Tip 2 Diyabet'te Agresif Tedavi Gerekli mi?

EVET

Prof. Dr. Kürşad Ünlühızarcı
Erciyes Üniversitesi Tıp Fakültesi
Endokrinoloji Bilim Dalı

Günümüzde diyabet tedavisinde neredeyiz ?

Tedavide başarı durumumuz nedir ?

original article

Diabetes, Obesity and Metabolism 14: 654–661, 2012.

ORIGINAL ARTICLE

Study of Once Daily Levemir (SOLVE™): insights into the timing of insulin initiation in people with poorly controlled type 2 diabetes in routine clinical practice

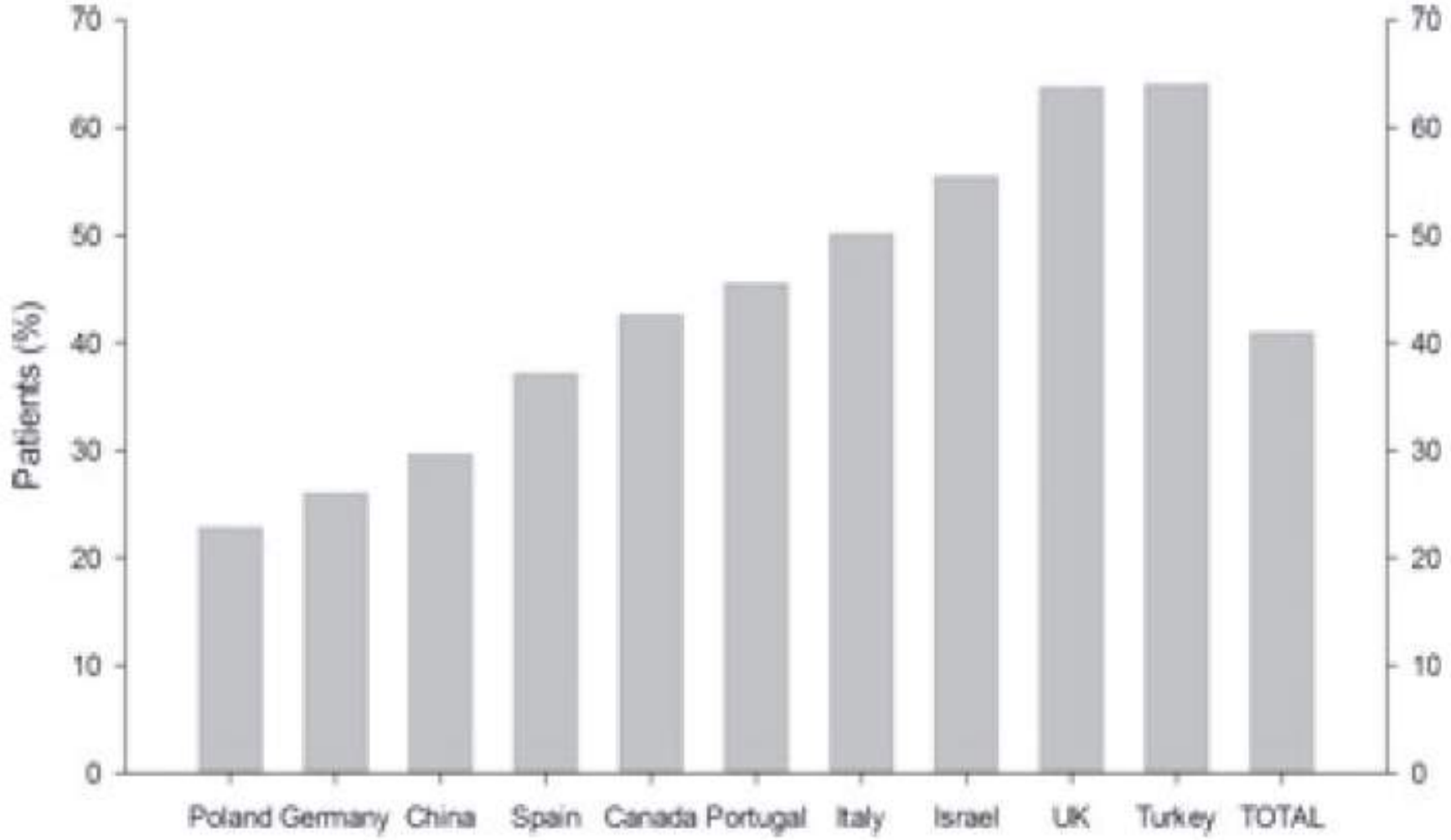
K. Khunti[1], T. Damci[2], L. Meneghini[3], C. Y. Pan[4] & J.-F. Yale[5] on behalf of the SOLVE Study Group

[1] *Department of Health Sciences, University of Leicester, Leicester, UK*
[2] *Department of Endocrinology, Diabetes and Metabolism, Cerrahpasa Medical School, Istanbul University, Istanbul, Turkey*
[3] *Division of Endocrinology, Diabetes, and Metabolism, University of Miami Miller School of Medicine, Miami, FL, USA*
[4] *Department of Endocrinology, Chinese PLA General Hospital, Beijing, China*
[5] *McGill Nutrition and Food Science Centre, Royal Victoria Hospital, Montreal, Quebec, Canada*

Hasta dağılımı ve demografisi

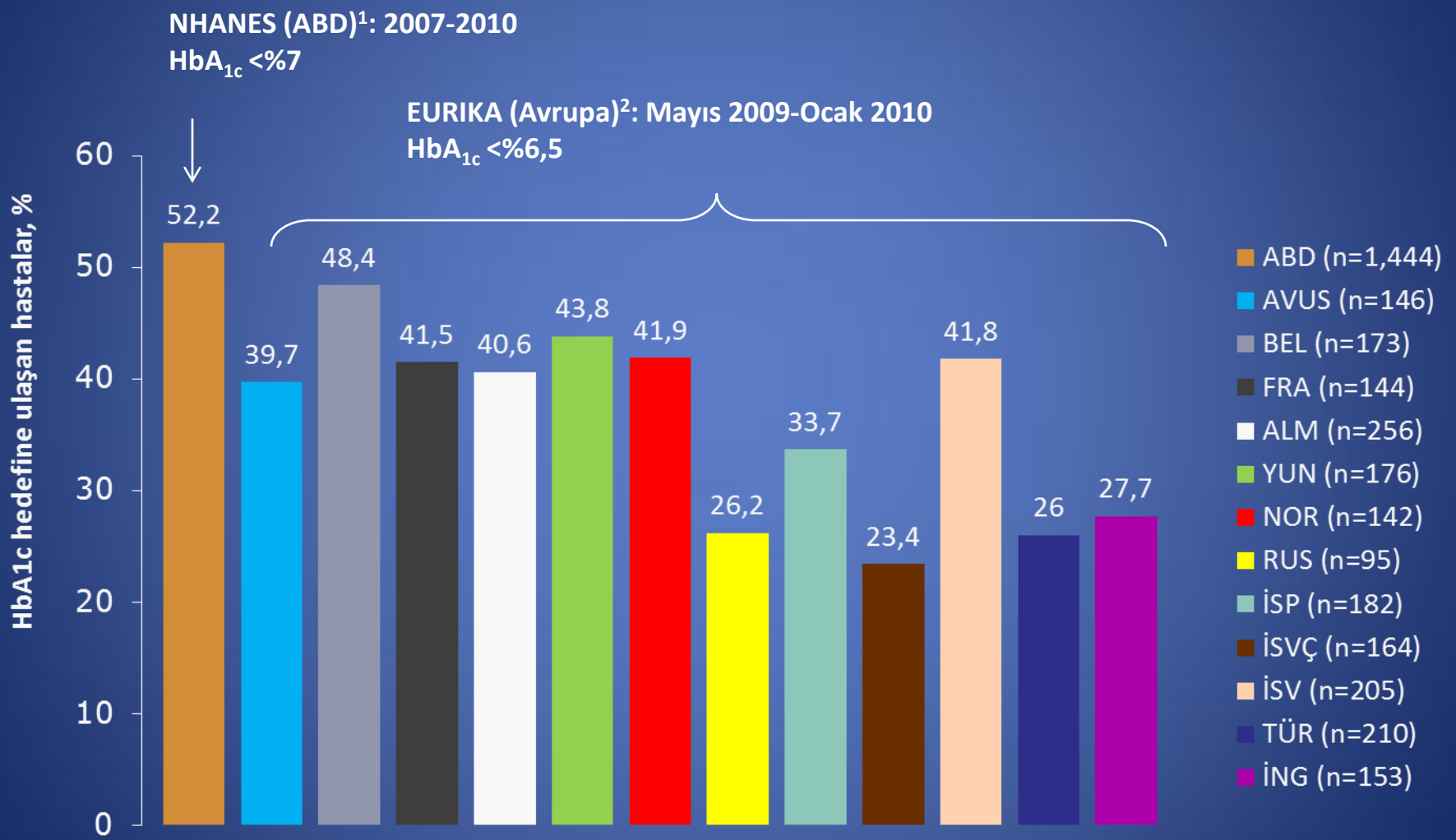
	N=2395	N=17374
Cinsiyet (% erkek/kadın)	42.8 / 57.2	52.9 / 47.1
Etnisite (% beyaz/siyahi/diğer)	97.1 / 0.1 / 2.8	74.2 / 0.7 / 25.1
Yaş (yıl)	56.8 ± 10.2	61.6 ± 11.5
Diyabet süresi (yıl)	8.1 ± 5.6	9.8 ± 7.0
OAD tedavisi süresi (yıl)	7.6 ± 6.6	8.5 ± 6.6
Kilo (kg)	79.8 ± 13.9	80.9 ± 17.7
VKİ (kg/m^2)	29.6 ± 4.8	29.3 ± 5.4
Bel çevresi (cm)	103 ± 15	99 ± 15

Ortalama ± SS



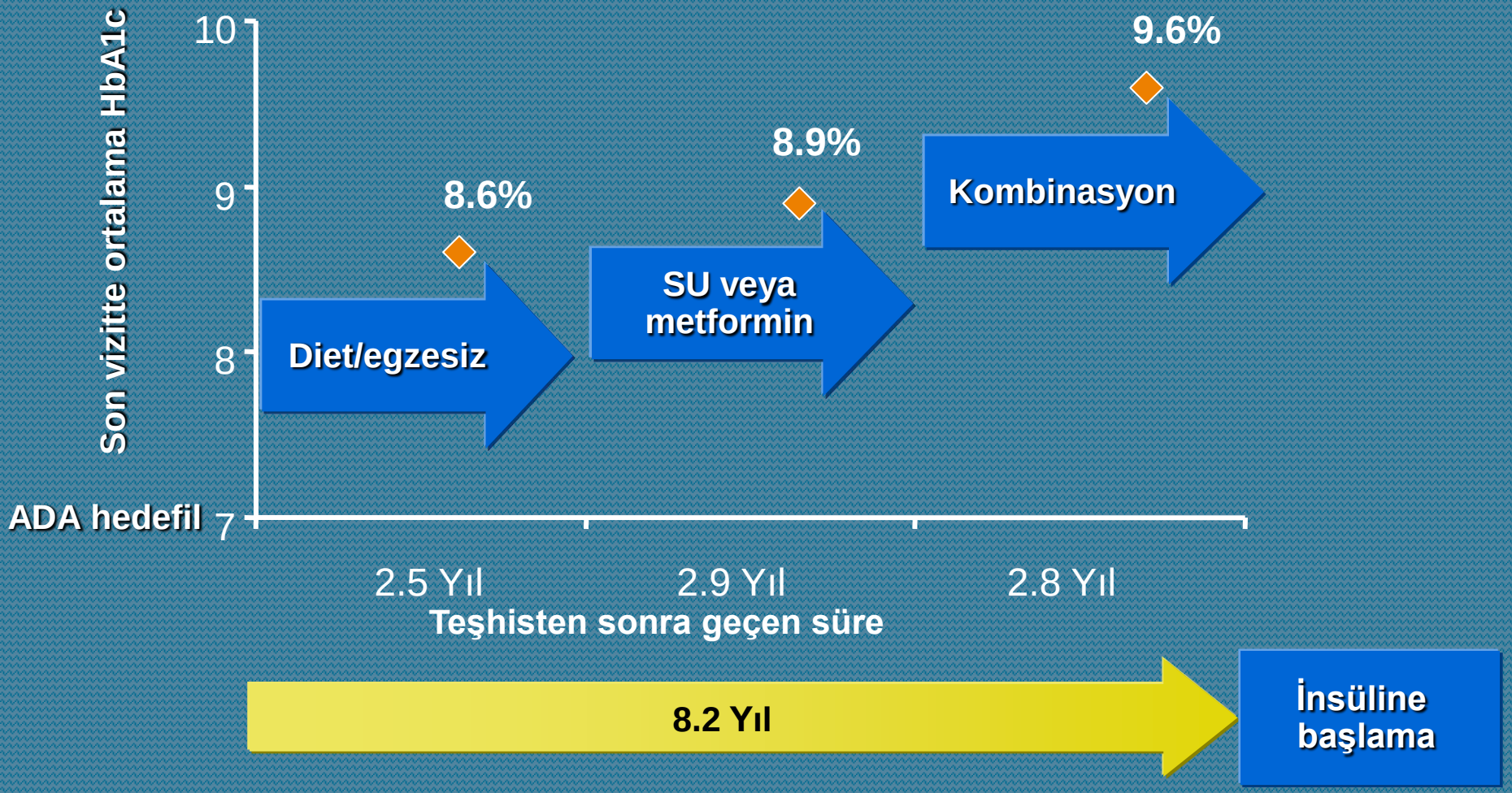
İnsuline başlama sırasında A1c>9 olan hastaların oranı

