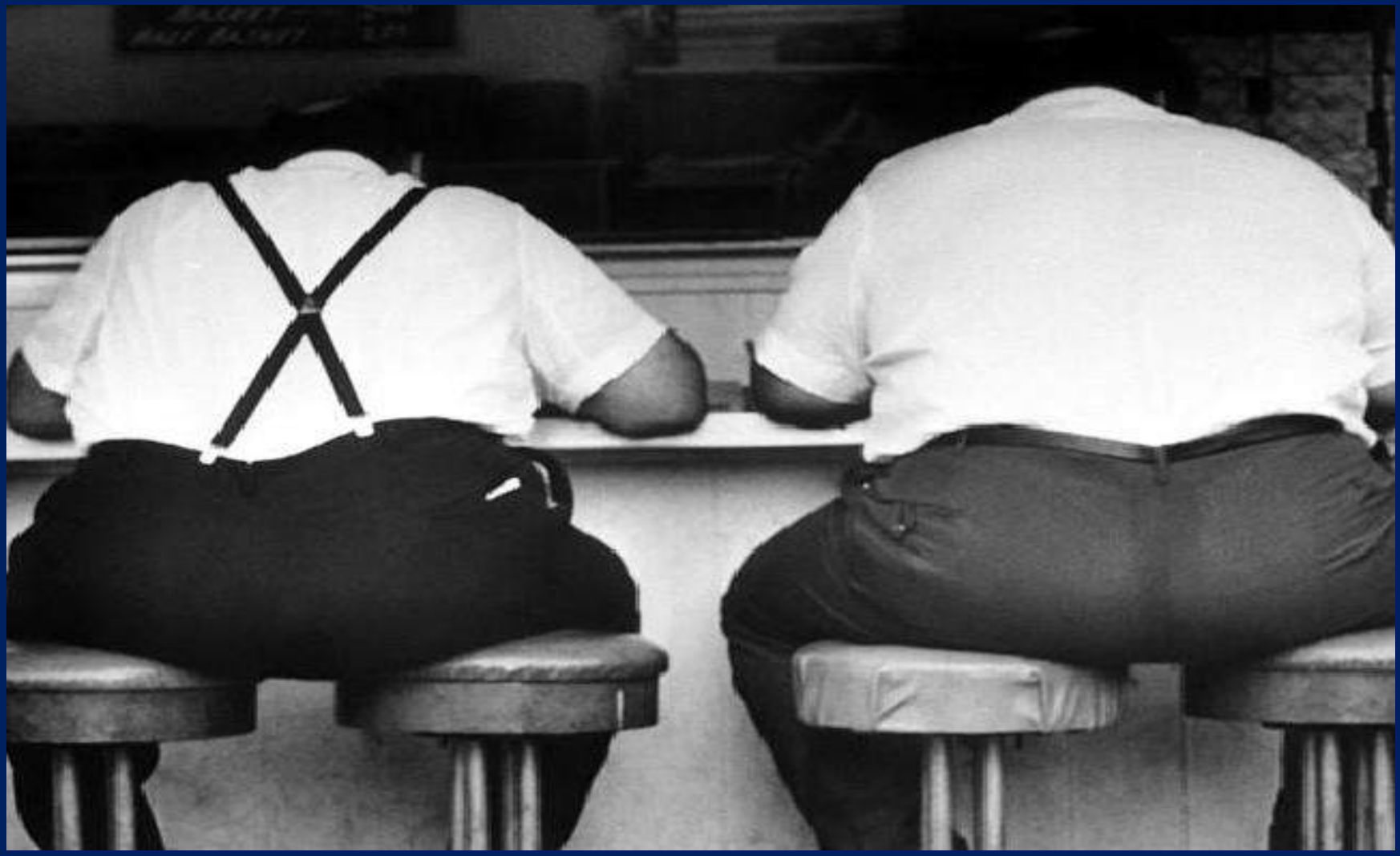
DİRENÇLİ OBEZ HİPERGLİSEMİK TİP 2 DİYABETLİ HASTALARDA TEDAVİ YAKLAŞIMI

Prof. Dr. Engin GÜNEY
Adnan Menderes Üniversitesi Tıp Fakültesi
Endokrinoloji ve Metabolizma Hastalıkları Bilim Dalı

51. ULUSAL DİYABET KONGRESİ / 22-26 NİSAN 2015

OBEZİTE



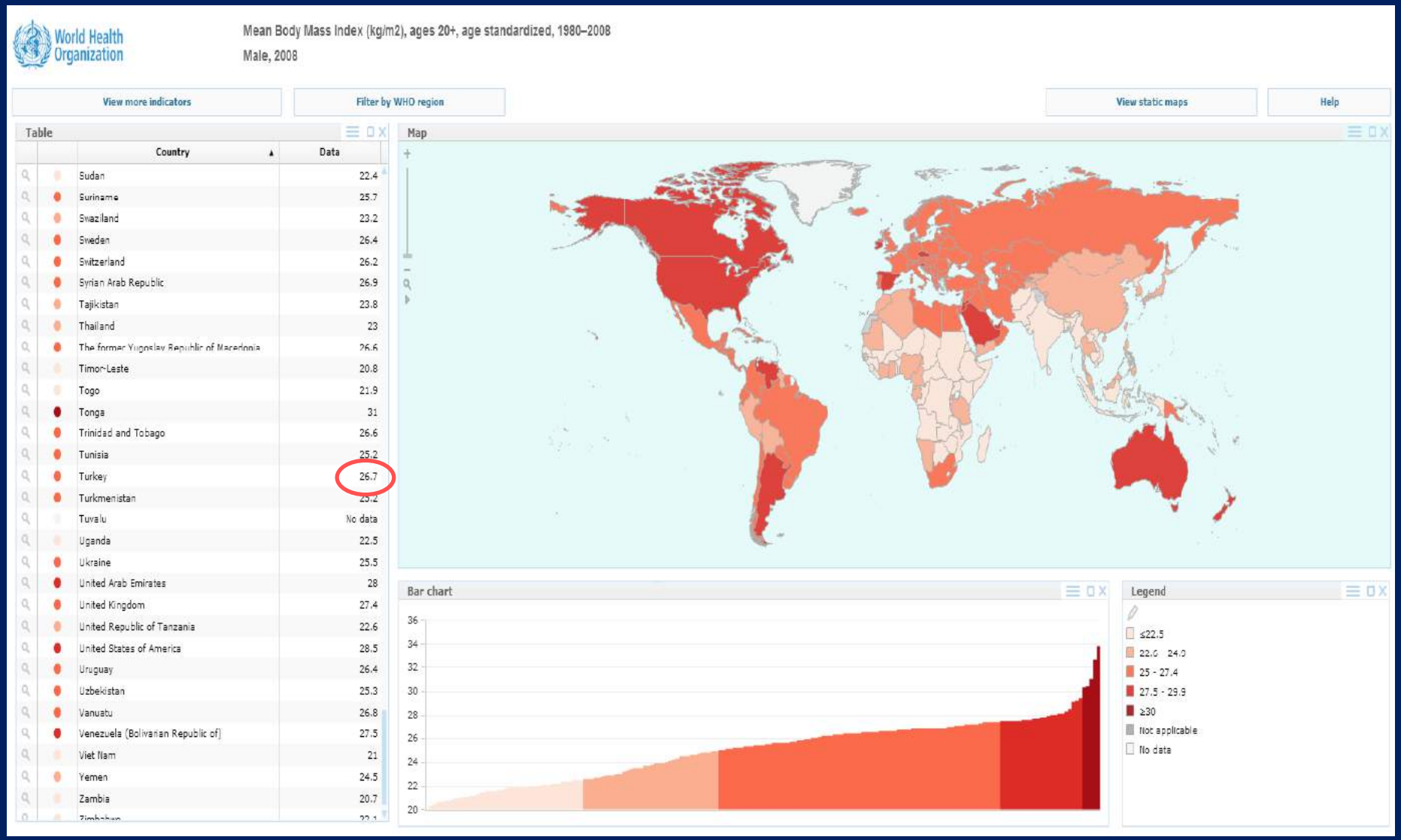
OBEZİTE

- WHO 2014 verileri:
  - 18 yaş üstü
  - VKİ>25 kg/m^2: >1.9 milyar (%39)

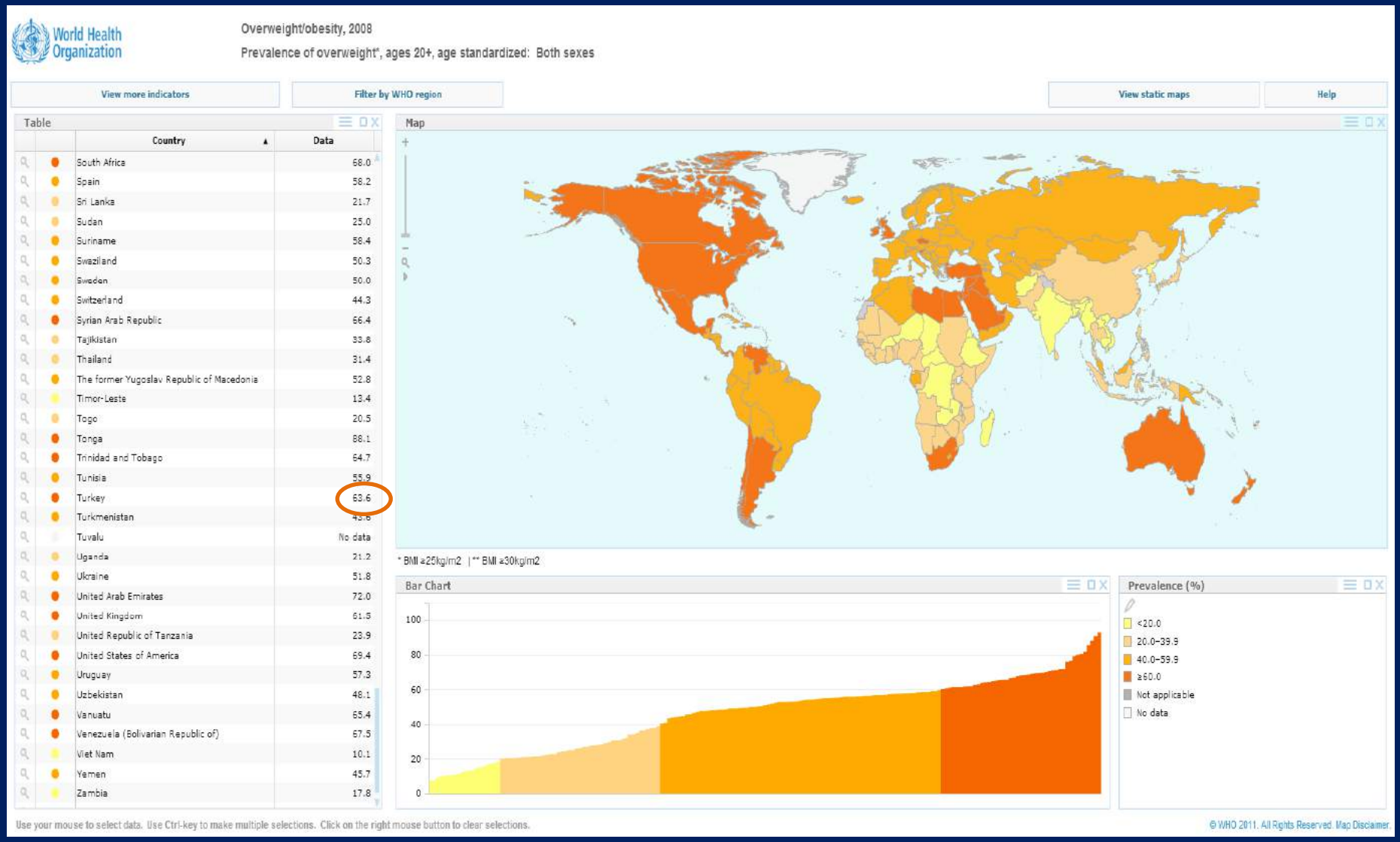
    Kadın: %40 Erkek: %38
  - VKİ>30 kg/m^2: >600 milyon (%13)

