Serap Erdine^k,
Robert Fagard^l, Csaba Farsang^m, Guido Grassiⁿ, Hermann Haller^o,
Anthony Heagerty^p, Sverre E. Kjeldsen^q, Wolfgang Kiowski^r, Jean Michel Mallion^s,
Athanasios Manolis^t, Krzysztof Narkiewicz^u, Peter Nilsson^v, Michael H. Olsen^w,
Karl Heinz Rahn^x, Josep Redon^y, José Rodicio^z, Luis Ruilope^{a1},
Roland E. Schmieder^{a2}, Harry A.J. Struijker-Boudier^{a3}, Pieter A. van Zwieten^{a4},
Margus Viigimaa^{a5} and Alberto Zanchetti^{a6}

Kilavuzlarda J CURVE ESH 2009

Despite their obvious limitations and a lower strength of evidence, post hoc analyses of trial data indicate a progressive reduction of cardiovascular events incidence with progressive lowering of SBP down to about 120 mmHg and DBP down to about 75mmHg, although the additional benefit at low BP values becomes rather small.

Kilavuzlarda J CURVE ESH 2009

A J-curve phenomenon is unlikely to occur until lower values are reached, except perhaps in patients with advanced atherosclerotic artery diseases.

On the basis of current data, it may be prudent to recommend lowering SBP/DBP to values within the range 130-139/80-85mmHg, and possibly close to lower values in this range, in all hypertensive

Hipertansiyon Tedavisi



'Clinical medicine seems to be consist of few things we know, few things we think we know (but probably don't) and lots of things we really don't know at all'

Naylor CD

J Egrisi İle İlgili Görüşler

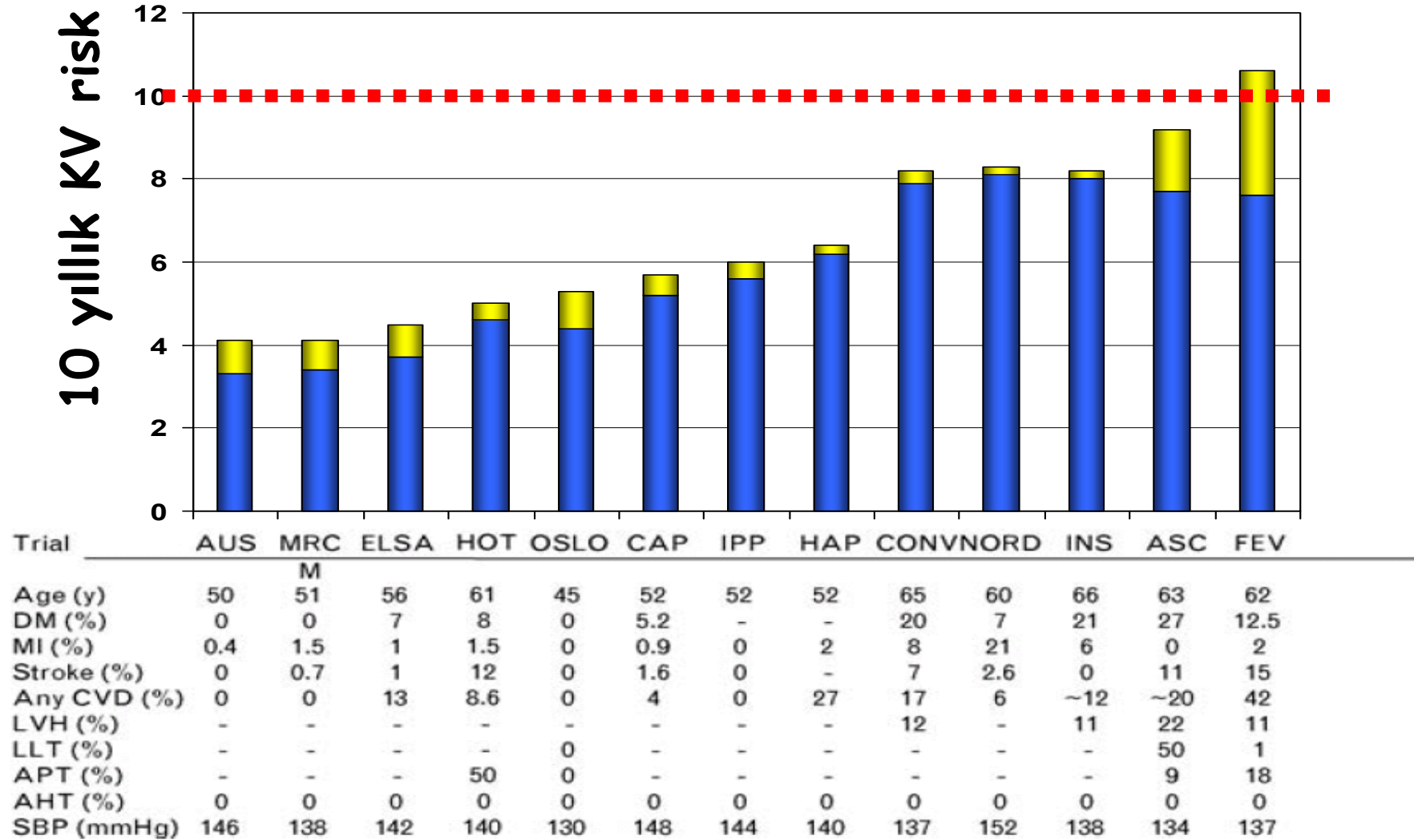
a. Yoktur.