NHANES VE EURIKA
Hedef HbA_{1c} Düzeyine Ulaşan Hastalar



1. Ali MK, et al. N Engl J Med. 2013;368(17):1613-24.
2. Banegas JR, et al. Eur Heart J. 2011;32(17):2143-52

Clinical Inertia:
"Gerektiği anda tedavideki atılımı gerçekleştirememe"



Brown JB et al. Diabetes Care. 2004;27:1535-1540.

Günümüzde hastalar gerek kendi yanlışları, gerekse bizlerin

zamanlama sorunları nedeni ile uygun tedavi almıyorlar.

İnsuline başlama sırasında A1c>9 olan hastaların oranı

Erken ve agresif tedavi yapmalıyız,

çünkü …..

Effect of intensive insulin therapy on β-cell function and glycaemic control in patients with newly diagnosed type 2 diabetes: a multicentre randomised parallel-group trial

Jianping Weng*, Yanbing Li*, Wen Xu, Lixin Shi, Qiao Zhang, Dalong Zhu, Yun Hu, Zhiguang Zhou, Xiang Yan, Haoming Tian, Xingwu Ran, Zuojie Luo, Jing Xian, Li Yan, Fangping Li, Longyi Zeng, Yanming Chen, Liyong Yang, Sunjie Yan, Juan Liu, Ming Li, Zuzhi Fu, Hua Cheng

Lancet 371: 1753-60, 2008

- Yeni teşhis Tip 2 DM vakaları, AKŞ: 126-290 mg/dl arası ve başlangıç A1c ortalaması 9.5 olan hastalar.
- İnsulin pompası-günlük çoklu enjeksiyon veya kombine OAD ile hedef değerlere ulaşdıktan sonra (ortalama 10 günde hedef değerlere ulaşılmış) 2 hafta daha aynı tedavi ve sonra tüm ilaçların/insulinlerin kesilmesi

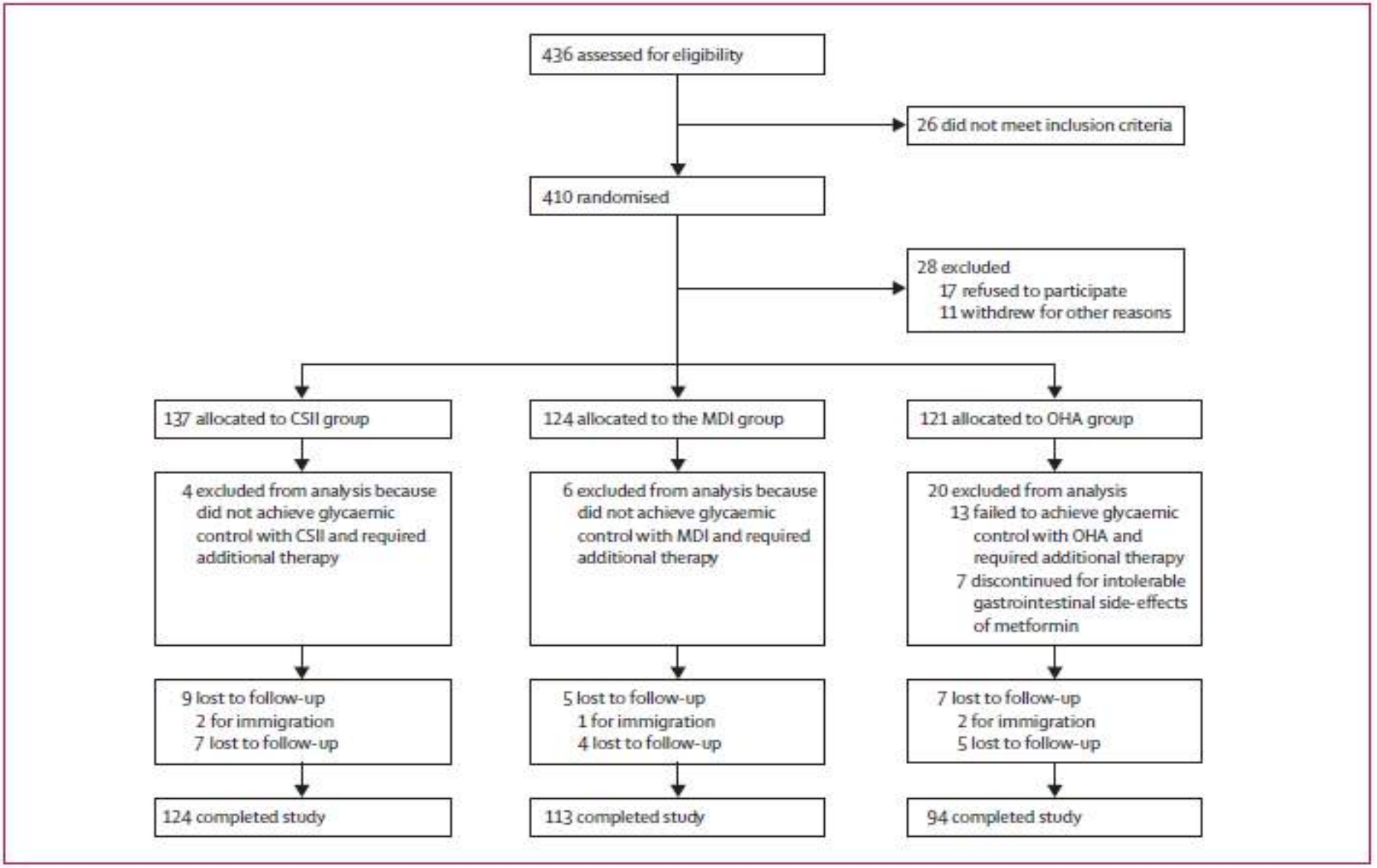


Figure 1: **Trial profile**

CSII=continuous subcutaneous insulin infusion. MDI=multiple daily insulin injections. OHA=oral hypoglycaemic agents.

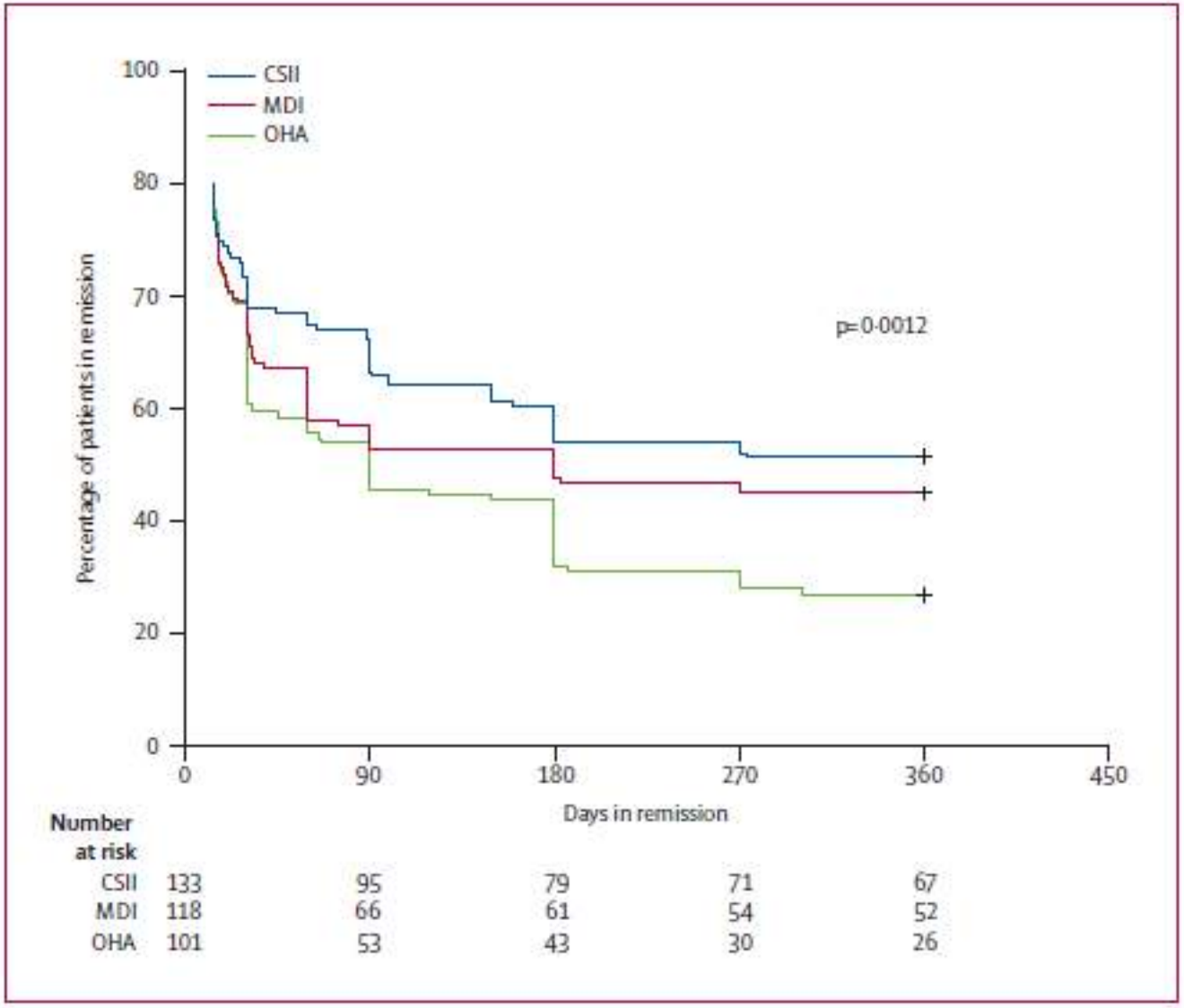
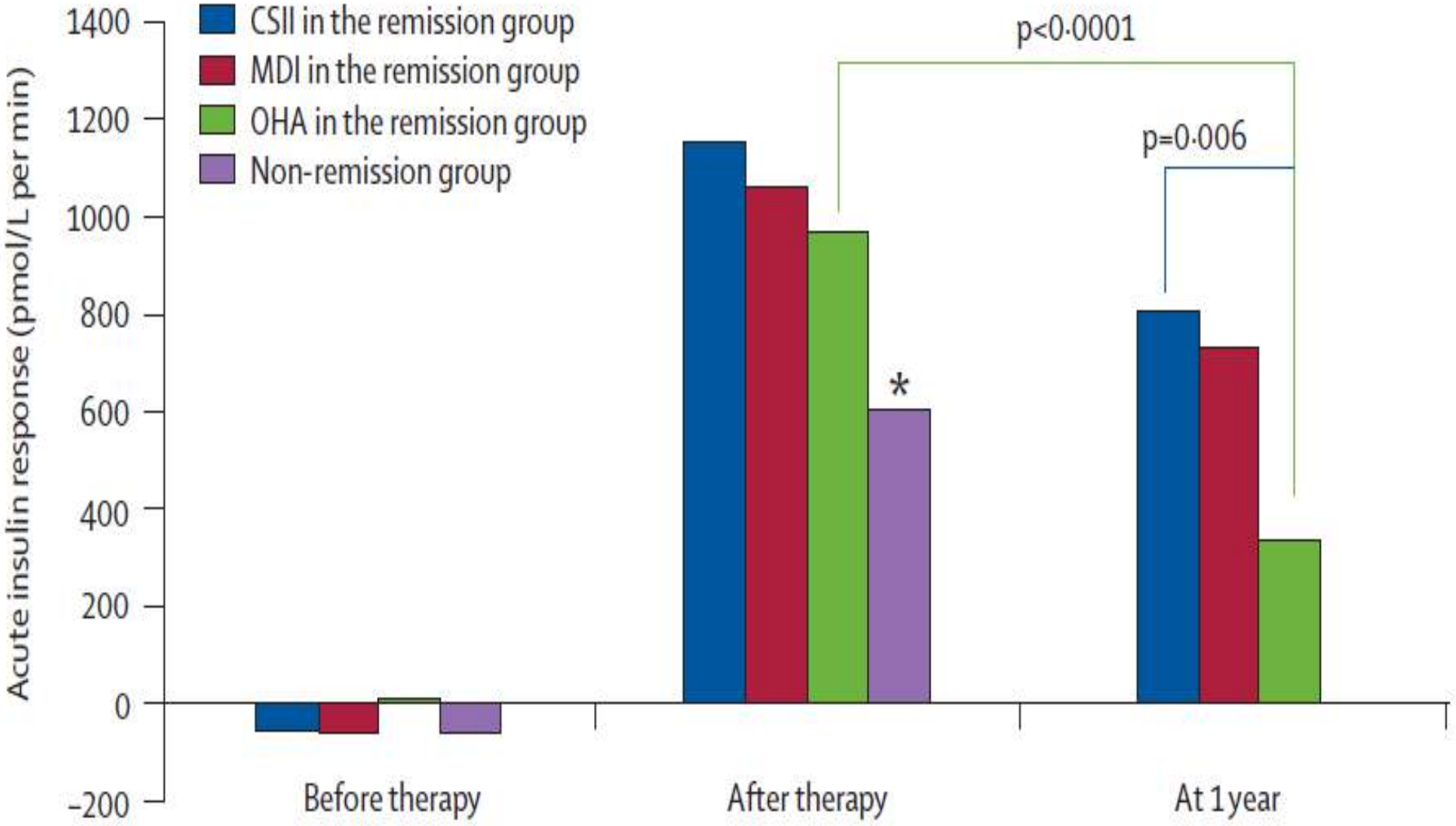