    Kadın: %15 Erkek: %11

OBEZİTE


World Health Organization
Mean Body Mass Index (kg/m2), ages 20+, age standardized, 1980–2008
Male, 2008
View more indicators
Filter by WHO region
View static maps
Help
Table
Country
Data
Sudan 22.4
Suriname 25.7
Swaziland 23.2
Sweden 26.4
Switzerland 26.2
Syrian Arab Republic 26.9
Tajikistan 23.8
Thailand 23
The former Yugoslav Republic of Macedonia 26.6
Timor-Leste 20.8
Togo 21.9
Tonga 31
Trinidad and Tobago 26.6
Tunisia 25.2
Turkey 26.7
Turkmenistan 25.2
Tuvalu No data
Uganda 22.5
Ukraine 25.5
United Arab Emirates 28
United Kingdom 27.4
United Republic of Tanzania 22.6
United States of America 28.5
Uruguay 26.4
Uzbekistan 25.3
Vanuatu 26.8
Venezuela (Bolivarian Republic of) 27.5
Viet Nam 21
Yemen 24.5
Zambia 20.7
Map
Bar chart
36
34
32
30
28
26
24
22
20
Legend
≤22.5
22.6 - 24.0
25 - 27.4
27.5 - 29.9
≥30
Not applicable
No data

OBEZİTE


World Health Organization
Overweight/obesity, 2008
Prevalence of overweight*, ages 20+, age standardized: Both sexes
View more indicators
Filter by WHO region
View static maps
Help
Table
Country
Data
South Africa 68.0
Spain 58.2
Sri Lanka 21.7
Sudan 25.0
Suriname 58.4
Swaziland 50.3
Sweden 50.0
Switzerland 44.3
Syrian Arab Republic 66.4
Tajikistan 33.8
Thailand 31.4
The former Yugoslav Republic of Macedonia 52.8
Timor-Leste 13.4
Togo 20.5
Tonga 88.1
Trinidad and Tobago 64.7
Tunisia 55.9
Turkey 63.6
Turkmenistan
Tuvalu No data
Uganda 21.2
Ukraine 51.8
United Arab Emirates 72.0
United Kingdom 61.5
United Republic of Tanzania 23.9
United States of America 69.4
Uruguay 57.3
Uzbekistan 48.1
Vanuatu 65.4
Venezuela (Bolivarian Republic of) 67.5
Viet Nam 10.1
Yemen 45.7
Zambia 17.8
Map
* BMI ≥25kg/m2 | ** BMI ≥30kg/m2
Bar Chart
100
80
60
40
20
0
Prevalence (%)
<20.0
20.0–39.9
40.0–59.9
≥60.0
Not applicable
No data
Use your mouse to select data. Use Ctrl-key to make multiple selections. Click on the right mouse button to clear selections.
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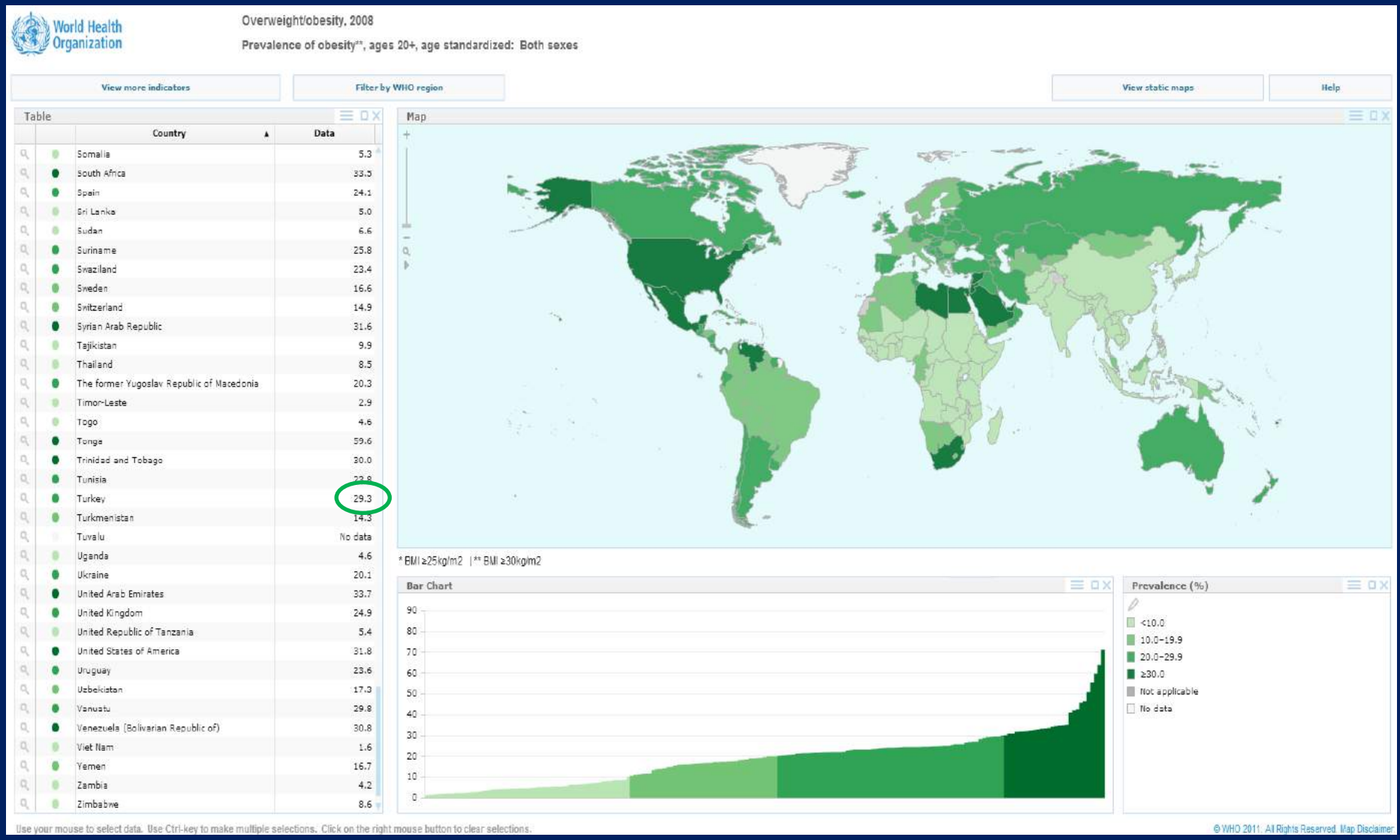
OBEZİTE


World Health Organization
Overweight/obesity, 2008
Prevalence of obesity*, ages 20+, age standardized: Both sexes
View more indicators
Filter by WHO region
View static maps
Help
Table
Country
Data
Somalia 5.3
South Africa 33.5
Spain 24.1
Sri Lanka 5.0
Sudan 6.6
Suriname 25.8
Swaziland 23.4
Sweden 16.6
Switzerland 14.9
Syrian Arab Republic 31.6
Tajikistan 9.9
Thailand 8.5
The former Yugoslav Republic of Macedonia 20.3
Timor-Leste 2.9
Togo 4.6
Tonga 59.6
Trinidad and Tobago 30.0
Tunisia
Turkey 29.3
Turkmenistan 14.3
Tuvalu No data
Uganda 4.6
Ukraine 20.1
United Arab Emirates 33.7
United Kingdom 24.9
United Republic of Tanzania 5.4
United States of America 31.8
Uruguay 23.6
Uzbekistan 17.3
Vanuatu 29.8
Venezuela (Bolivarian Republic of) 30.8
Viet Nam 1.6
Yemen 16.7
Zambia 4.2
Zimbabwe 8.6
Map
* BMI ≥25kg/m2 | ** BMI ≥30kg/m2
Bar Chart
90
80
70
60
50
40
30
20
10
0
Prevalence (%)
<10.0
10.0–19.9
20.0–29.9
≥30.0
Not applicable
No data
Use your mouse to select data. Use Ctrl-key to make multiple selections. Click on the right mouse button to clear selections.
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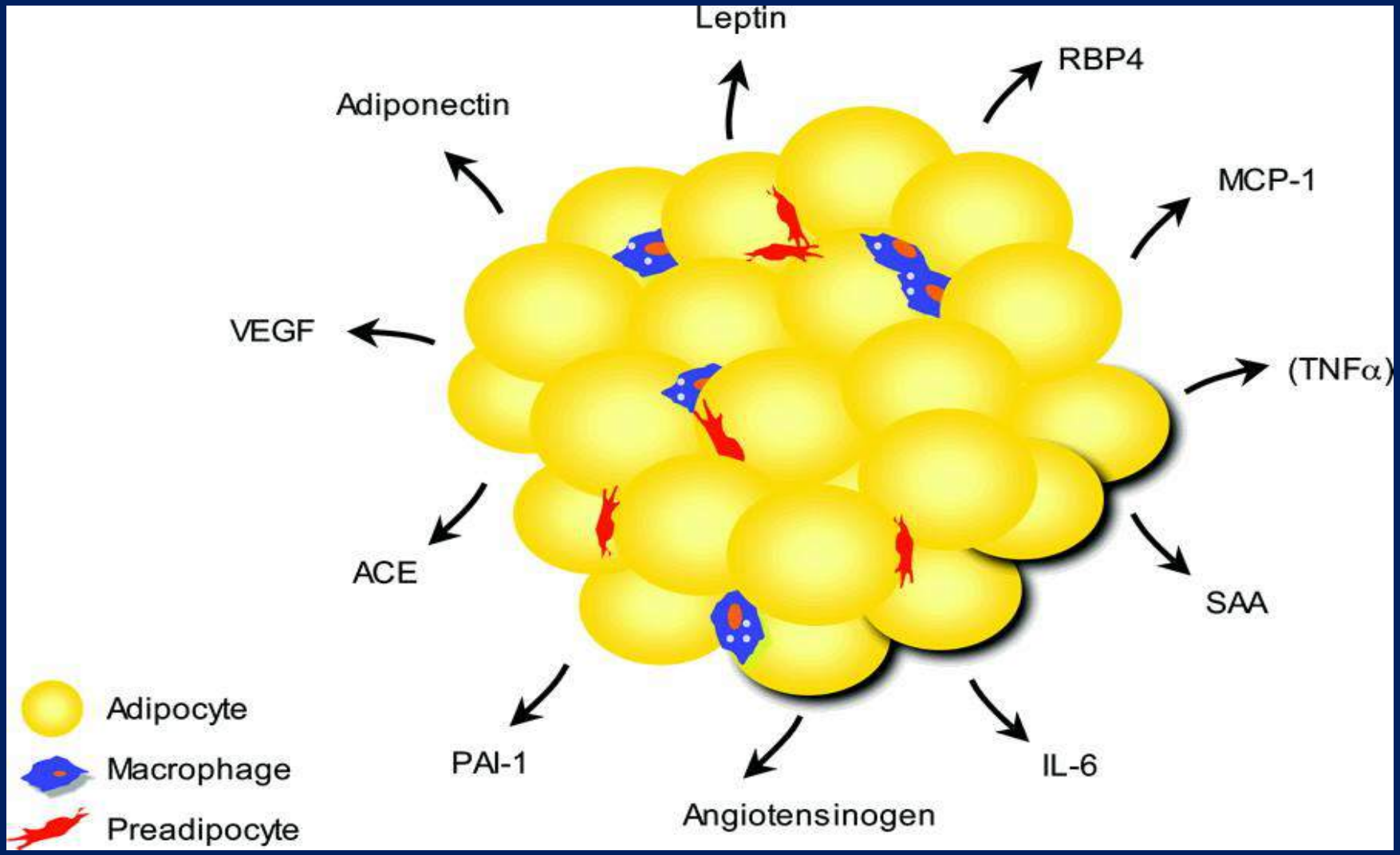
OBEZİTE


Newsweek
Fat World
We're Eating More Junk And Getting Less Exercise.
Obesity Is The Globe's Newest Epidemic.