b. Vardır

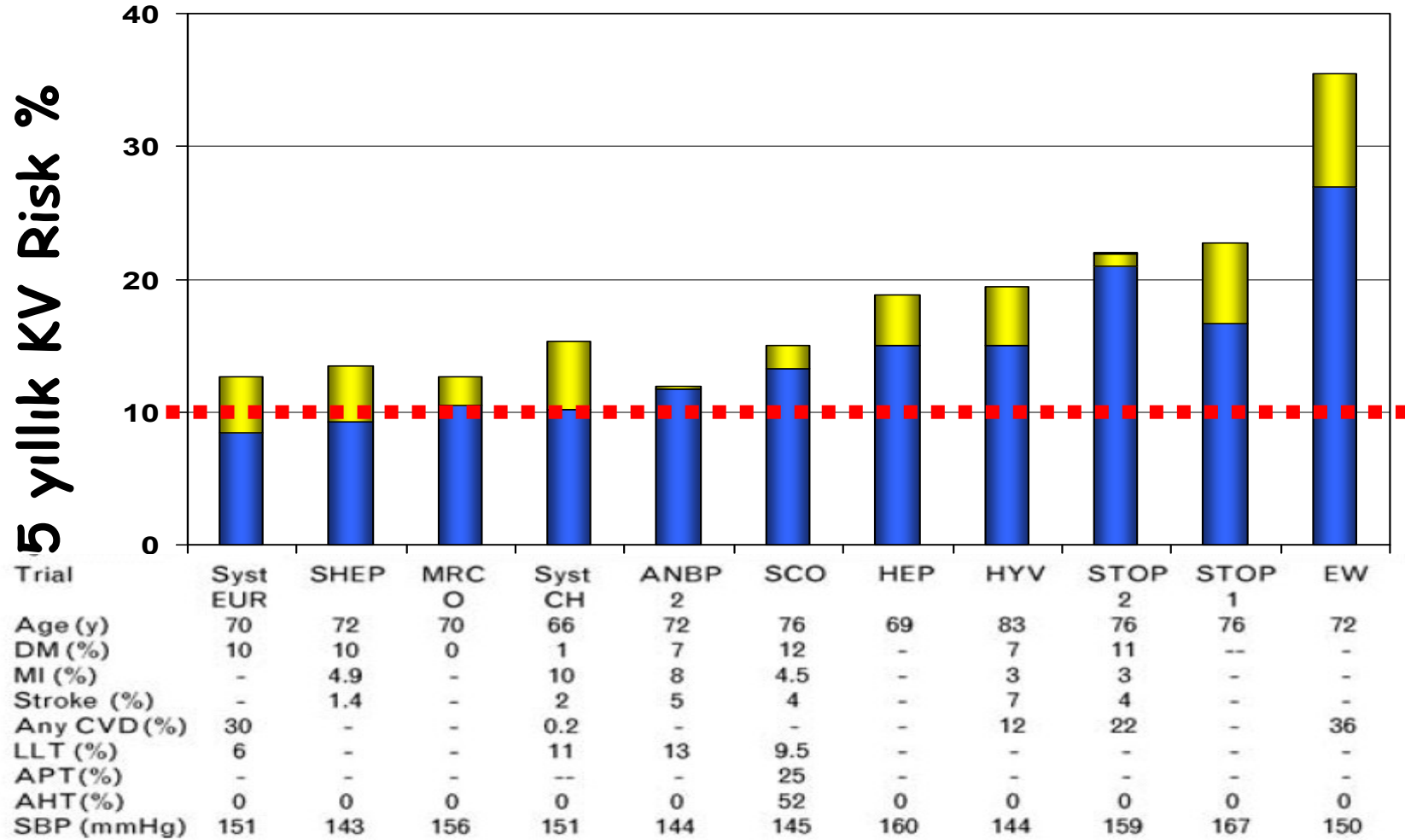
c . Vardır ama benim tedavimi etkilemez

d. Ben zaten yan salona girecektim

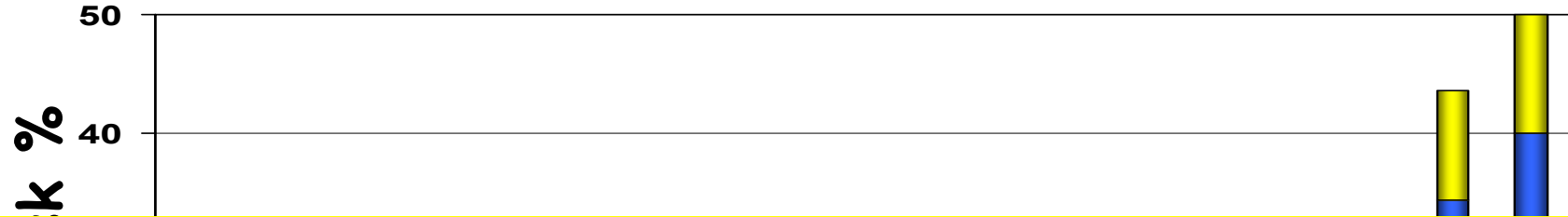
Tedavi ve KV Kazanım



Tedavi ve KV Kazanım



Tedavi ve KV Kazanım



HEDEF KB ÖNEMLİ YOKSA

TEDAVİYE ERKEN BAŞLAMAK MI?

Trial	ACC	CAM	PEA	EU	INV	JM	ALL	LIFE	ACT	ONT	TR	HOP	VAL	PROG	TIA	PROF	PATS	MOS
Age (y)	68	57	64	60	66	65	67	67	64	64	67	66	67	64	65	66	60	68
DM (%)	60	18	17	-	28	22	36	13	15	37	36	38	32	13	5	28	-	37
MI (%)	23	38	55	65	32	42	23	16*	52	49	46	52	46	16	6	-	-	8
Stroke (%)	13	4	7	3	5	-	8	-	-	21	22	11	20	100	100	100	100	100
Any CVD (%)	-	100	100	100	100	100	52	25	100	91	91	88	60	100	100	100	100	100
LVH (%)	13	-	-	-	22	-	16.5	100	-	13.6	13	8.5	15	-	11	15.5	-	-
LLT (%)	68	86	70	57	37	28	25	-	68	62	95	28	46	7	-	47	-	31
APT (%)	65	94	90	92	57	55	36	-	86	81	79	76	73	60	49	100	-	78
AHT (%)	0	139	109	102	0	0	0	0	37	118	131	101	0	50	0	103	0	0
SBP (mmHg)	132	124	129	128	131	136	135	144	130	133	136	135	139	132	150	136	143	136

Değişmeyecek Ne Var?

I
love
you
with all my
kidney
NKF
National Kidney
Foundation