Figure 2: **Kaplan-Meier estimates of time to primary endpoint**



IVGTT'ne akut insulin cevapları

ORIGINAL ARTICLE

Insulin-Based Versus Triple Oral Therapy for Newly Diagnosed Type 2 Diabetes

Which is better?

Diabetes Care 32: 1789-1795, 2009

ILDIKO LINGVAY, MD, MPH, MSCS[1]
JAIME L. LEGENDRE, BS[1]
POLINA F. KALOYANOVA, MD[1]
SONG ZHANG, PHD[2]
BEVERLEY ADAMS-HUET, MS[1,2]
PHILIP RASKIN, MD[1]

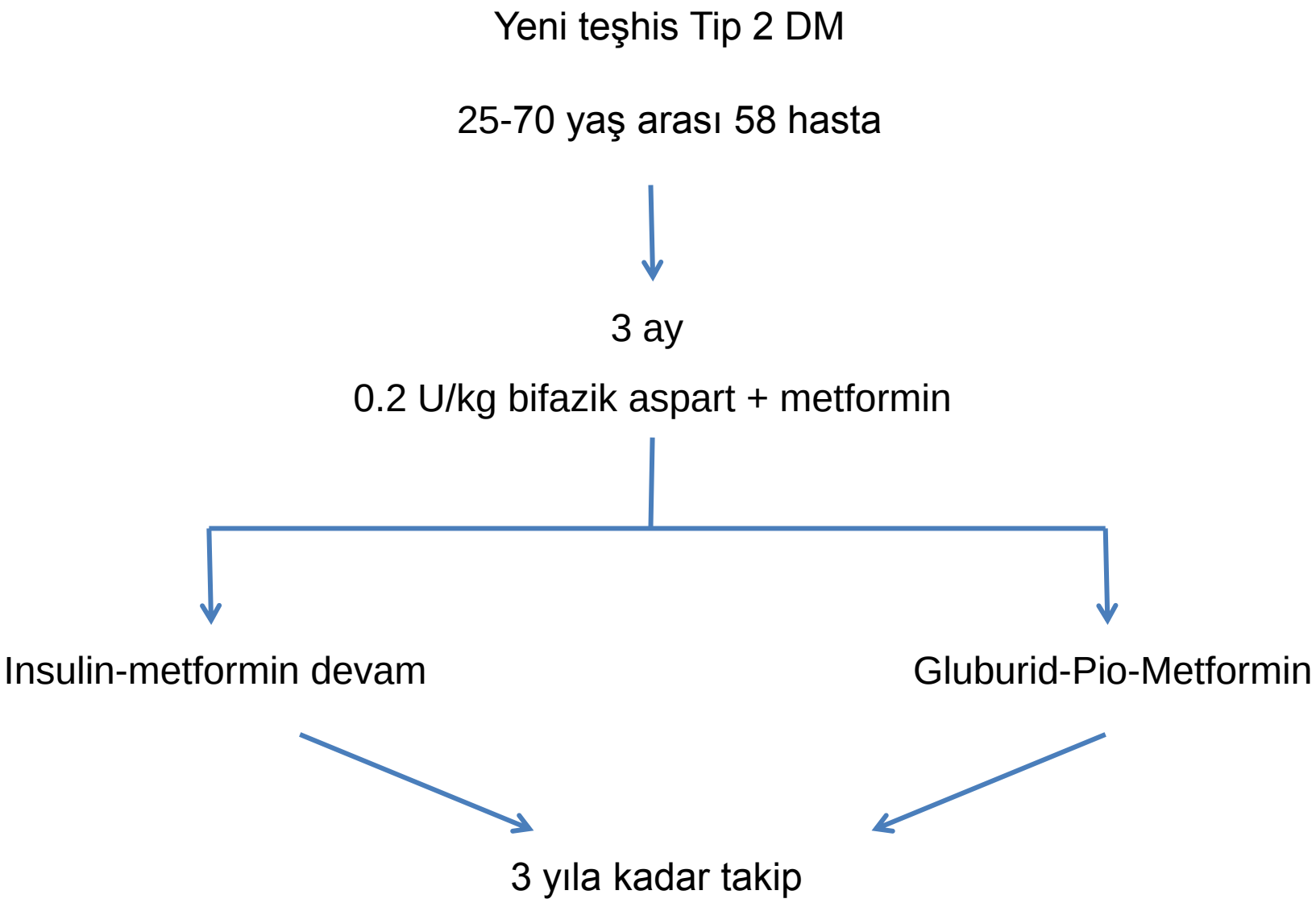
Diabetes Care Symposium

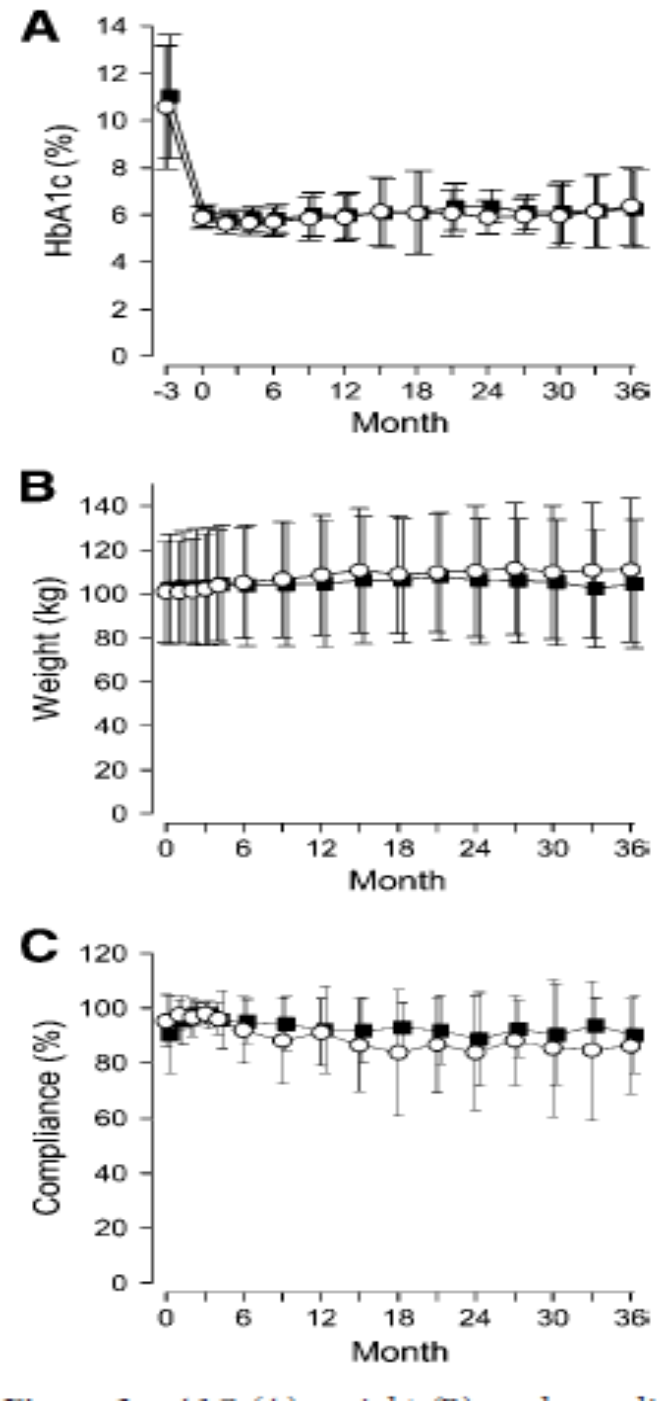
ORIGINAL ARTICLE

β-Cell Function Preservation After 3.5 Years of Intensive Diabetes Therapy

LINDSAY B. HARRISON, MD[1]
BEVERLEY ADAMS-HUET, MS[2]
PHILIP RASKIN, MD[1]
ILDIKO LINGVAY, MD, MPH, MSCS[1]

Diabetes Care
35: 1406-1412, 2012


Yeni teşhis Tip 2 DM
25-70 yaş arası 58 hasta
3 ay
0.2 U/kg bifazik aspart + metformin
Insulin-metformin devam
Gluburid-Pio-Metformin
3 yıla kadar takip



İlk 3 aydaki insulin-metformin kombinasyonu glukotoksisiteyi kırıp beta hücreleri üzerinde koruyucu etki sağlamıştır. Sonrasında bu olumlu etki uzun aylar boyunca devam etmiştir

Diabetes Care Symposium

ORIGINAL ARTICLE

β-Cell Function Preservation After 3.5 Years of Intensive Diabetes Therapy

LINDSAY B. HARRISON, MD[1]
BEVERLEY ADAMS-HUET, MS[2]
PHILIP RASKIN, MD[1]
ILDIKO LINGVAY, MD, MPH, MSCS[1]

Diabetes Care
35: 1406-1412, 2012

Tanı anında insulin tedavisinin uygulanması, daha sonra insulinle devam edilsin veya edilmesin uzun yıllar beta hücre fonksiyonlarının devam etmesinde çok önemlidir

Erken ve agresif tedavi yapmalıyız,

çünkü …..