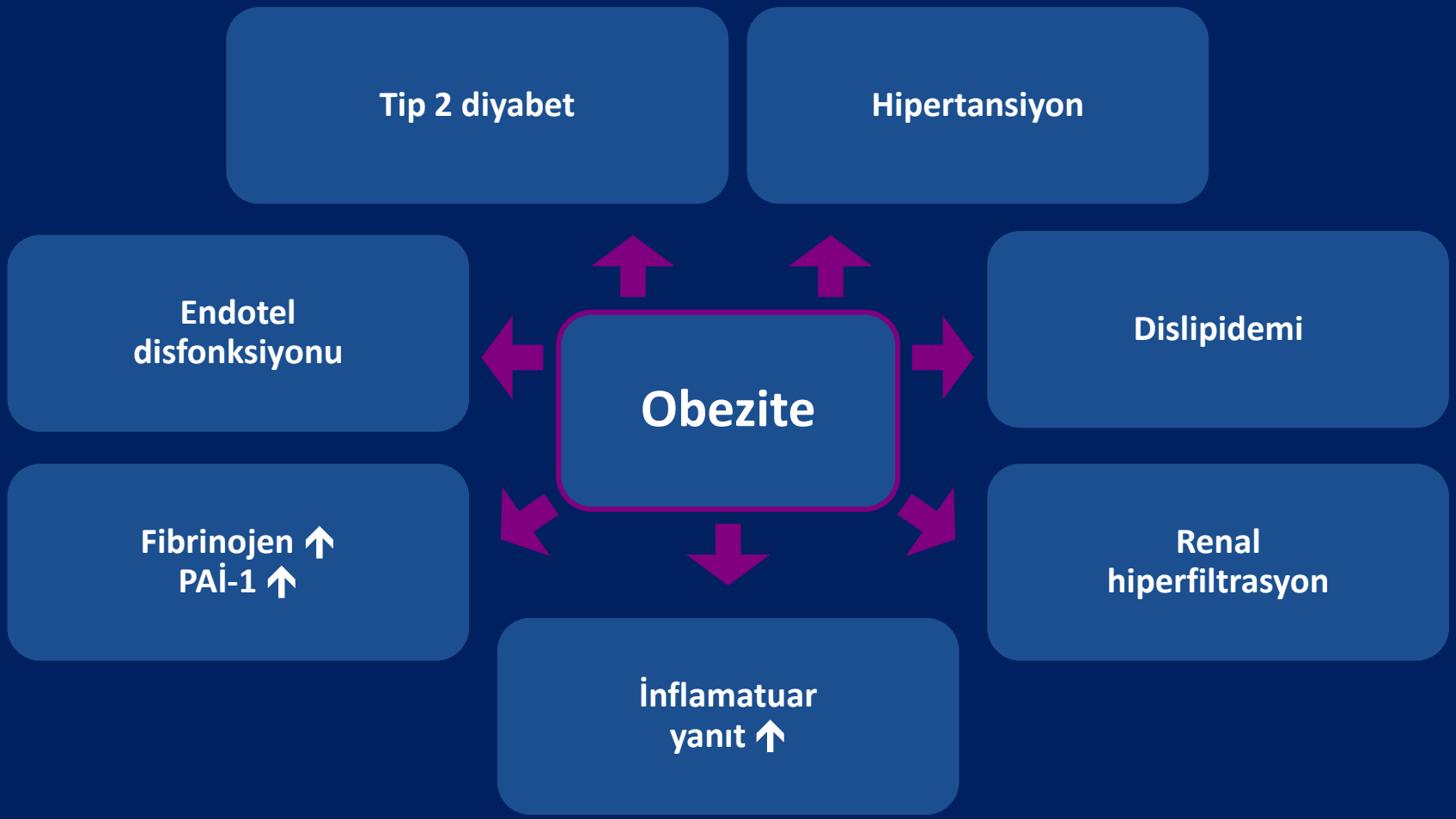
OBEZİTE

- Obezite prevalansı 1980’den 2014’e kadar 2 kattan fazla artmıştır.
- Obezite vücutta sağlığı bozacak şekilde aşırı veya anormal yağ birikmesi olarak tanımlanmaktadır.

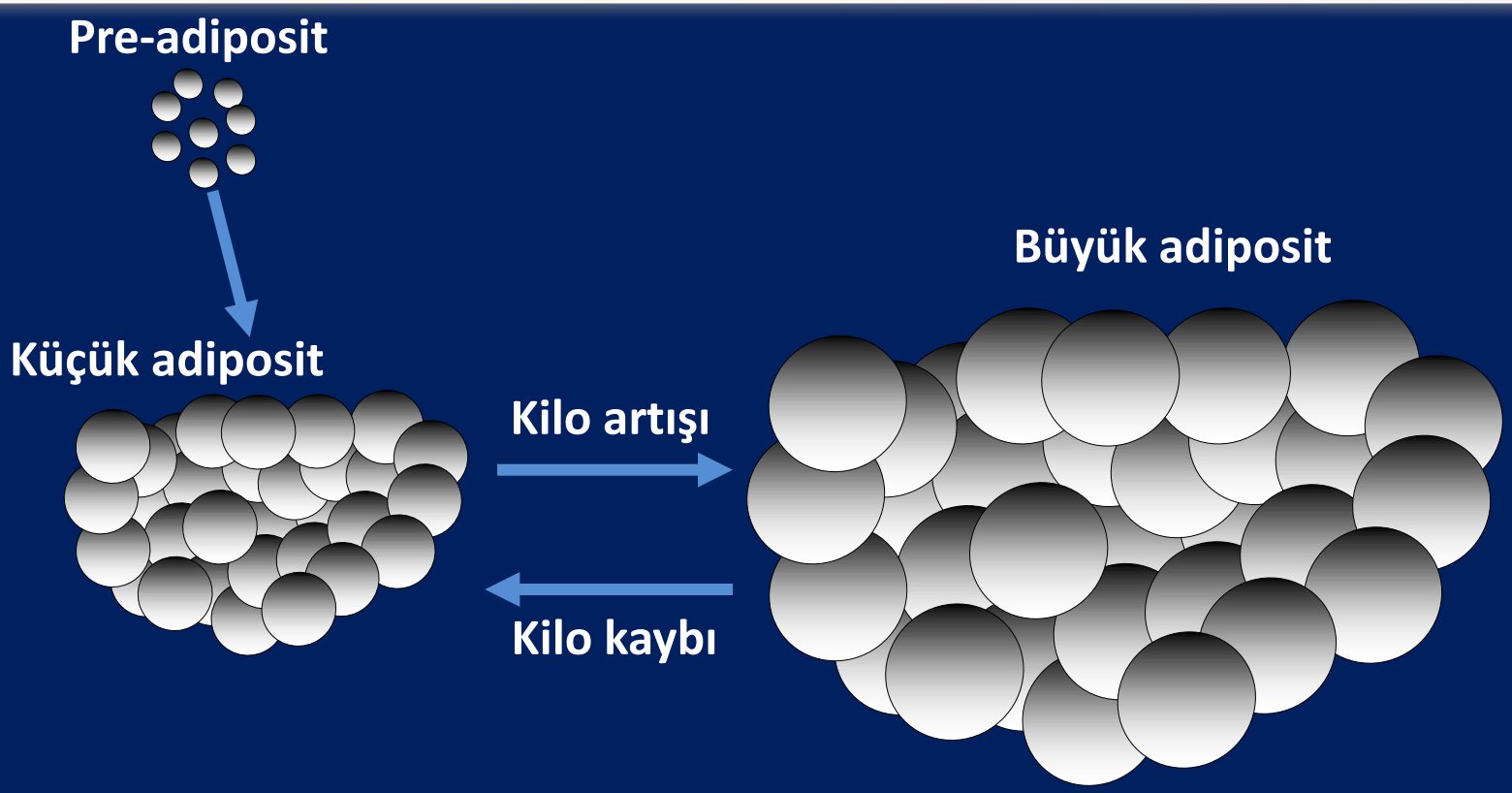
YAĞ DOKUSU: ENDOKRİN HÜCRE



METABOLİK SENDROM



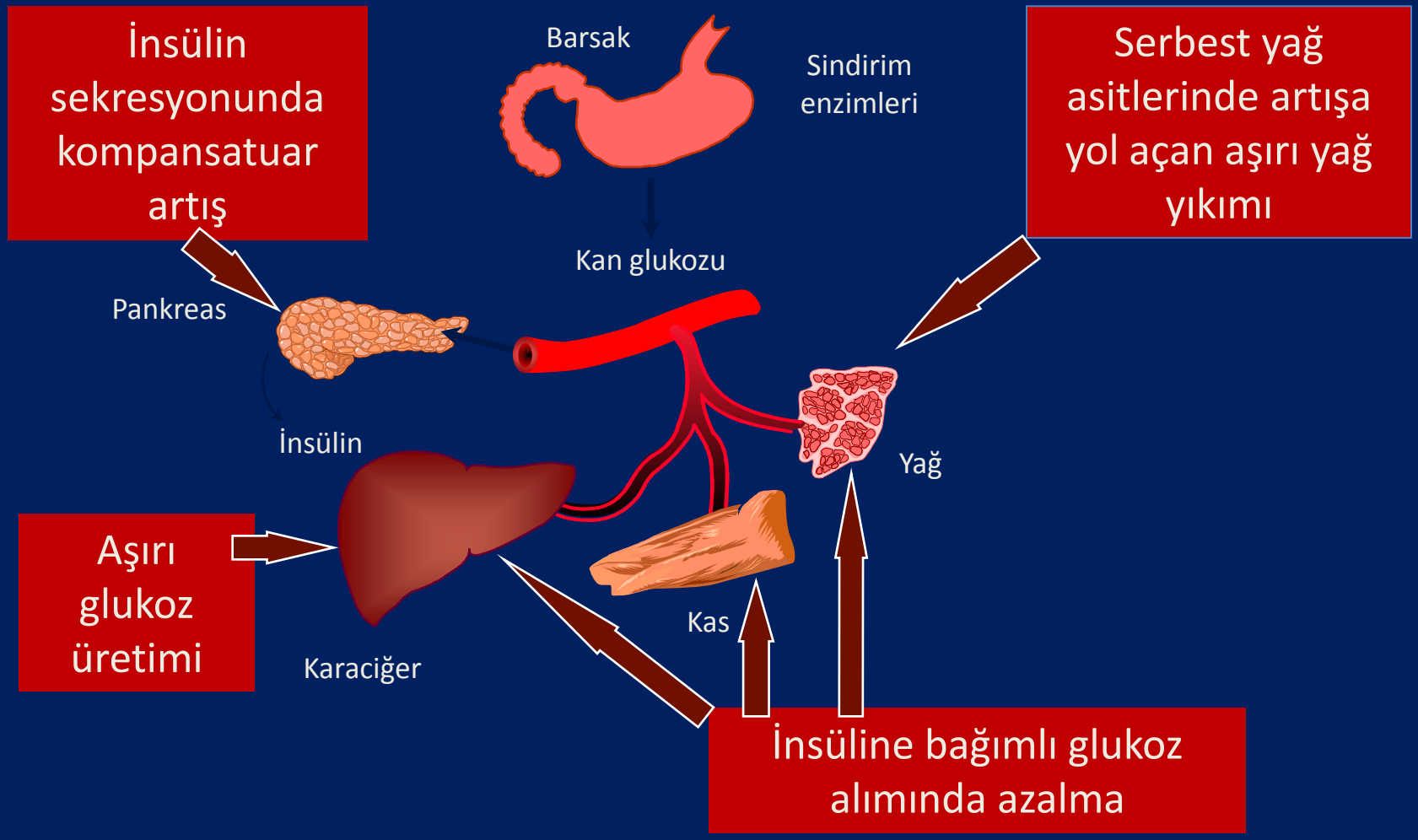
İNSÜLİN DİRENCİ



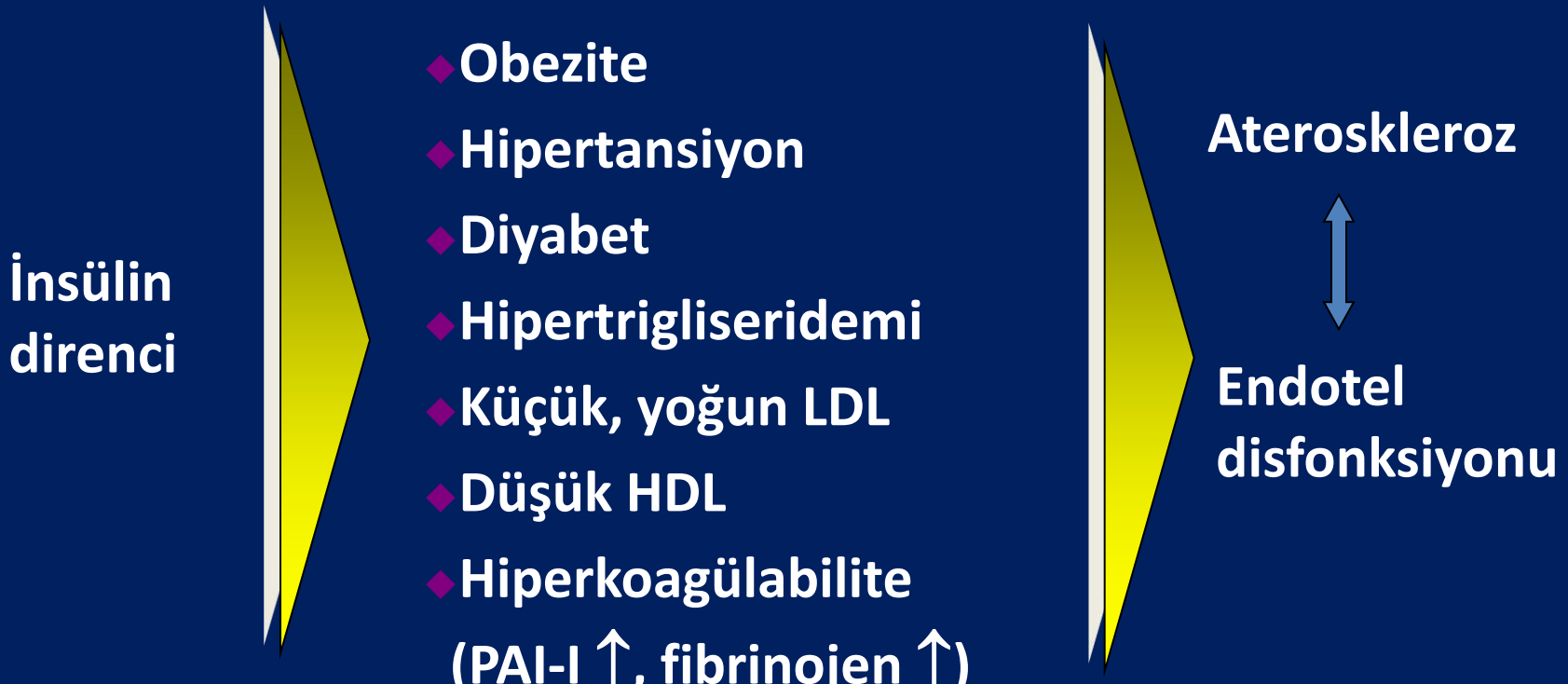
↑ Adiponektin
↓ Serbest yağ asitleri
↓ IL-6
Azalmış insülin direnci