NEJM 359; 1577-89, 2008

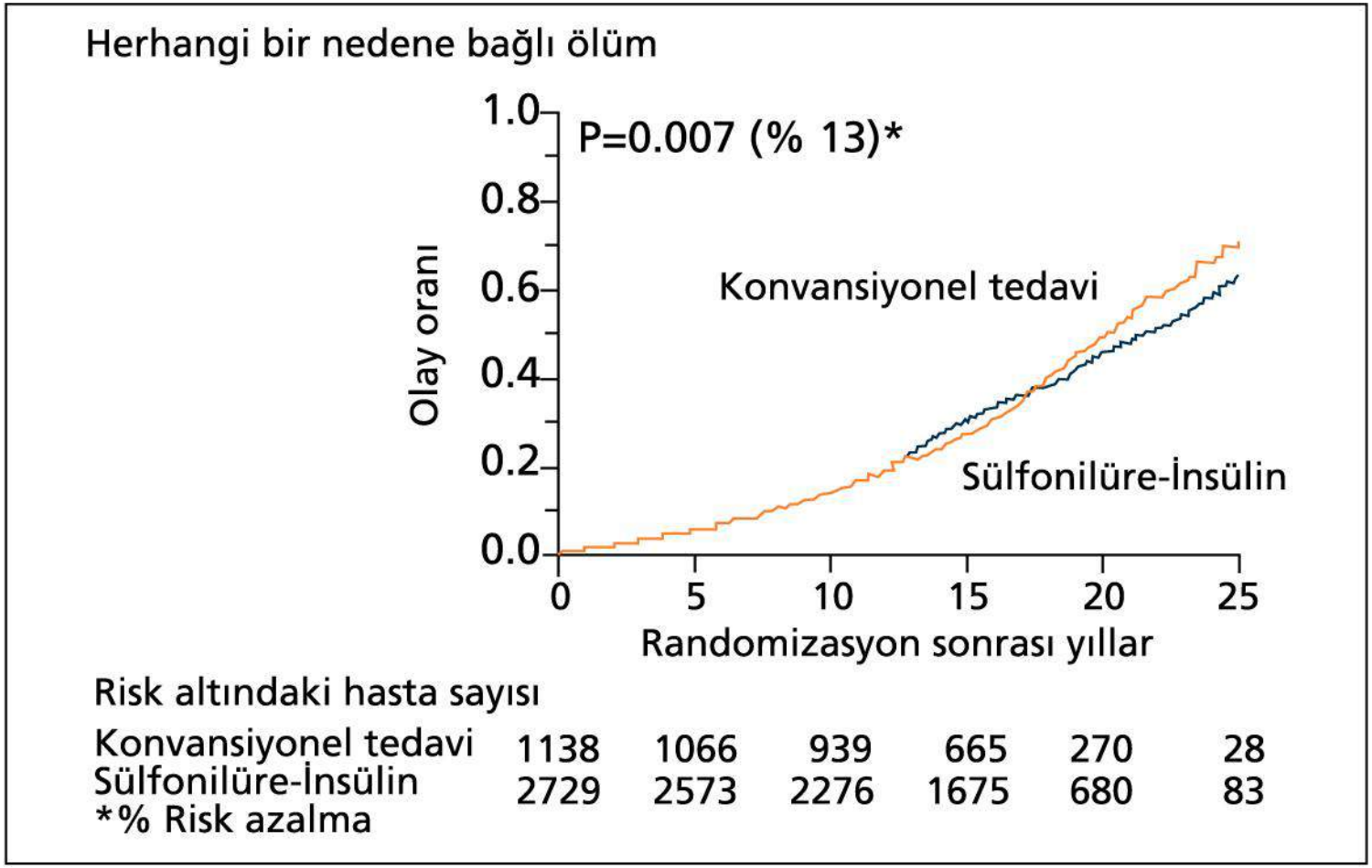
The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

10-Year Follow-up of Intensive Glucose Control in Type 2 Diabetes

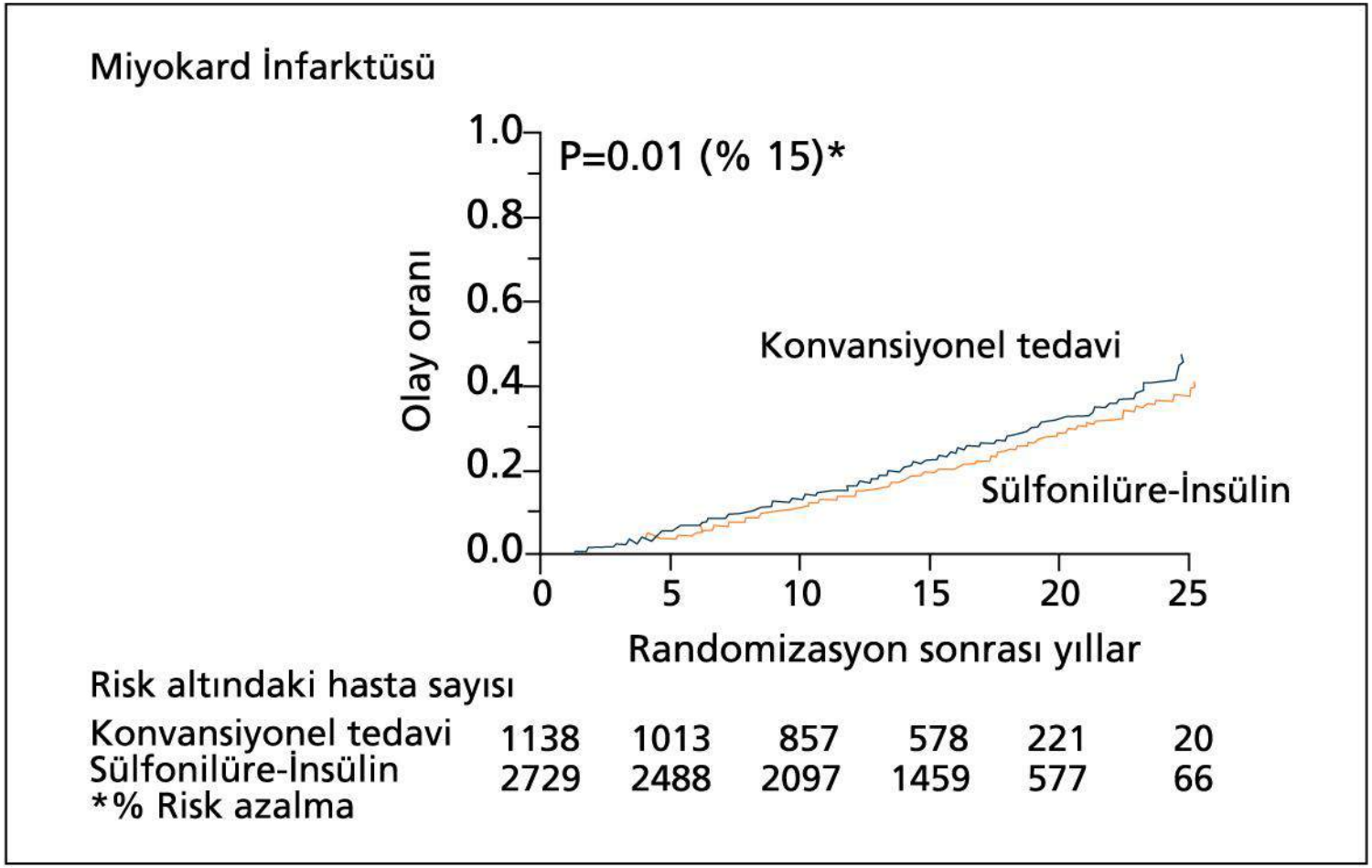
Rury R. Holman, F.R.C.P., Sanjoy K. Paul, Ph.D., M. Angelyn Bethel, M.D., David R. Matthews, F.R.C.P., and H. Andrew W. Neil, F.R.C.P.

UKPDS 10YIL SONRA



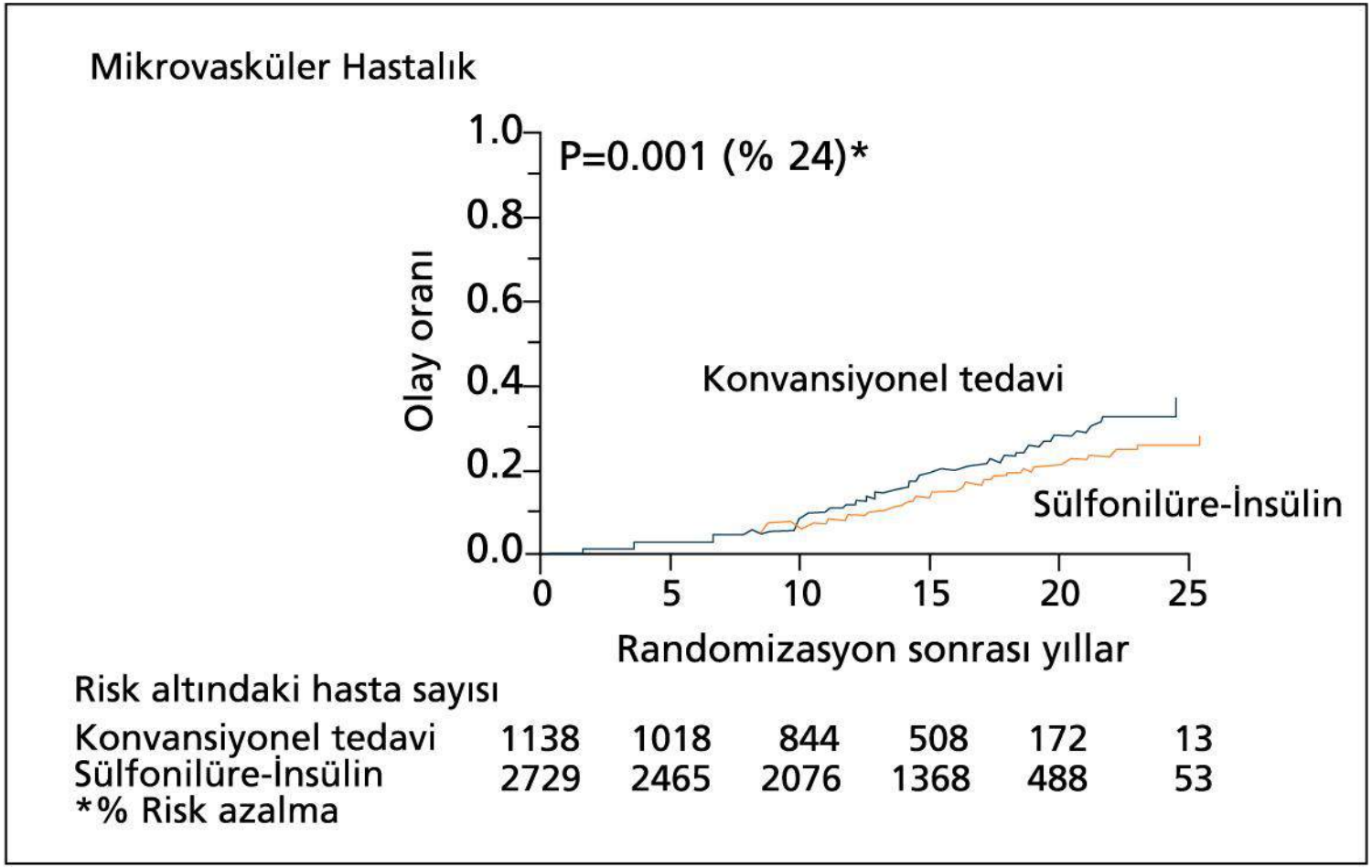
NEJM;359;15 October,9; 2008

UKPDS 10YIL SONRA



NEJM;359;15 October,9; 2008

UKPDS 10YIL SONRA



NEJM;359;15 October,9; 2008

SPECIAL FEATURE

Clinical Review

The "Metabolic Memory": Is More Than Just Tight Glucose Control Necessary to Prevent Diabetic Complications?

Antonio Ceriello, Michael A. Ihnat, and Jessica E. Thorpe

Warwick Medical School (A.C.), University of Warwick, Coventry CV2 2DX, United Kingdom; Istituto Nazionale Ricovero e Cura Anziani (A.C.), Diabetes Unit, 60129 Ancona, Italy; and Department of Cell Biology (M.A.I., J.E.T.), University of Oklahoma Health Sciences Center, Oklahoma, City, Oklahoma 73104

. (*J Clin Endocrinol Metab* 94: 410–415, 2009)

Epidemiology of Diabetes Interventions and Complications (EDIC) verileri ile başlangıçta kan şekerinin iyi regule edilmesi ilerleyen yıllarda kan şekerinin regulasyonunu kolaylaştırmakta, ayrıca komplikasyonları azaltmaktadır. Bu nedenle tedavinin ilk yıllarındaki başarı gelecekteki komplikasyonlar üzerinde çok önemlidir.

SPECIAL FEATURE

Clinical Review

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. (*J Clin Endocrinol Metab* 94: 410–415, 2009)

Erken dönemde iyi regulasyon sağlanmalı, iyi regulasyonun önünde ciddi bir engel olan gecikmiş insülin tedavisine izin verilmemelidir

Agresif glukoz kontrolu riskli mi?

ADVANCE

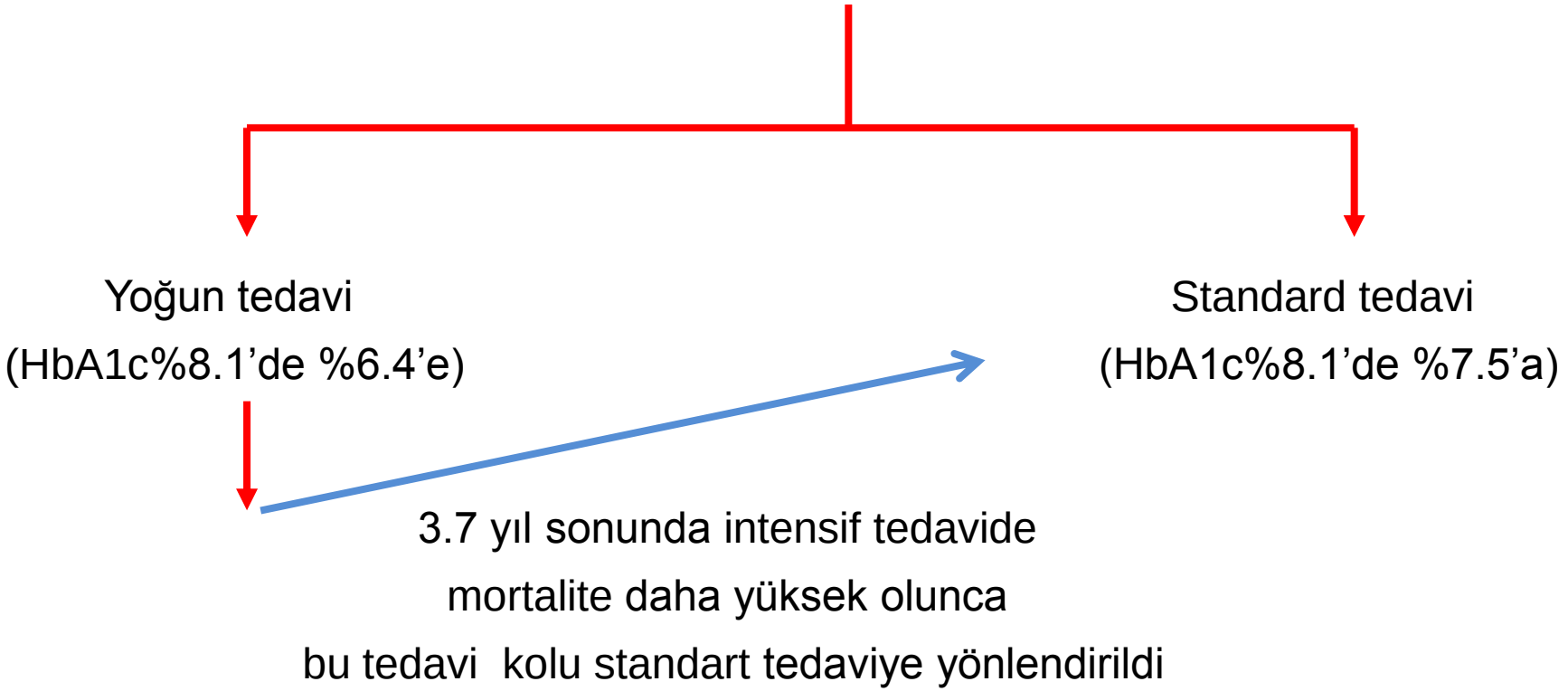
VADT

ACCORD

ACCORD (Action to Control Cardiovascular Risk in Diabetes)

10251 hasta, ortalama yaş 62 ve ortalama 10 yıllık DM

%35 başlangıçta CVS hastalığı var



NEJM 358: 2545-2559, 2008

Diabetologia (2014) 57:2030–2037
DOI 10.1007/s00125-014-3318-5

ARTICLE

Durable change in glycaemic control following intensive management of type 2 diabetes in the ACCORD clinical trial

Zubin Punthakee · Michael E. Miller · Debra L. Simmons · Matthew C. Riddle · Faramarz Ismail-Beigi · David J. Brillon · Richard M. Bergenstal · Peter J. Savage · Irene Hramiak · Joseph F. Largay · Ajay Sood · Hertzel C. Gerstein · for the ACCORD Group of Investigators

Standart tedaviye dönen vakaların %20'si 1.1 yıl sonunda hala A1c<6.5

Bu da ileri dönemlerde dahi reversibl beta hücre fonksiyonları olabileceğini gösterdi

Lancet 384: 1936-1941, 2014

Effects of intensive glycaemic control on ischaemic heart disease: analysis of data from the randomised, controlled ACCORD trial

Hertzel C Gerstein, Michael E Miller, Faramarz Ismail-Beigi, Joe Largay, Charlotte McDonald, Heather A Lochnan, Gillian L Booth, for the ACCORD Study Group

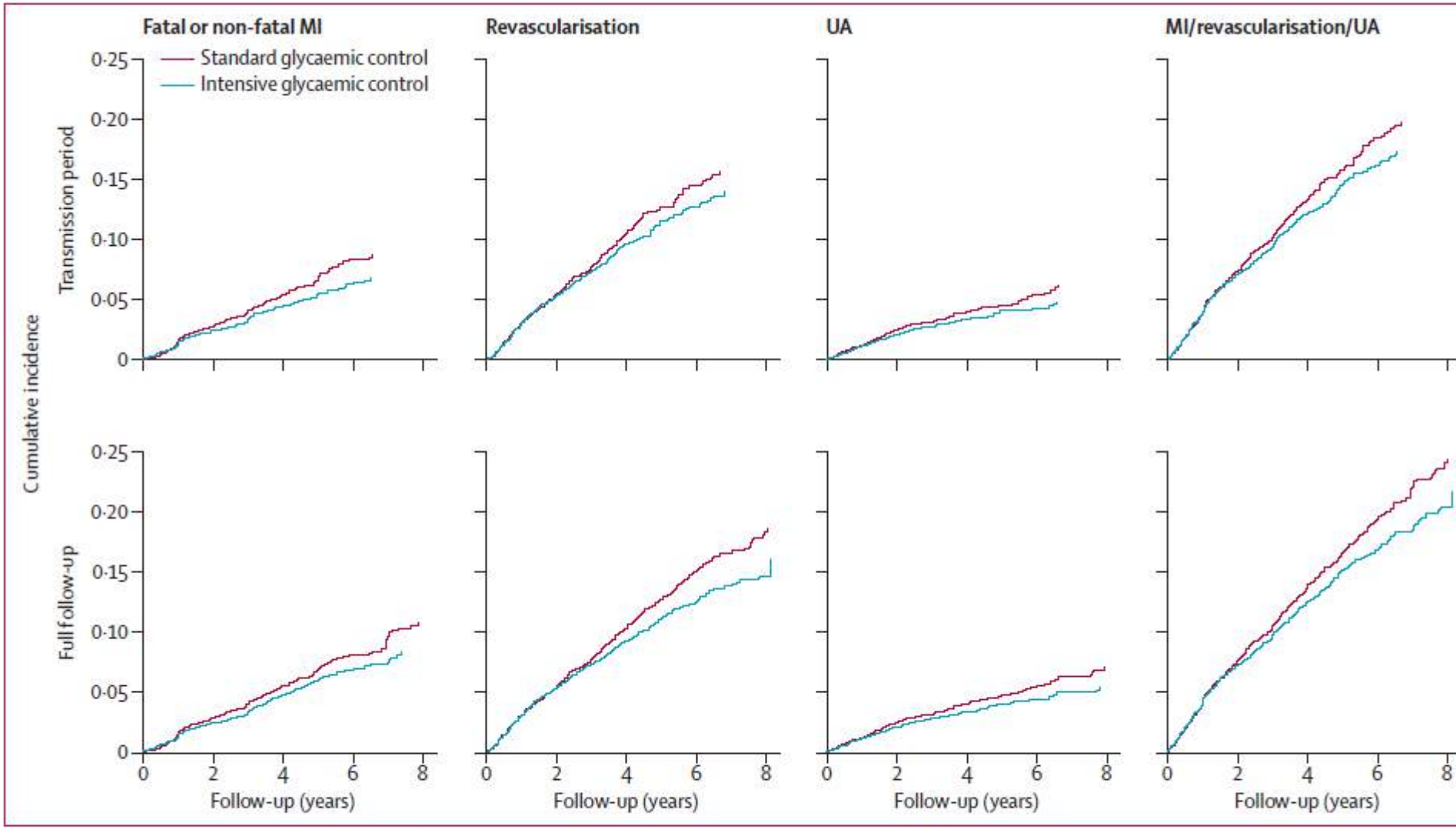


Figure 2: **Cumulative incidence of ischaemic heart disease outcomes up to treatment transition and up to the end of the study**
The data up to treatment transition take into account competing risk due to death. MI=myocardial infarction. UA=unstable angina.

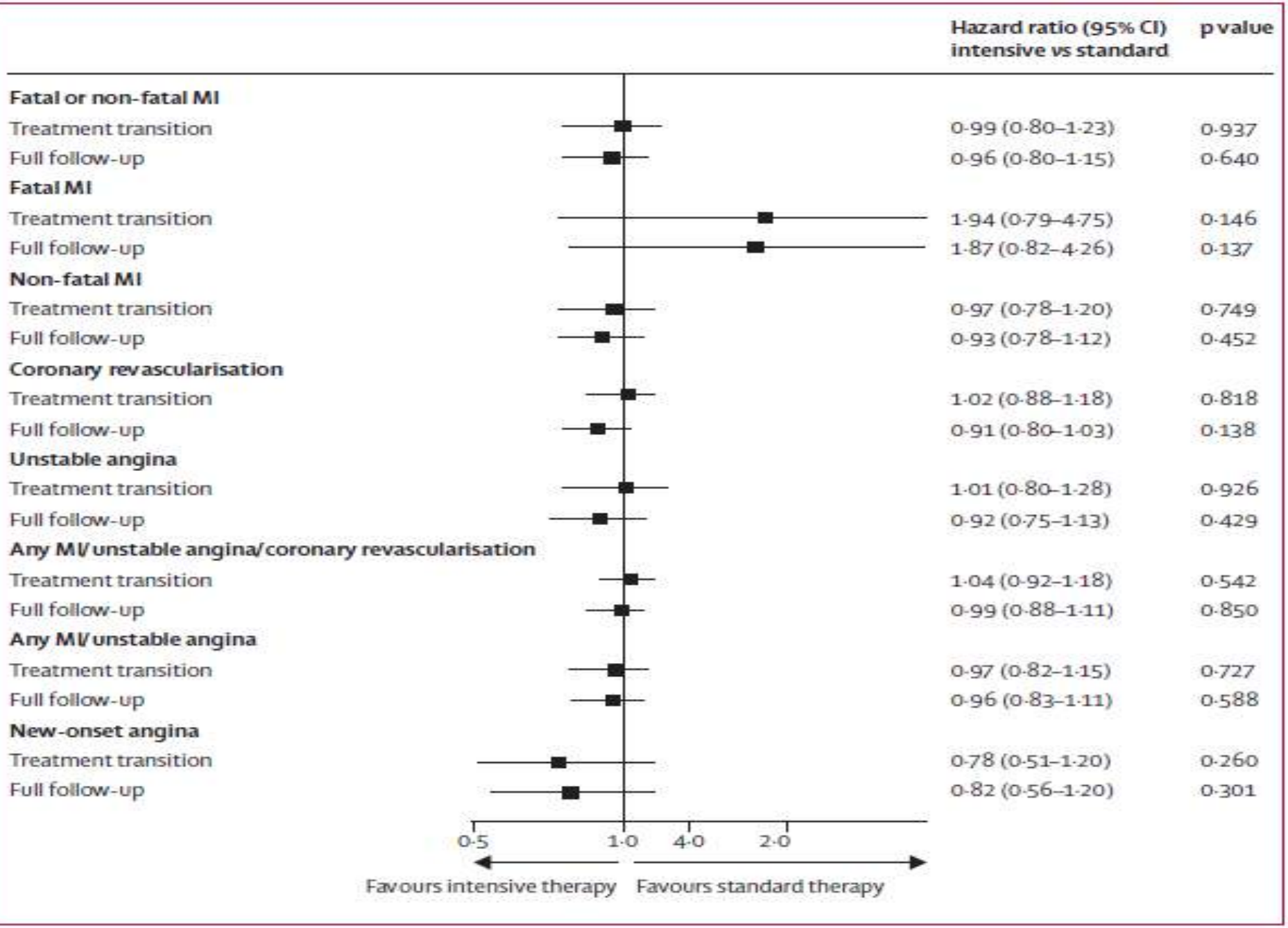


Figure 3: **Risk of ischaemic heart disease events after adjustment for glycated haemoglobin A_{1c} concentrations achieved during active treatment, by follow-up period**