↓ Adiponektin
↑ Serbest yağ asitleri
↑ IL-6
Artmış insülin direnci

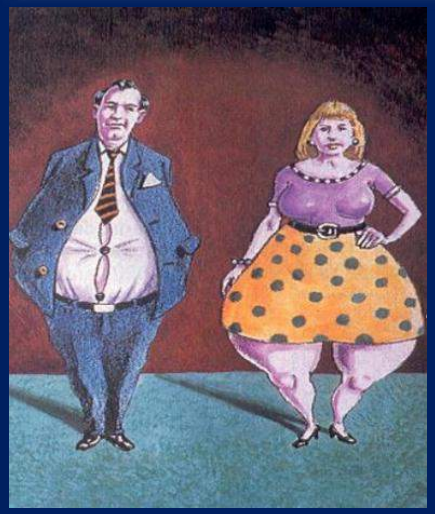
İNSÜLİN DİRENCİ

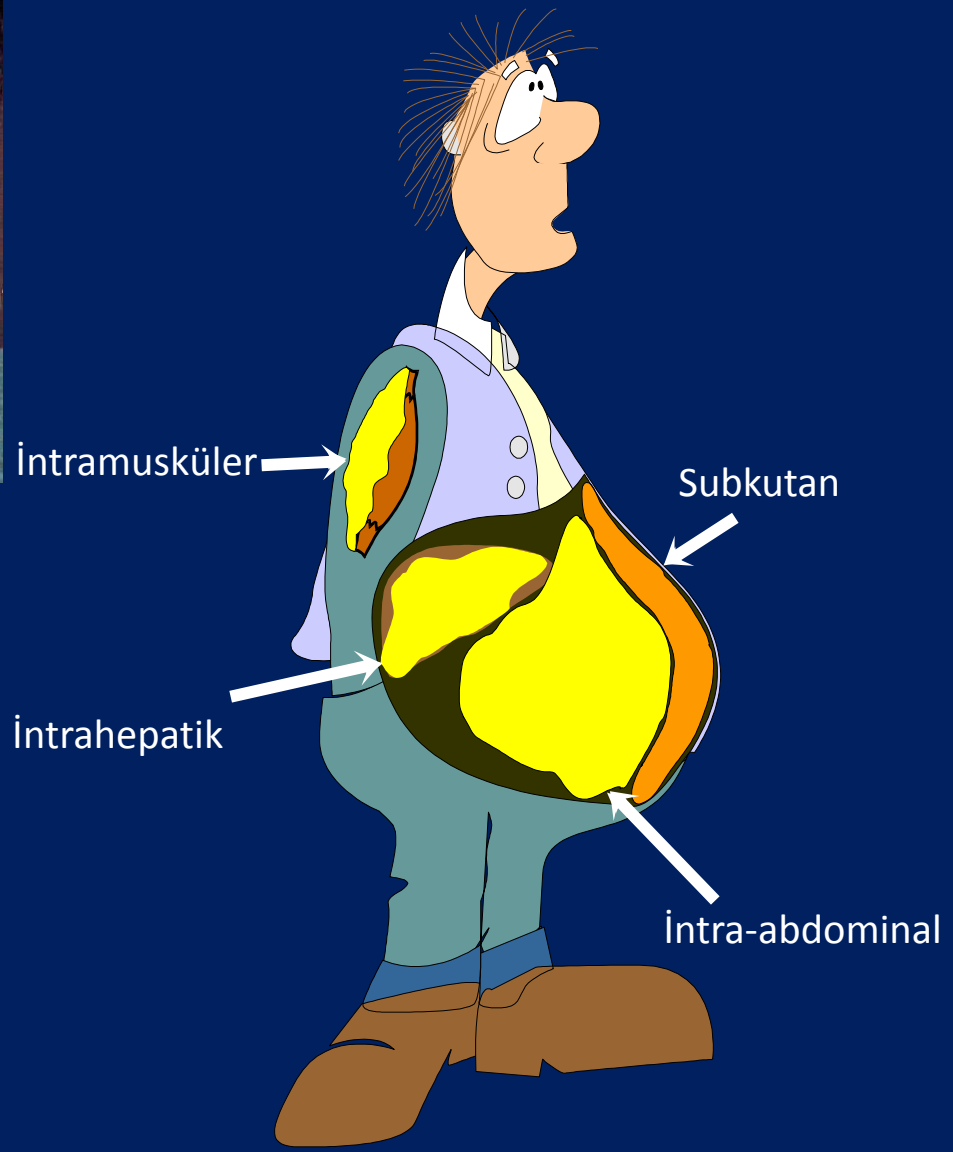


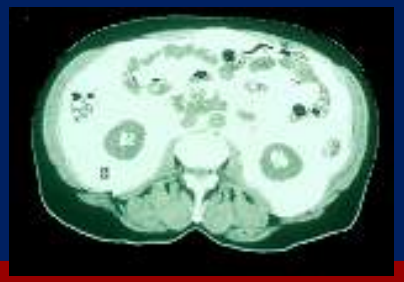
METABOLİK SENDROM



ABDOMİNAL OBEZİTE

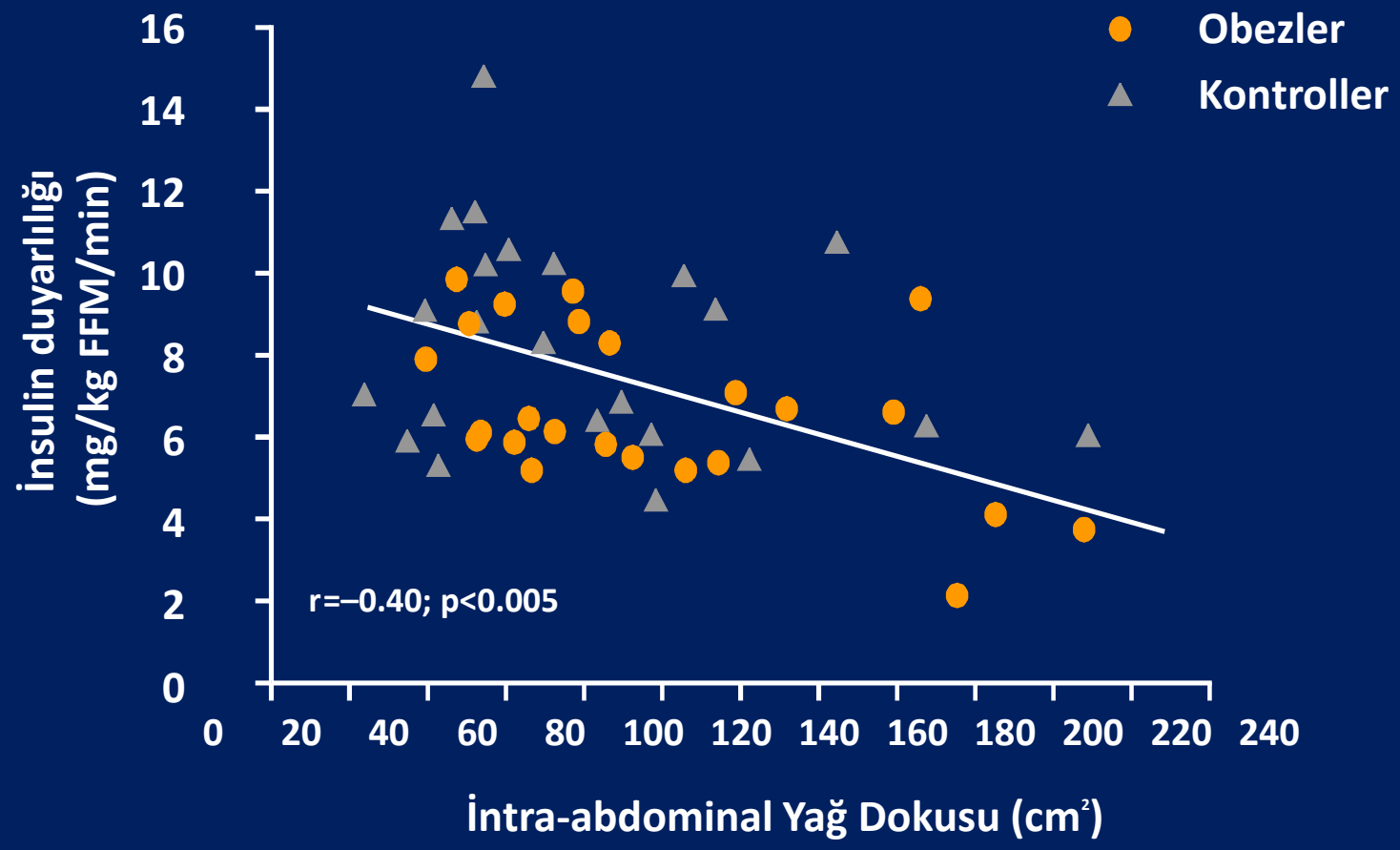




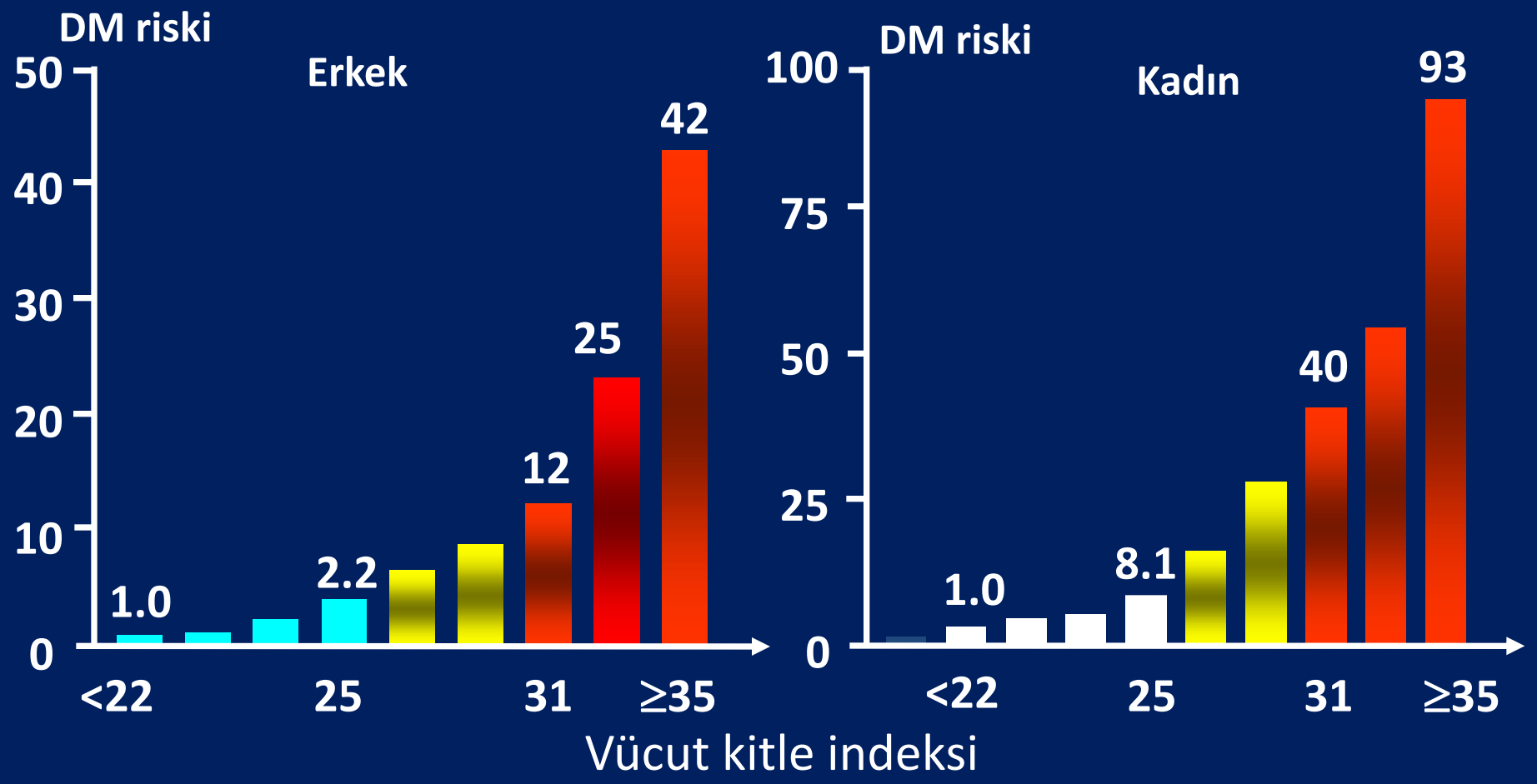


- SYA
- TNF-alfa
- Leptin
- IL-6
- PAI-1
- Anjiotensinojen

ABDOMİNAL OBEZİTE

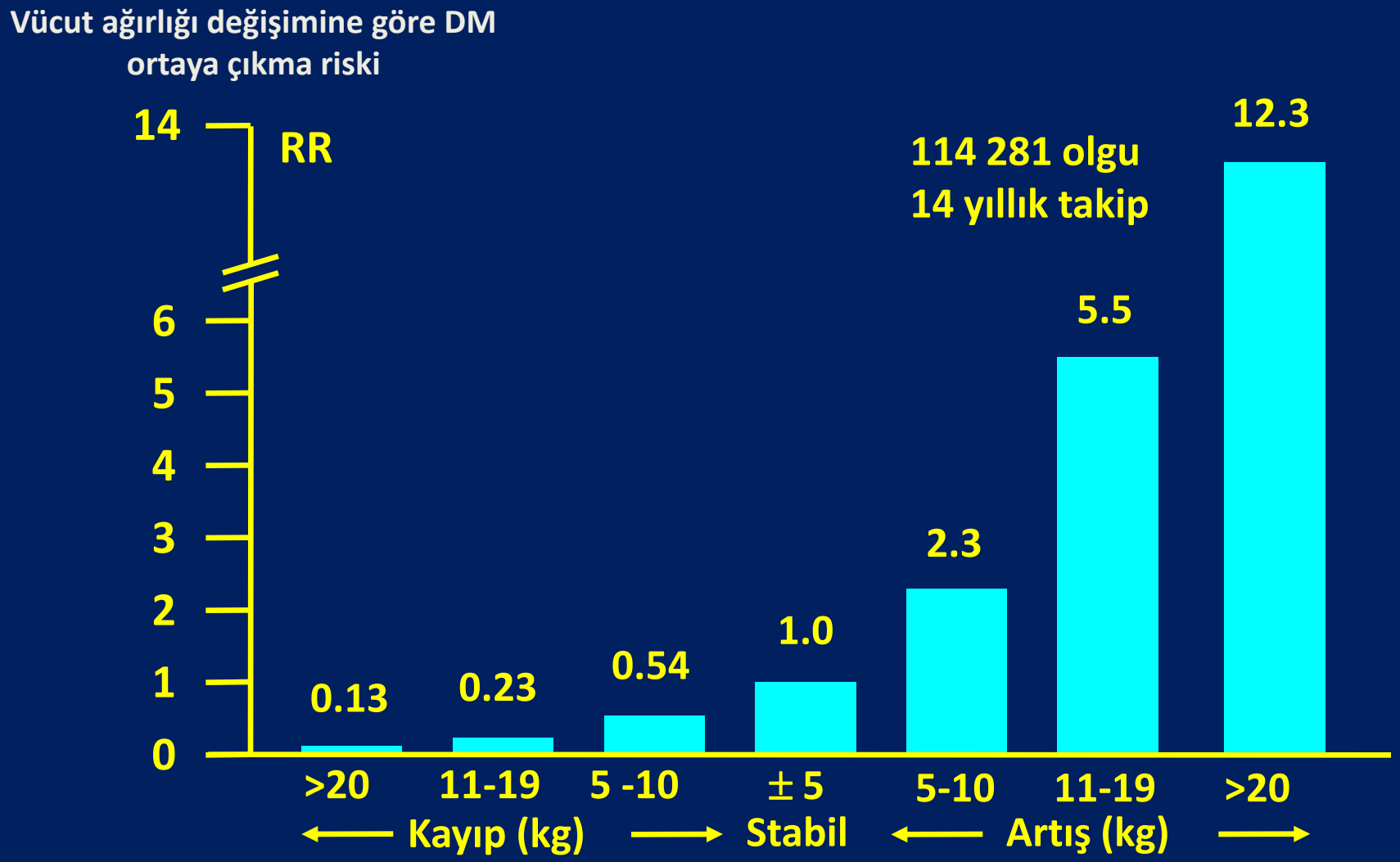


DM GELİŞME RİSKİ



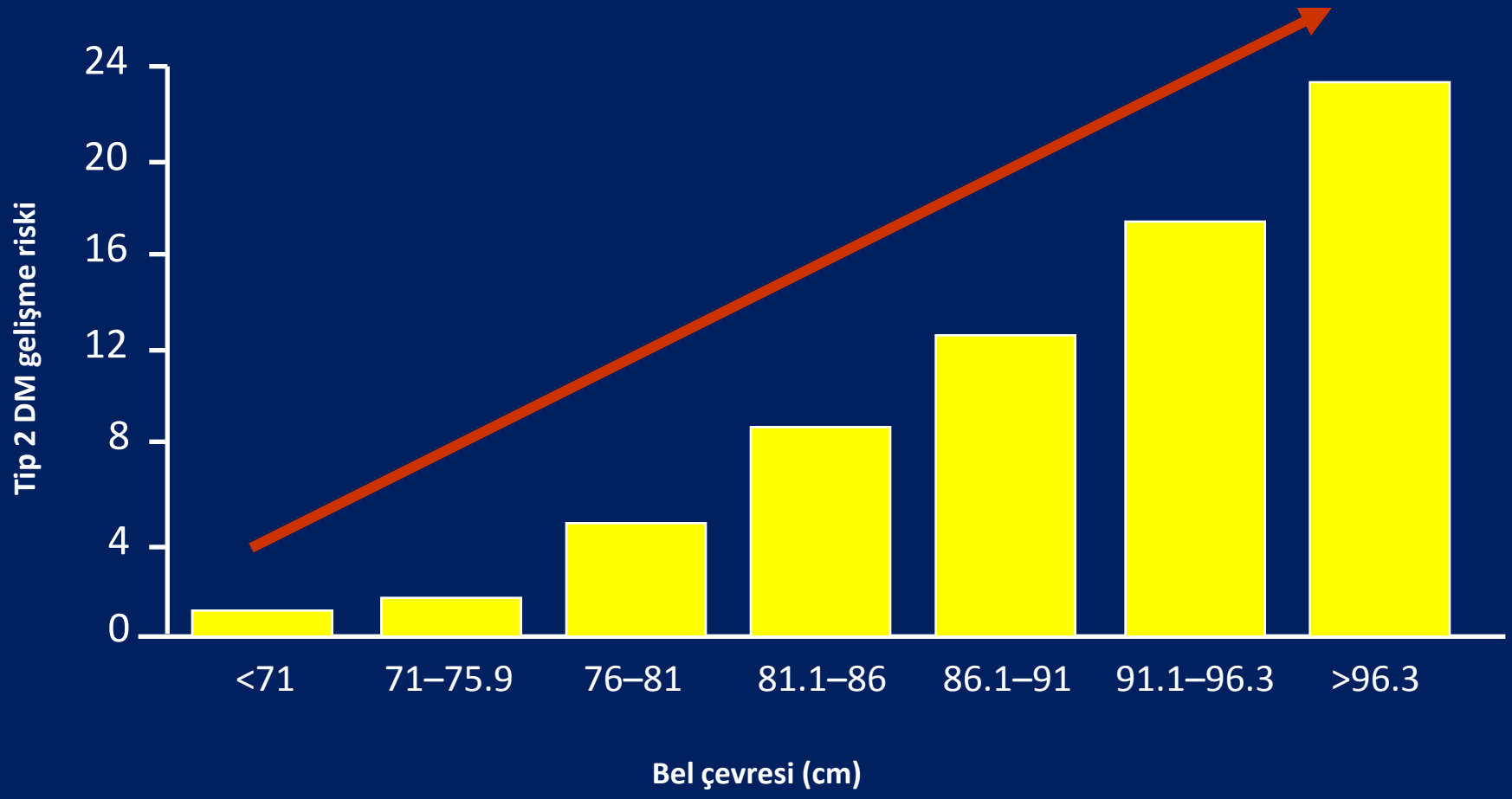
❖ Chan JM et al. Ann Intern Med 1995;122:481-6.