BMJ

2010

RESEARCH

The association between symptomatic, severe hypoglycaemia and mortality in type 2 diabetes: retrospective epidemiological analysis of the ACCORD study

Denise E Bonds, medical officer,[1] Michael E Miller, professor of biostatistics,[2] Richard M Bergenstal, executive director,[3] John B Buse, professor of medicine,[4] Robert P Byington, professor of epidemiology and prevention,[2] Jeff A Cutler, research consultant,[1] R James Dudl, diabetes clinical lead,[5] Faramarz Ismail-Beigi, professor of medicine,[6] Angela R Kimel, research associate,[2] Byron Hoogwerf, clinical research physician,[7,8] Karen R Horowitz, associate professor of medicine,[6] Peter J Savage, senior advisor for clinical diabetes studies,[9] Elizabeth R Seaquist, professor of medicine,[10] Debra L Simmons, associate professor of medicine,[11,12] William I Sivitz, professor of medicine,[13] Joann M Speril-Hillen, senior clinical investigator,[14] Mary Ellen Sweeney, associate professor of medicine[15,16]

[1]National Heart, Lung, and Blood Institute, National Institutes of Health, Bethesda, MD 20892, USA

[2]Division of Public Health Sciences, Wake Forest University Health Sciences, Winston-Salem, NC 27157-1063, USA

Table 1 | Mortality, proportion deceased, and episodes of hypoglycaemia among all participants and by study arm

	Deaths (deceased/n (%))			Hazard ratio: intensive versus standard glycaemia control (results from Cox models with number of hypoglycaemic events as a time dependent covariate)
	All participants	Standard group	Intensive group	
All participants	451/10 194 (4.40)	197/5088 (3.87)	254/5106 (4.97)	
Hypoglycaemic events requiring any assistance, medical or non-medical (HA)				Test of interaction: number of hypoglycaemic events versus glycaemia control arm (P=0.2264)
Participants with no events	377/9122 (4.13)	176/4832 (3.64)	201/4090 (4.69)	1.21 (0.99 to 1.48)
Participants with at least one event	74/1072 (6.90)	21/256 (8.20)	53/816 (6.49)	—
One event	47/704 (6.68)	13/176 (7.39)	34/528 (6.44)	0.84 (0.44 to 1.60)
Two events	14/196 (7.14)	4/51 (7.84)	10/145 (6.90)	0.71 (0.22 to 2.25)
Three events or more	13/172 (7.56)	4/29 (13.79)	9/143 (6.29)	0.44 (0.14 to 1.43)

Table 1 | Mortality, proportion deceased, and episodes of hypoglycaemia among all participants and by study arm

	Deaths (deceased/n (%))			Hazard ratio: intensive versus standard glycaemia control (results from Cox models with number of hypoglycaemic events as a time dependent covariate)
	All participants	Standard group	Intensive group	
All participants	451/10 194 (4.40)	197/5088 (3.87)	254/5106 (4.97)	
Hypoglycaemic events requiring medical assistance (HMA)				Test of interaction: number of hypoglycaemic events versus glycaemia control arm (P=0.0494)
Participants with no events	400/9491 (4.21)	180/4913 (3.66)	220/4578 (4.81)	1.25 (1.03 to 1.52)
Participants with at least one event	51/703 (7.25)	17/175 (9.71)	34/528 (6.43)	—
One event	36/529 (6.81)	11/132 (8.33)	25/397 (6.30)	0.63 (0.31 to 1.28)
Two events	6/115 (5.22)	3/33 (9.09)	3/82 (3.66)	0.30 (0.06 to 1.51)
Three events or more	9/59 (15.25)	3/10 (30.00)	6/49 (12.24)	0.45 (0.11 to 1.81)

0.31 to 0.99). Of the 451 deaths that occurred in ACCORD up to the time when the intensive treatment arm was closed, one death was adjudicated as definitely related to hypoglycaemia.

Conclusion Symptomatic, severe hypoglycaemia was associated with an increased risk of death within each study arm. However, among participants who experienced at least one episode of hypoglycaemia, the risk of death was lower in such participants in the intensive arm than in the standard arm. Symptomatic, severe hypoglycaemia does not appear to account for the difference in mortality between the two study arms up to the time when the ACCORD intensive glycaemia arm was discontinued.

Trial registration NCT00000620.

BMJ

BMJ 2011;343:d4169 doi: 10.1136/bmj.d4169

RESEARCH

Effect of intensive glucose lowering treatment on all cause mortality, cardiovascular death, and microvascular events in type 2 diabetes: meta-analysis of randomised controlled trials

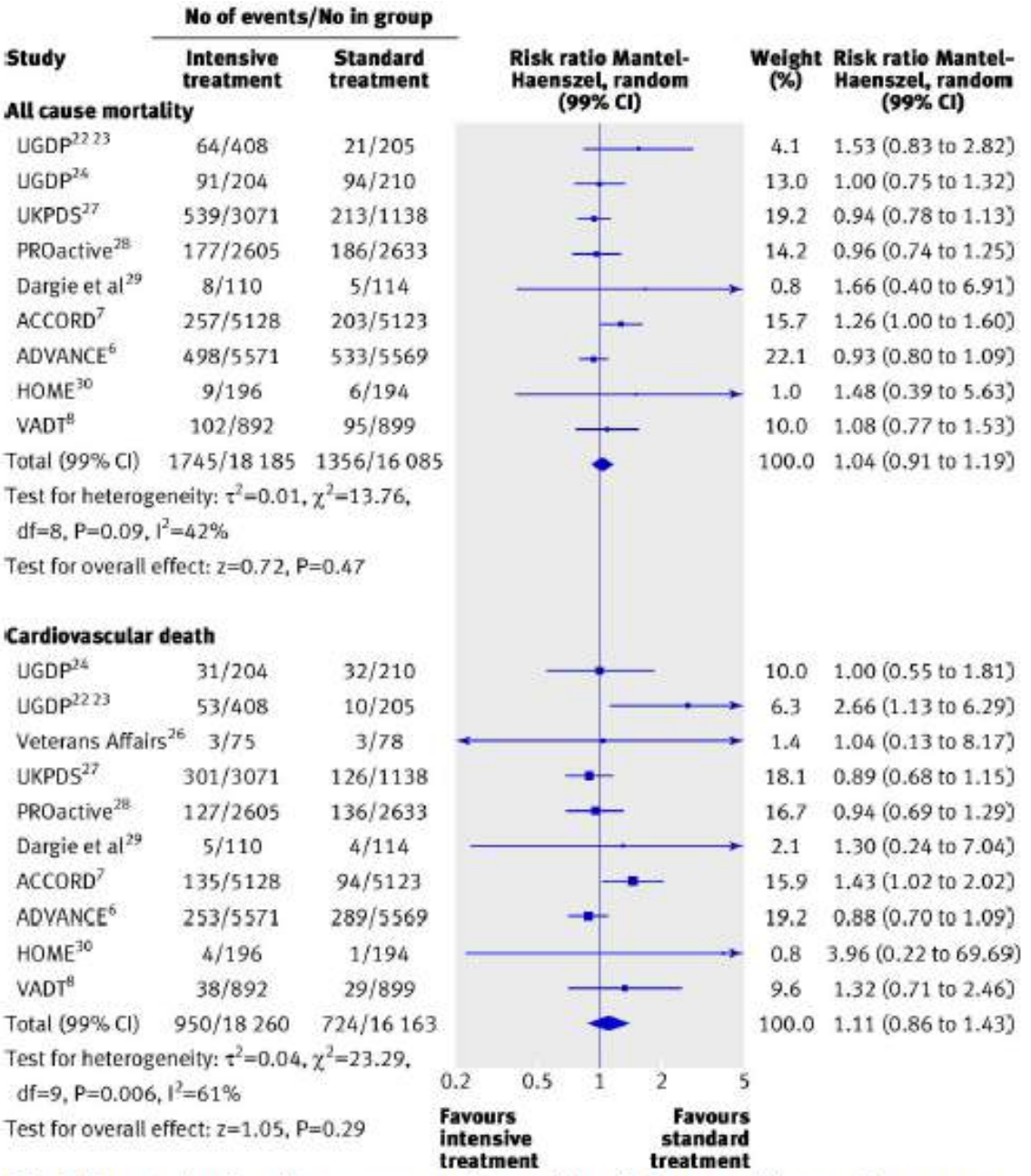
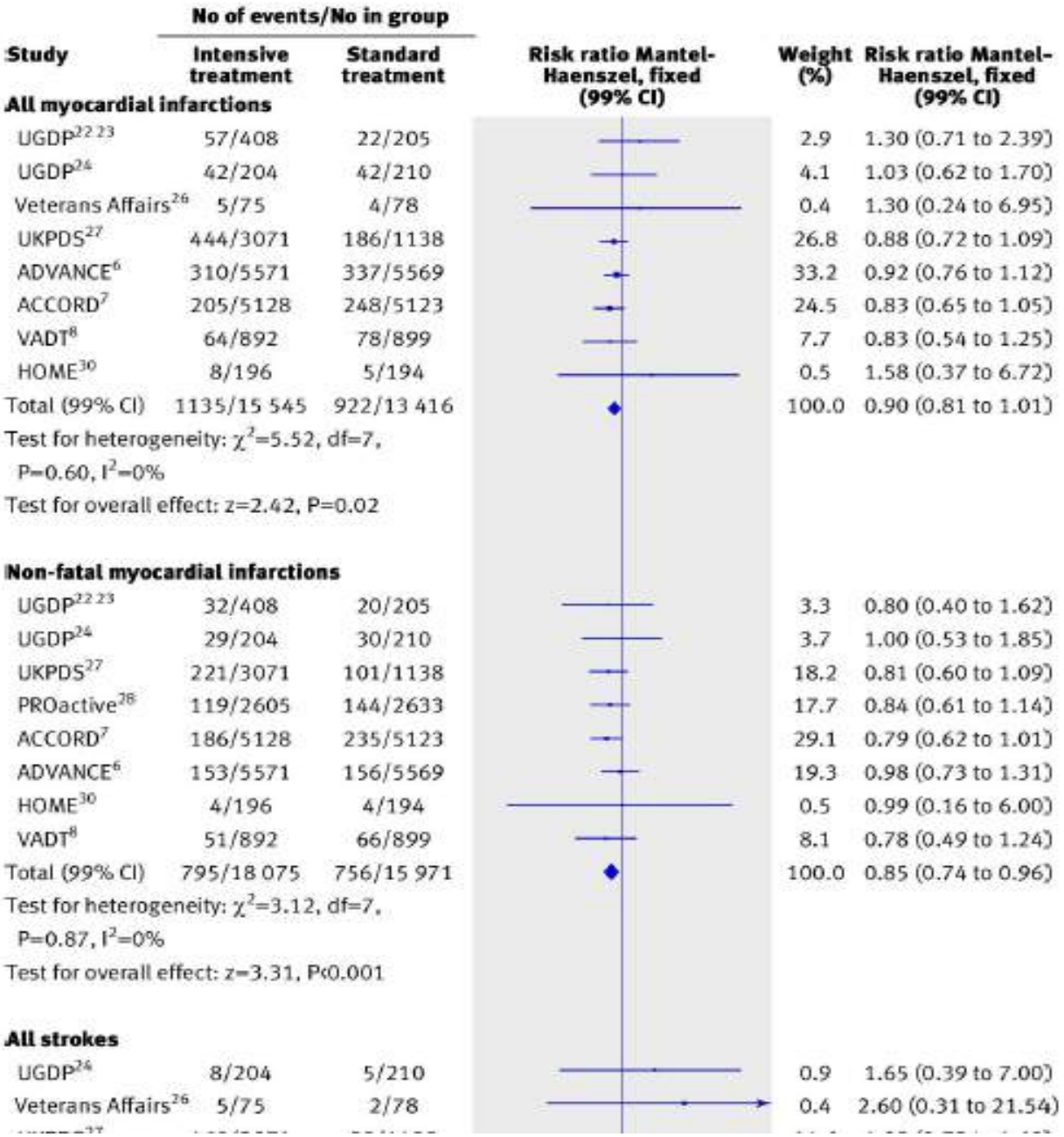


Fig 2 Forest plot for all cause mortality and death from cardiovascular causes


No of events/No in group
Study
Intensive treatment
Standard treatment
Risk ratio Mantel-Haenszel, fixed (99% CI)
Weight (%)
Risk ratio Mantel-Haenszel, fixed (99% CI)
All myocardial infarctions
UGDP[22 23] 57/408 22/205 2.9 1.30 (0.71 to 2.39)
UGDP[24] 42/204 42/210 4.1 1.03 (0.62 to 1.70)
Veterans Affairs[26] 5/75 4/78 0.4 1.30 (0.24 to 6.95)
UKPDS[27] 444/3071 186/1138 26.8 0.88 (0.72 to 1.09)
ADVANCE[6] 310/5571 337/5569 33.2 0.92 (0.76 to 1.12)
ACCORD[7] 205/5128 248/5123 24.5 0.83 (0.65 to 1.05)
VADT[8] 64/892 78/899 7.7 0.83 (0.54 to 1.25)
HOME[30] 8/196 5/194 0.5 1.58 (0.37 to 6.72)
Total (99% CI) 1135/15 545 922/13 416 100.0 0.90 (0.81 to 1.01)
Test for heterogeneity: χ^2=5.52, df=7, P=0.60, I^2=0%
Test for overall effect: z=2.42, P=0.02
Non-fatal myocardial infarctions
UGDP[22 23] 32/408 20/205 3.3 0.80 (0.40 to 1.62)
UGDP[24] 29/204 30/210 3.7 1.00 (0.53 to 1.85)
UKPDS[27] 221/3071 101/1138 18.2 0.81 (0.60 to 1.09)
PROactive[28] 119/2605 144/2633 17.7 0.84 (0.61 to 1.14)
ACCORD[7] 186/5128 235/5123 29.1 0.79 (0.62 to 1.01)
ADVANCE[6] 153/5571 156/5569 19.3 0.98 (0.73 to 1.31)
HOME[30] 4/196 4/194 0.5 0.99 (0.16 to 6.00)
VADT[8] 51/892 66/899 8.1 0.78 (0.49 to 1.24)
Total (99% CI) 795/18 075 756/15 971 100.0 0.85 (0.74 to 0.96)
Test for heterogeneity: χ^2=3.12, df=7, P=0.87, I^2=0%
Test for overall effect: z=3.31, P<0.001
All strokes
UGDP[24] 8/204 5/210 0.9 1.65 (0.39 to 7.00)
Veterans Affairs[26] 5/75 2/78 0.4 2.60 (0.31 to 21.54)

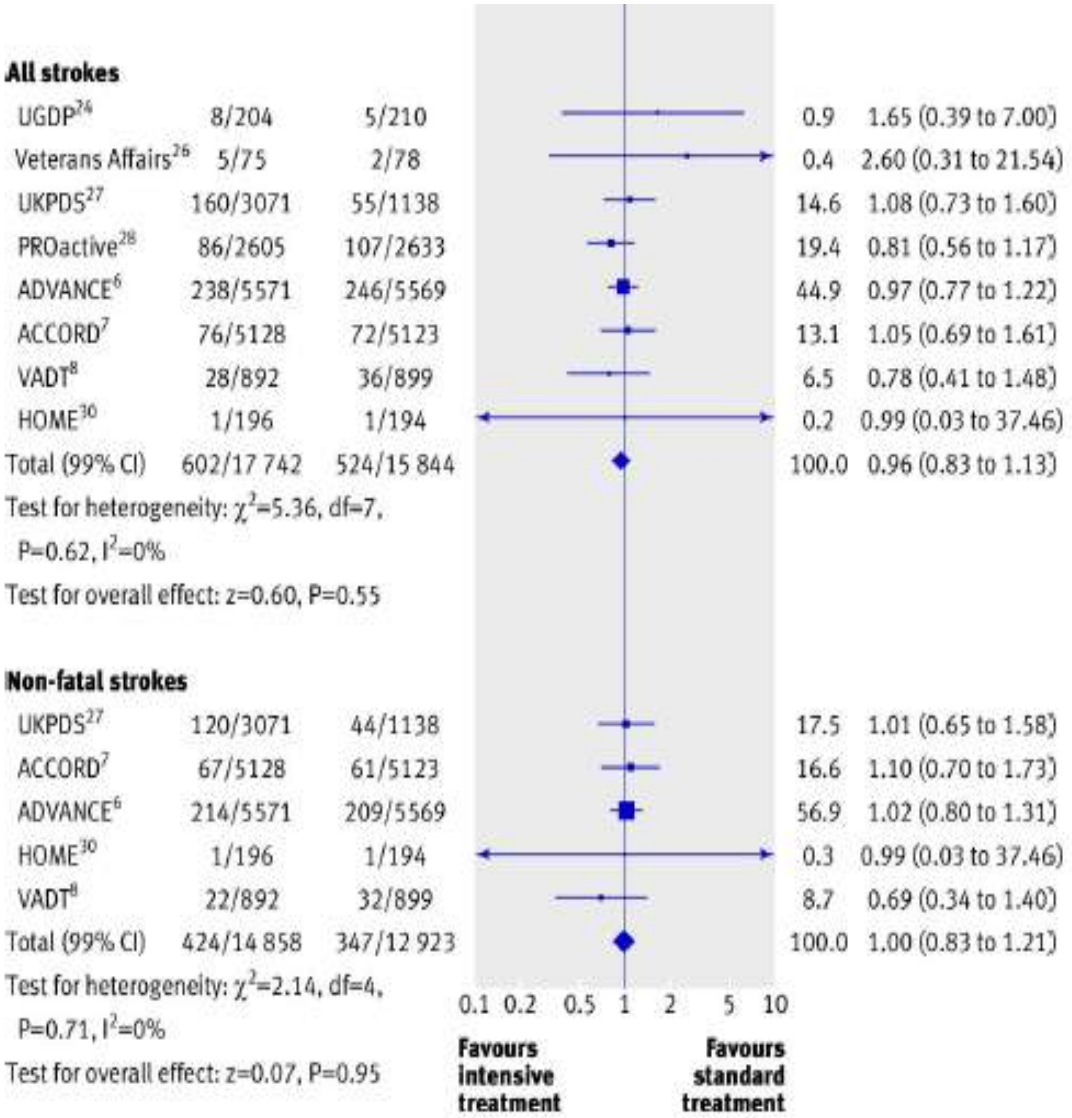


Fig 3 Forest plot for macrovascular events: myocardial infarction (fatal and non-fatal) and stroke (fatal and non-fatal). Data on myocardial infarctions not available for PROactive[28]

Published in final edited form as:
Arch Intern Med. 2012 May 28; 172(10): 761–769. doi:10.1001/archinternmed.2011.2230.

Role of Intensive Glucose Control in Development of Renal Endpoints in Type 2 Diabetes: Systematic Review and Meta-analysis

Steven G. Coca, DO, MS[1,2], **Faramarz Ismail-Beigi, MD, PhD**[3], **Nowreen Haq, MD, MPH**[4], **Harlan M. Krumholz, MD, SM**[1,5,6,7], and **Chirag R. Parikh, MD, PhD**[1,2]

[1]Department of Internal Medicine, Yale University School of Medicine, New Haven, CT, USA

[2]Clinical Epidemiology Research Center, VA Connecticut, West Haven, CT

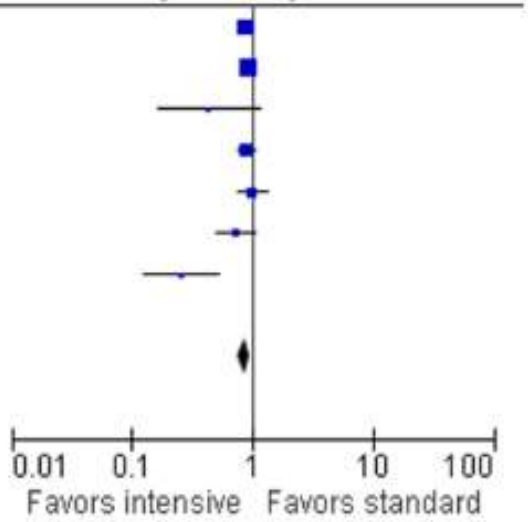
[3]Department of Internal Medicine, Case Western Reserve University, and VA Medical Center, Cleveland, OH, USA

A. Microalbuminuria

Study or Subgroup	Intensive Therapy Events	Total	Standard Therapy Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
ACCORD	720	3250	828	3273	27.3%	0.88 [0.80, 0.96]
ADVANCE	1318	5571	1434	5569	29.3%	0.92 [0.86, 0.98]
Kumamoto	5	52	11	50	1.3%	0.44 [0.16, 1.17]
UKPDS 33	368	2277	172	938	19.6%	0.88 [0.75, 1.04]
UKPDS 34	79	342	95	411	12.2%	1.00 [0.77, 1.30]
VADT	43	442	61	463	7.6%	0.74 [0.51, 1.07]
VADT Feasibility Trial	7	42	30	46	2.5%	0.26 [0.13, 0.52]
Total (95% CI)		**11976**		**10750**	**100.0%**	**0.86 [0.76, 0.96]**
Total events	2540		2631			

Heterogeneity: Tau² = 0.01; Chi² = 16.71, df = 6 (P = 0.01); I² = 64%

Test for overall effect: Z = 2.60 (P = 0.009)

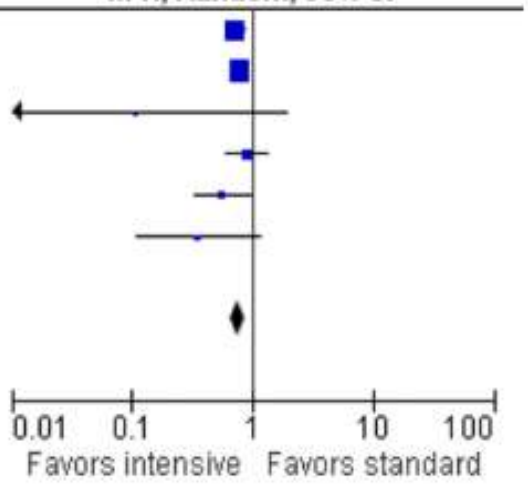


B. Macroalbuminuria

Study or Subgroup	Intensive Therapy Events	Total	Standard Therapy Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
ACCORD	195	4397	272	4424	39.3%	0.72 [0.60, 0.86]
ADVANCE	230	5571	292	5569	42.5%	0.79 [0.67, 0.93]
Kumamoto	0	52	4	50	0.2%	0.11 [0.01, 1.94]
UKPDS 33	72	2277	33	938	10.4%	0.90 [0.60, 1.35]
VADT	20	693	36	703	6.2%	0.56 [0.33, 0.96]
VADT Feasibility Trial	3	24	10	28	1.4%	0.35 [0.11, 1.13]
Total (95% CI)		**13014**		**11712**	**100.0%**	**0.74 [0.65, 0.85]**
Total events	520		647			