DM GELİŞME RİSKİ



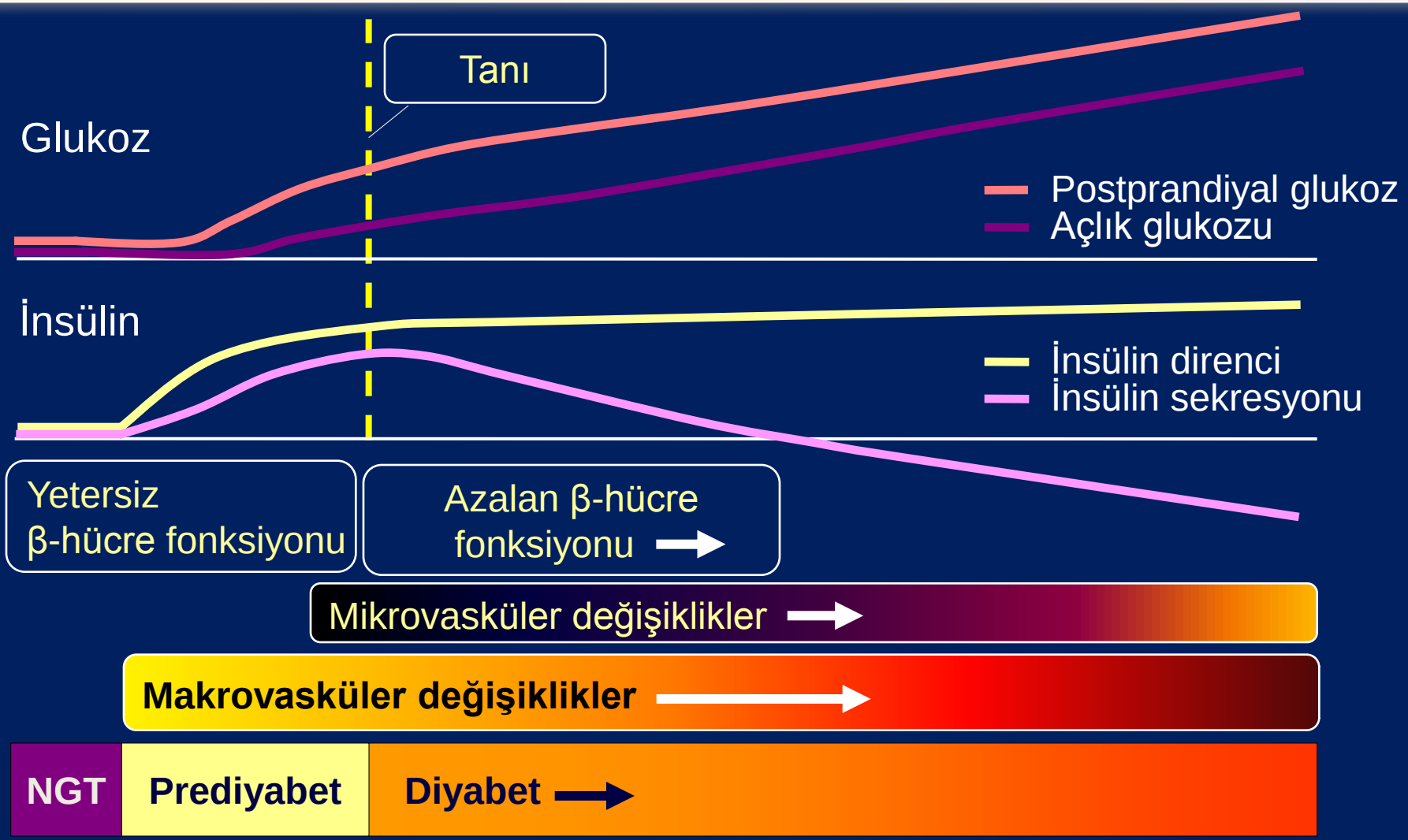
❖ Colditz GA et al. Ann Intern Med 1995; 122: 481-6.

DM GELİŞME RİSKİ



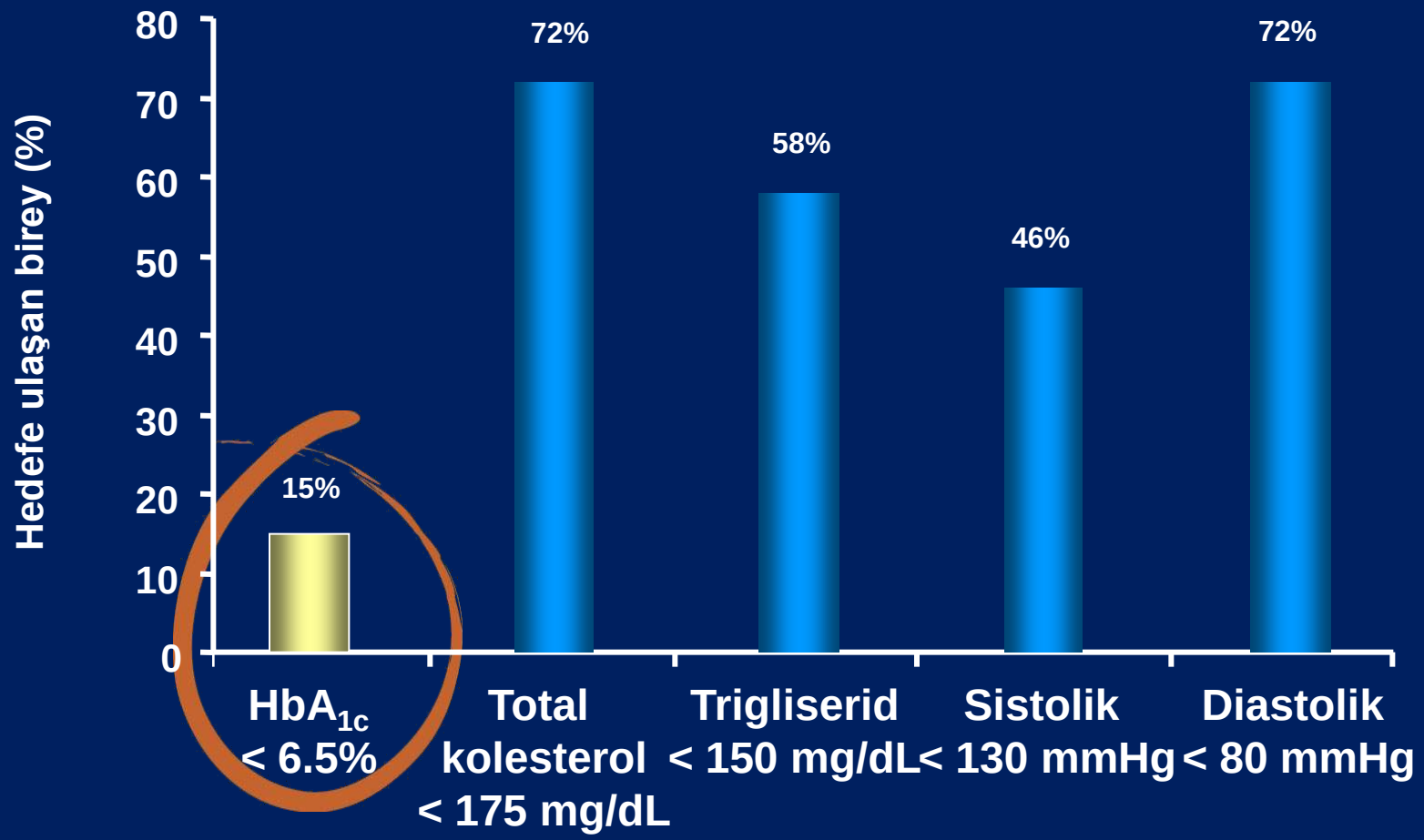
❖ Carey VJ et al. Am J Epidemiol 1997 ;145:614-9.

TİP 2 DİABETES MELLİTUS

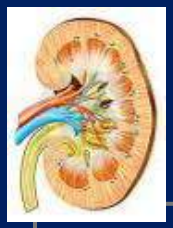


❖ Type 2 Diabetes BASICS. International Diabetes Center; 2000.

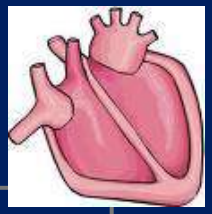
TEDAVİ SONUÇLARI



DİYABET KOMPLİKASYONLARI



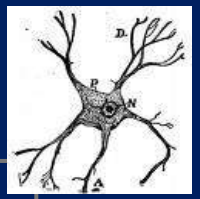
Böbrek yetersizliğinin başlıca nedeni



Kardiyovasküler ölümleri 2- 4 kat artırır

Erişkinlerde körlüğün başlıca nedeni

Diyabet

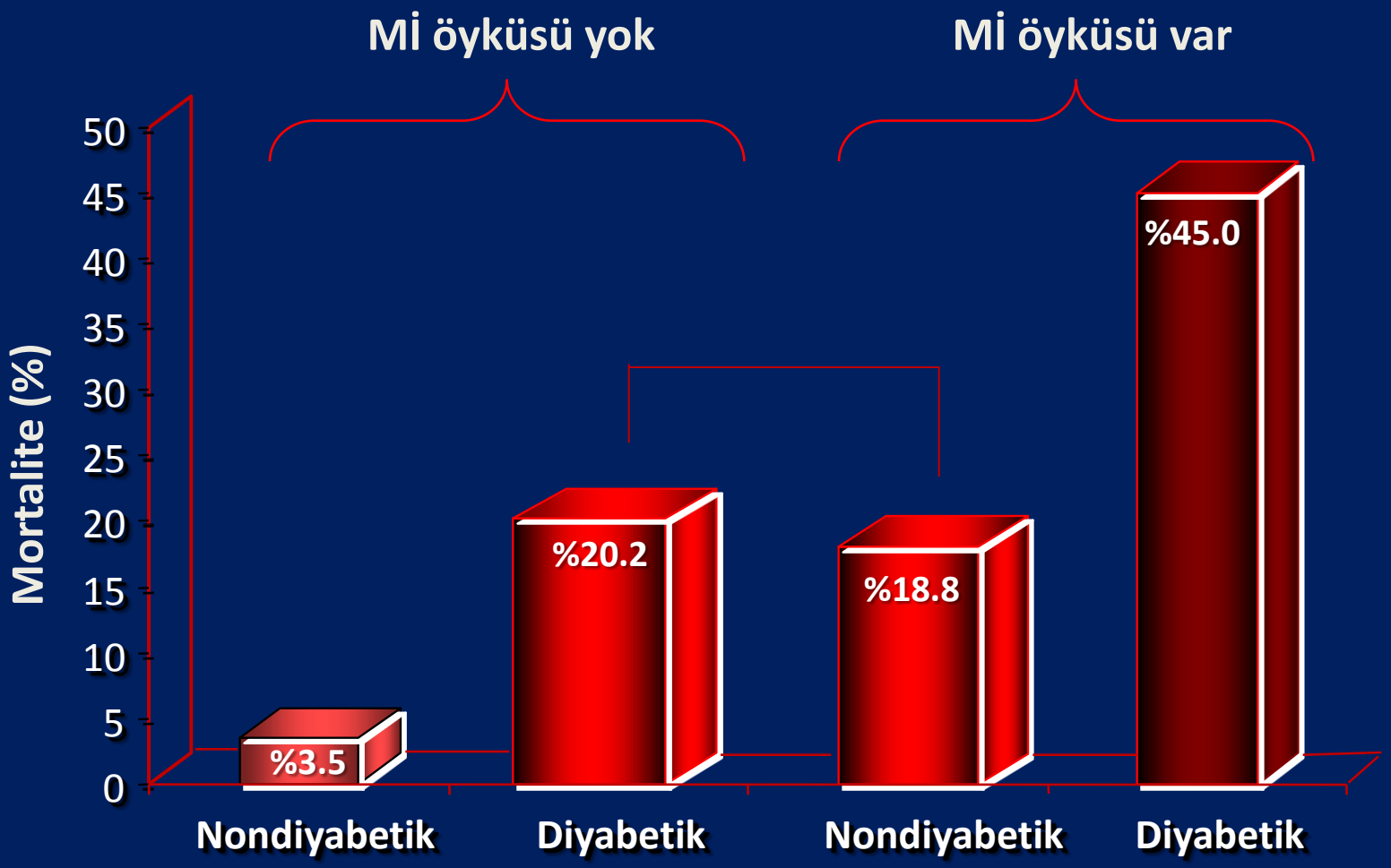


Sinir sistemi harabiyetinin % 60- 70'inin nedeni

İnme riskini 2-4 kat arttırır

Alt ekstremitenin travma dışı amputasyonlarının en önemli nedeni

MORTALİTE



❖ Haffner SM et al. N Engl J Med 1998;339:229–34.

DİABEZİTE

- From the NIH: Successful diet and exercise therapy is conducted in Vermont for "diabesity". JAMA 1980;243(6):519-20.
- Astrup A, Finer N. Redefining type 2 diabetes: 'diabesity' or 'obesity dependent diabetes mellitus'? Obes Rev. 2000;1(2):57-9.
- Efrat S. Beta-cell expansion for therapeutic compensation of insulin resistance in type 2 diabetes. Int J Exp Diabesity Res 2003;4(1):1-5.