Heterogeneity: Tau² = 0.00; Chi² = 5.73, df = 5 (P = 0.33); I² = 13%

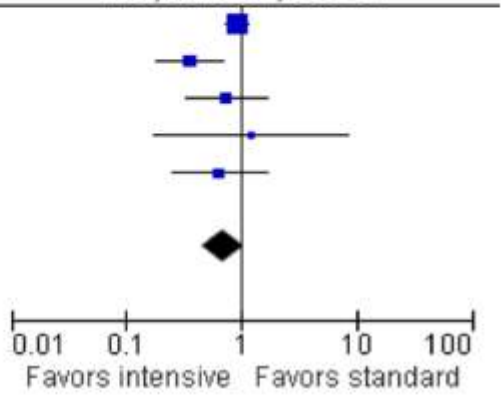
Test for overall effect: Z = 4.24 (P < 0.0001)



B. ESRD

Study or Subgroup	Intensive Therapy Events	Total	Standard Therapy Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
ACCORD	138	5119	151	5115	43.2%	0.91 [0.73, 1.15]
ADVANCE	11	5571	31	5569	21.2%	0.35 [0.18, 0.70]
UKPDS 33	16	2729	9	1138	17.3%	0.74 [0.33, 1.67]
UKPDS 34	2	342	2	411	4.2%	1.20 [0.17, 8.49]
VADT	7	882	11	884	14.1%	0.64 [0.25, 1.64]
Total (95% CI)		**14643**		**13117**	**100.0%**	**0.69 [0.46, 1.05]**
Total events	174		204			

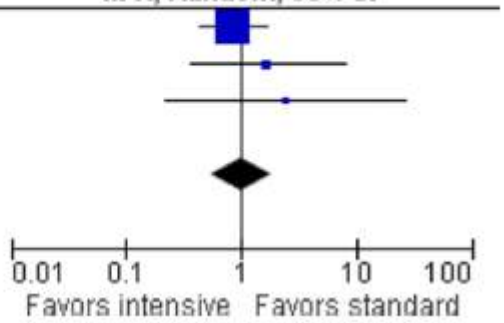
Heterogeneity: Tau² = 0.09; Chi² = 7.08, df = 4 (P = 0.13); I² = 43%
Test for overall effect: Z = 1.72 (P = 0.09)



C. Death from Renal Disease

Study or Subgroup	Intensive Therapy Events	Total	Standard Therapy Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
ADVANCE	16	5571	19	5569	79.3%	0.84 [0.43, 1.64]
UKPDS 33	8	2728	2	1138	14.6%	1.67 [0.35, 7.85]
UKPDS 34	2	342	1	411	6.1%	2.40 [0.22, 26.39]
Total (95% CI)		**8641**		**7118**	**100.0%**	**0.99 [0.55, 1.79]**
Total events	26		22			

Heterogeneity: Tau² = 0.00; Chi² = 1.19, df = 2 (P = 0.55); I² = 0%
Test for overall effect: Z = 0.03 (P = 0.98)



SONUÇ

Başlangıç ilaç tedavisi

İkili kombinasyonlar

Üçlü ilaç kombinasyonları

Daha karmaşık insülin stratejileri

Sağlıklı Beslenme, Kilo Kontrolü, Fiziksel Aktivitede Artış

	Metformin
Etkinlik (HbA1C)	Yüksek
Hipoglisemi	Düşük risk
Kilo	Aynı/Azalma
Advers olaylar	GI/Laktik asidoz
Maliyet	Düşük

Yaklaşık 3 ayın sonunda kişiye yönelik olarak belirlenmiş HbA1c hedefine ulaşılmamış ise, ikili kombinasyon tedavisine geçin.
(Bu geçişte hastanın tercihleri de göz önünde tutulmalıdır.)

	Metformin + Sülfonilüre	Metformin + Tiyazolidin	Metformin + DPP-4 İnhibitörü	Metformin + GLP-1 reseptör agonisti	Metformin + İnsülin (genellikle bazal)
Etkinlik (HbA1C)	Yüksek	Yüksek	Orta düzey	Yüksek	En yüksek
Hipoglisemi	Orta düzeyde risk	Düşük risk	Düşük risk	Düşük risk	Yüksek risk
Kilo	Artış	Artış	Aynı	Kilo kaybı	Artış
En sık görülen advers olay(lar)	Hipoglisemi	Ödem, kalp yetmezliği, sıvı tutulumu	Nadir	GI	Hipoglisemi
Maliyet	Düşük	Yüksek	Yüksek	Yüksek	Değişken

Yaklaşık 3 ayın sonunda kişiye yönelik olarak belirlenmiş HbA_{1c} hedefine ulaşılmamış ise, üçlü kombinasyon tedavisine geçin.
(Bu geçişte hastanın tercihleri de göz önünde tutulmalıdır.)

Metformin + Sülfonilüre	Metformin + Tiyazolidin	Metformin + DPP-4 İnhibitörü	Metformin + GLP-1 reseptör agonisti	Metformin + İnsülin (genellikle bazal)
TZD	SU	SU	SU	TZD
VEYA DPP-4 İnhibitörü	VEYA DPP-4 İnhibitörü	VEYA TZD	VEYA TZD	VEYA DPP-4 İnhibitörü
VEYA GLP-1 RA	VEYA GLP-1 RA	VEYA İnsülin	VEYA İnsülin	VEYA GLP-1 RA
VEYA İnsülin	VEYA İnsülin			

Bazal insülini de içeren kombinasyon tedavileri de 3 - 6 ay sonra hedeflenen HbA_{1c} düzeylerine ulaşmada başarısız olursa, genellikle insülin içermeyen bir veya iki ilacın da kombine edildiği daha komplike bir insülin stratejisine geçin.

İnsülin
(birden fazla günlük enjeksiyon)

Başlangıç ilaç tedavisi

Etkinlik (HbA1C)
Hipoglisemi
Kilo
Advers olaylar
Maliyet

İkili kombinasyonlar

Etkinlik (HbA1C)
Hipoglisemi
Kilo
En sık görülen advers olay(lar)
Maliyet

Üçlü ilaç kombinasyonları

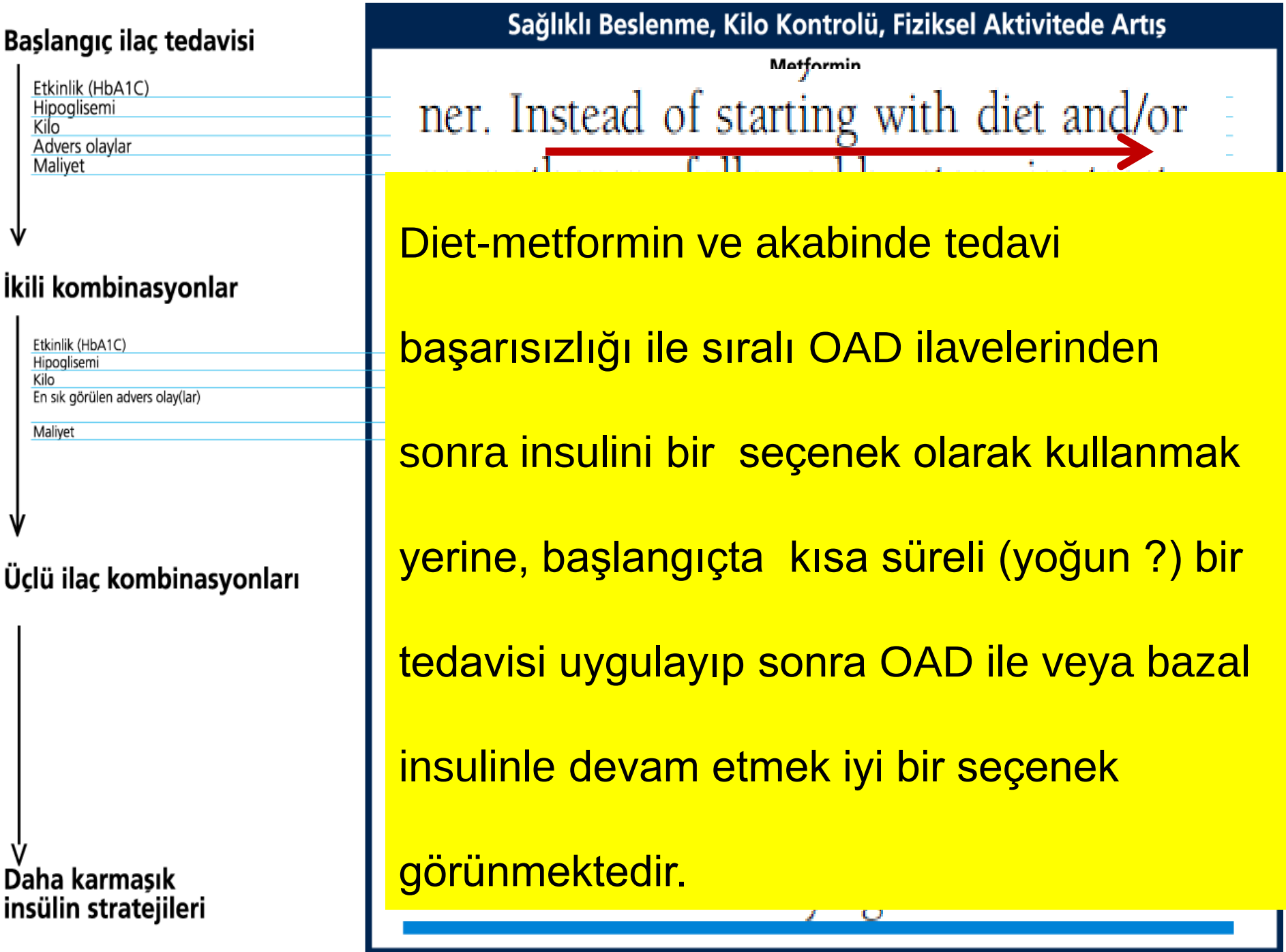
Daha karmaşık insülin stratejileri

Sağlıklı Beslenme, Kilo Kontrolü, Fiziksel Aktivitede Artış

Metformin

ner. Instead of starting with diet and/or monotherapy followed by stepwise treatment escalation when failure is achieved, patients should be treated with an initial period of intensive insulin therapy to maximize β-cell recovery and then either continued on an insulin-based regimen or switched to multiple hypoglycemic medications with complementary mechanisms of action. Either of these strategies will stabilize β-cell function and maintain excellent long-term glucose control, a desirable disease-modifying effect. In addi-

çin.


Başlangıç ilaç tedavisi
Etkinlik (HbA1C)
Hipoglisemi
Kilo
Advers olaylar
Maliyet
İkili kombinasyonlar
Etkinlik (HbA1C)
Hipoglisemi
Kilo
En sık görülen advers olay(lar)
Maliyet
Üçlü ilaç kombinasyonları
Daha karmaşık insülin stratejileri
Sağlıklı Beslenme, Kilo Kontrolü, Fiziksel Aktivitede Artış
Metformin
ner. Instead of starting with diet and/or
Diet-metformin ve akabinde tedavi başarısızlığı ile sıralı OAD ilavelerinden sonra insulini bir seçenek olarak kullanmak yerine, başlangıçta kısa süreli (yoğun ?) bir tedavisi uygulayıp sonra OAD ile veya bazal insulinle devam etmek iyi bir seçenek görünmektedir.

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DTT
Diabetes Technology & Therapeutics

REVIEW

Clinical Evidence for the Earlier Initiation of Insulin Therapy in Type 2 Diabetes

David R. Owens, CBE, MD, FRCP

Yüksek glukozlu ortam beta hücresinde toksik etki gösterir.

Beta hücresinin glukoza bağlı insulin sekresyon kapasitesini azaltır

Erken dönemde insulin vermek beta hücresi üzerinde “dinlendirme” etkisi vardır

Amilin sekresyonunu, dolayısı ile beta hücre ölümünü azaltır

Tip 2 diyabette mikrovaskuler ve makrovaskuler komplikasyonlardan korunmada erken ve agresif tedavi yapmalıyız. Gecikmiş ve/veya yoğun olmayan tedavilerin sonradan başarı şansı azdır.