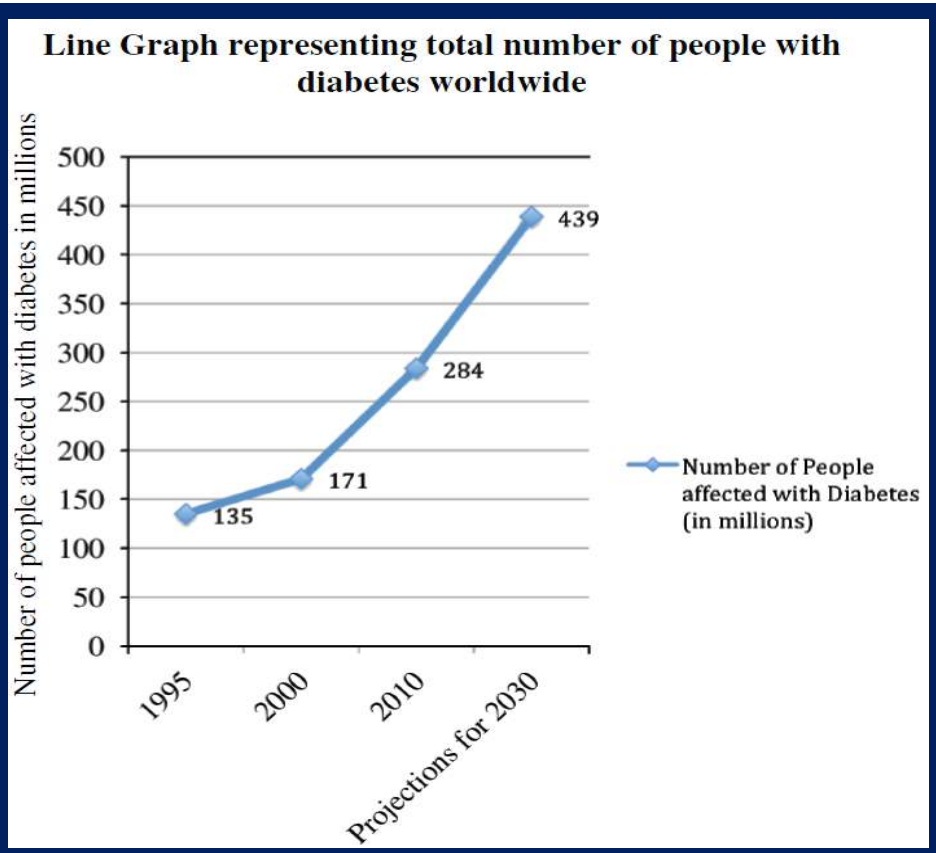
DİABEZİTE

Diabesity: an overview of a rising epidemic

Youssef M.K. Farag[1] and Mahmoud R. Gaballa[2]

[1]Renal Division, Brigham and Women's Hospital and Harvard Medical School, Boston, MA, USA and [2]Department of Internal Medicine, Ain Shams University Hospital, Cairo, Egypt

Nephrol Dial Transplant (2011) 26: 28–35

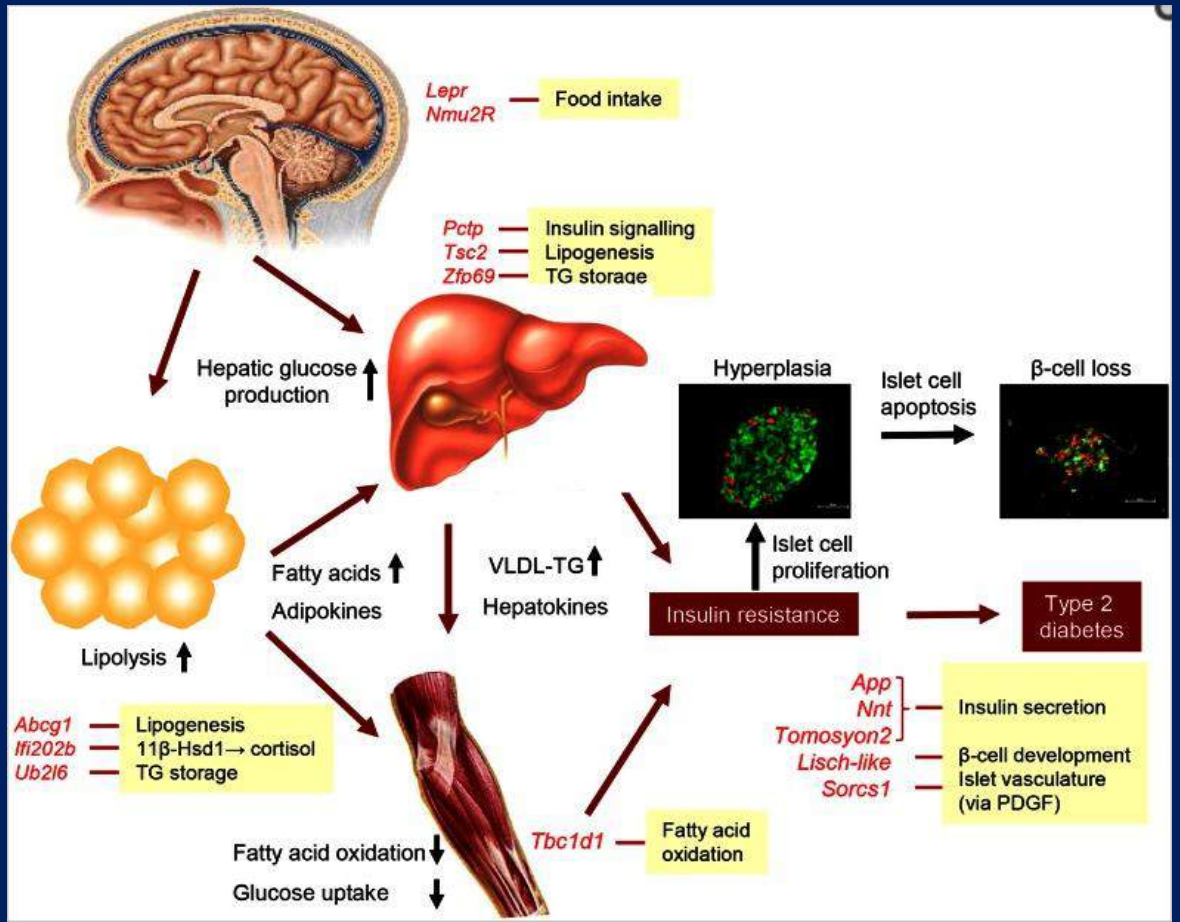


DİABEZİTE

Mamm Genome (2014) 25:401–412
DOI 10.1007/s00335-014-9514-2

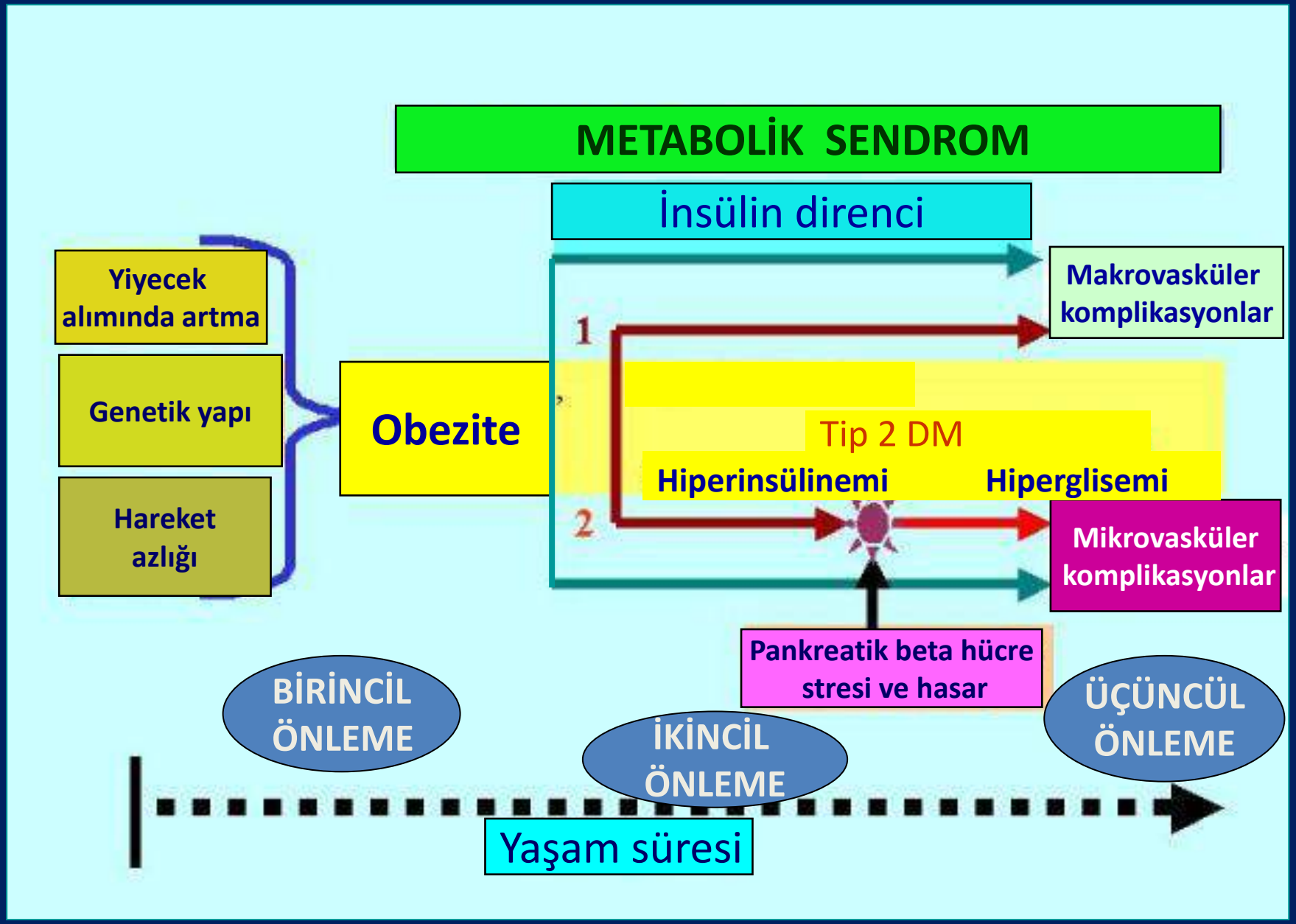
The genetic basis of obesity-associated type 2 diabetes (diabesity) in polygenic mouse models

Hans-Georg Joost · Annette Schürmann



ÖNLEME

Bazı şeyler geri döndürülemez,
ancak önlenebilir!


METABOLİK SENDROM
İnsülin direnci
Yiyecek alımında artma
Genetik yapı
Hareket azlığı
Obezite
1
2
Tip 2 DM
Hiperinsülinemi
Hiperglisemi
Makrovasküler komplikasyonlar
Mikrovasküler komplikasyonlar
Pankreatik beta hücre stresi ve hasar
BİRİNCİL ÖNLEME
İKİNCİL ÖNLEME
ÜÇÜNCÜL ÖNLEME
Yaşam süresi

OLGU - 1

- G.T. 51 yaş K, Ev Hanımı, Marmaris
- Yakınma: Ayaklarda ağrı, duyu kaybı, bacaklarda şişlik
- 13 yıldır diyabetik olan hastanın kan şekeri yüksek seyrediyormuş. Yakınmaları artan hastanın insülin dozları artırılmasına rağmen kan şekeri kontrol altına alınamadığı için bize sevk edilmiş
- Hipertansiyon ve hiperlipidemi var
- Babasında DM öyküsü var
- Sigara ve alkol kullanımı yok

OLGU - 1

- Fizik muayene:
  - TA: 160/100 mm Hg
  - Obez
  - Pretibial ödem++
  - Boy: 160 cm VA: 89 kg
  - VKİ: 34.7 kg/m^2
  - Bel çevresi: 102 cm
- Vücut yağ oranı: %38.0

OLGU - 1

- Kullandığı ilaçlar:

  Novorapid 3x16 U Lantus 34 U

  Diaformin 1000 mg 2x1 Glucobay 100 mg 3x1

  Ator 20 mg 1x1 Hipersar plus 20/12.5 mg 1x1

- Laboratuvar:

  AKŞ:285 mg/dl TKŞ:356 mg/dl A1C:%9.5

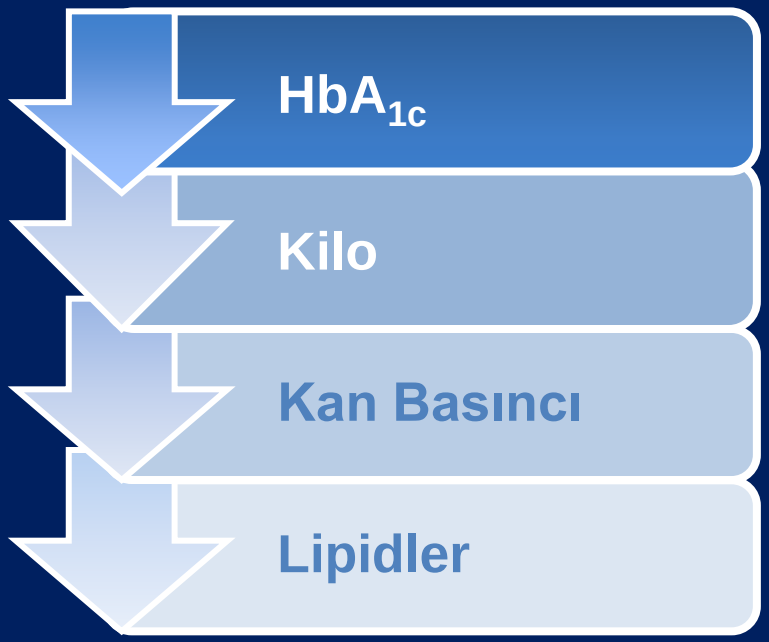
  LDL:89 mg/dl Trigliserid:169 mg/dl

  Kreatinin:0.69 mg/dl ALT: 14 U/L

  TSH: 2.3 mIU/L

OLGU - 1

- Bu hastaya yaklaşımda ilk olarak aşağıdakilerden hangisini yapmayı düşünürsünüz?
  - Kan şekeri regülasyonu
  - Obeziteye yönelik tedavi
  - Kan basıncı ve lipidlerin düzenlenmesi
  - Hepsi
  - Hiçbiri



CUSHİNG SENDROMU

Tablo 2. **Cushing sendromu belirti ve bulguları (%prevalans)**

Belirti
Kilo alma %91
Mentruel düzensizlik %84
Hirsutism %81
Psikiyatrik bozukluk %62
Sırt ağrısı %43
Kas zayıflığı %29
Kırık %19
Saç dökülmesi %13
Bulgu
Obezite %97
Pletora %94
Aydede yüz %88
Hipertansiyon %74
Kolay zedelenme %62
Stria %56
Kas zayıflığı %56
Bilekte ödem %50
Hiperpigmentasyon %4
Diğer bulgular
Diabetes %50
Aşikar %13
Bozulmuş Glukoz Toleransı %37
Osteoporoz %50
Böbrek taşı %15

❖Türkiye Endokrinoloji ve Metabolizma Derneği Adrenal ve Gonadal Hastalıklar Kılavuzu, 2014.

CUSHİNG SENDROMU

Tablo 1. **Cushing sendromu nedenleri**

ACTH - bağımlı olanlar
- Hipofiz adenomu (Cushing hastalığı)
- Ektopik ACTH sendromu
- Ektopik CRH sendromu

ACTH-bağımlı olmayanlar
- Adrenal neoplazma (adenom, karsinom)
- Noduler adrenal hiperplazi
  - Primer pigmente nodüler hastalık
  - Massif makronodüler adrenonodüler hiperplazi
  - Besinlere bağlı (GİP-aracılı)

Psödo-Cushing sendromu
- Obezite
- Depresyon
- Alkolizm

❖Türkiye Endokrinoloji ve Metabolizma Derneği Adrenal ve Gonadal Hastalıklar Kılavuzu, 2014.

OLGU - 1

- 1 mg deksametazon testi:

  Kortizol: 5.2 µg/dl
- Gece kortizol düzeyi: 8.5 µg/dl
- 24 saatlik idrar kortizol düzeyi: 320 µg/gün
- 2 mg deksametazon testi:

  Kortizol: 6.4 µg/dl
- ACTH: 4 pg/ml
- Abdomen BT: Sağ sürrenalde 33x21 mm adenom

➢ Tedavi: Sağ sürrenalektomi

OLGU - 1

Kemik dansite ölçümü			
L1	- 3,6	Neck	- 2,6
L2	- 3,9	Troch	- 2,2
L3	- 3,9	Inter	- 1,5
L4	- 3,5	Wards	- 3,0
L1-L4	- 3,8	Total	- 1,9

OLGU - 1

- Yakınma: yok
- FM: TA:110/70 mm Hg
- Boy:160 cm VA:66 kg VKİ:25.7 kg/m^2
- A1C: %6.1
- Sık hipoglisemi tanımlıyor

Sabah açlık	S abah tokluk	Öğle tokluk	Akşam tokluk
81	122	115	149
78	92	153	137

OLGU - 1

- Kullandığı ilaçlar:

  Genkort 10 mg 2x1 Lantus 18 U

  Diaformin 1000 mg 2x1 Novonorm 2 mg 3x1

  Hipersar plus 20/12.5 mg 1x1 Ator 20 mg 1x1

  Fosavance Haftada bir

OLGU - 2

- M.D. 56 Yaş E, Restoran işletmecisi, Kuşadası
- Yakınma: Halsizlik, baş ağrısı, kilo alma
- Öykü: 2 aydır stresli bir dönem geçirdiğini ifade eden hasta bu dönemde sağlıksız beslenmiş, tedavilerini aksatmış ve daha önce de olan yakınmaları artmış. 2 ayda 12 kg almış.
- 10 yıldır DM, hipertansiyon ve hiperlipidemi tanıları ile izleniyormuş.
- Baba ve kardeşlerinde DM öyküsü var
- Sigara: 1p/gün Alkol: Haftada 3-4 kez

OLGU - 2

- Fizik muayene:
  - TA: 130/85 mm Hg.
  - Tiroid sağ lobunda 3 cm nodül ele geliyor
  - Obez
  - Boy: 170 cm VA: 135 kg
  - VKİ: 46.7 kg/m^2
  - BÇ: 136 cm
- Vücut yağ oranı: %42.4

OLGU - 2

- Kullandığı ilaçlar:

  Humalog mix 25 48+44 U Glifor 1000 mg 2x1
  Crestor 10 mg 1x1 Coveram 10/5 mg 1x1
  Coraspin 100 mg 1x1

- Laboratuvar:

  AKŞ:159 mg/dl TKŞ:251 mg/dl A1C:%7.9

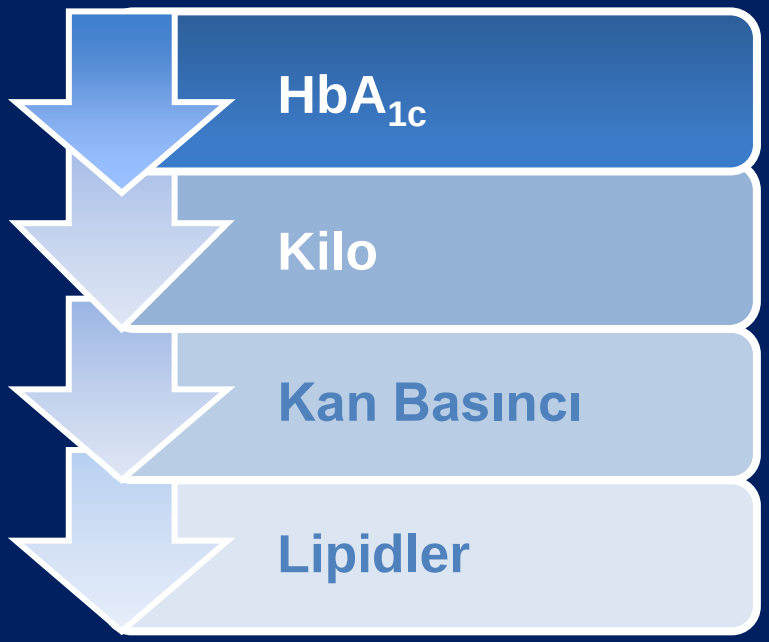
  LDL:85 mg/dl Trigliserid:112 mg/dl

  Kreatinin:1.0 mg/dl ALT: 34 U/L TSH: 1.6 mIU/L

  1 mg deksametazon testi: Kortizol: 1.1 µg/dl

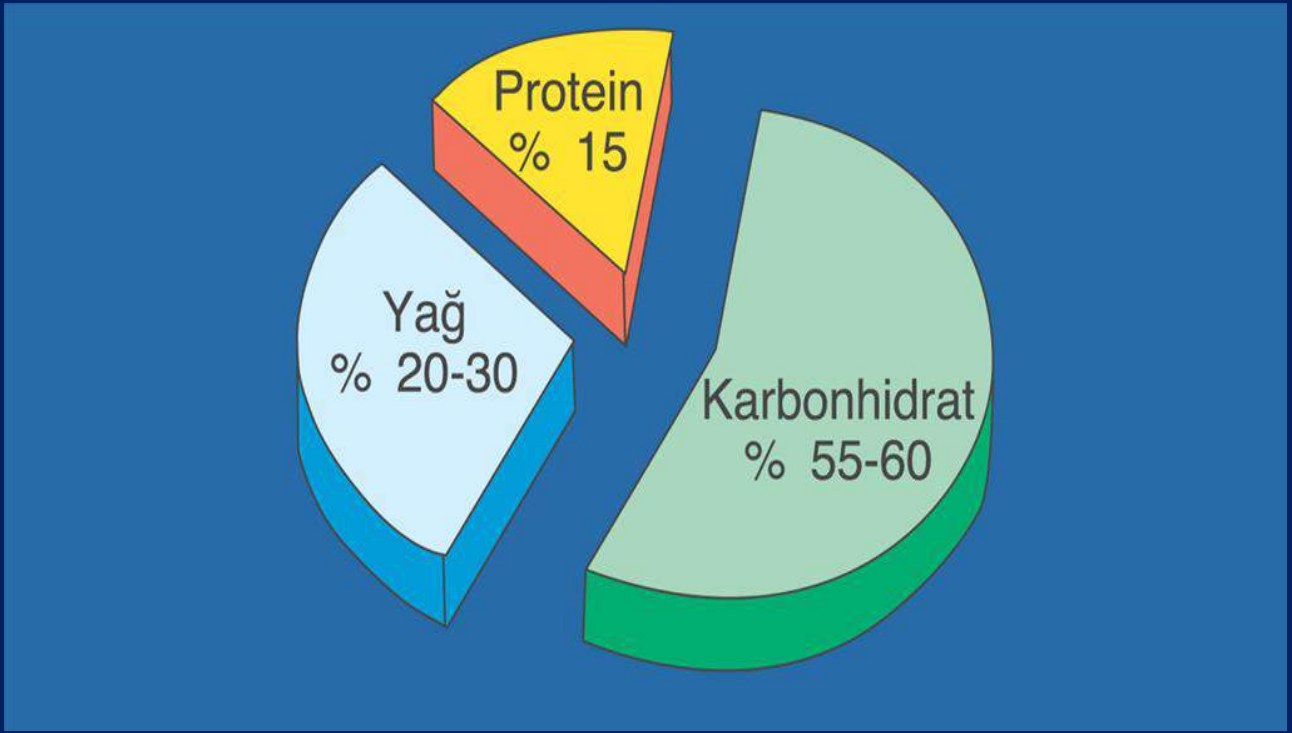
OLGU - 2

- Bu hastaya yaklaşımda ilk olarak aşağıdakilerden hangisini yapmayı düşünürsünüz?
  - Kan şekeri regülasyonu
  - Obeziteye yönelik tedavi
  - Kan basıncı ve lipidlerin düzenlenmesi
  - Hepsi
  - Hiçbiri



SAĞLIKLI BESLENME

Dengeli Diyette Enerji Kaynakları (Günlük Toplam)



Diyetin toplam kalorisi günlük harcanan kaloriden 500-1000 kcal eksik olmalıdır.

FİZİK AKTİVİTE

Televizyon veya bilgisayar başında geçen zaman sınırlanmalı !

HAFTADA EN AZ 2 KEZ

Güçlendirme ve fleksibilite egzersizleri

Aerobik egzersiz
- Yürüyüş
- Bisiklet
- Koşu

HAFTADA EN AZ 3 KEZ

Eğlenceli takım sporu

HERGÜN

Olabildiğince aktif olunmalı !

YAŞAM TARZI DEĞİŞİKLİĞİ

RESEARCH ARTICLE

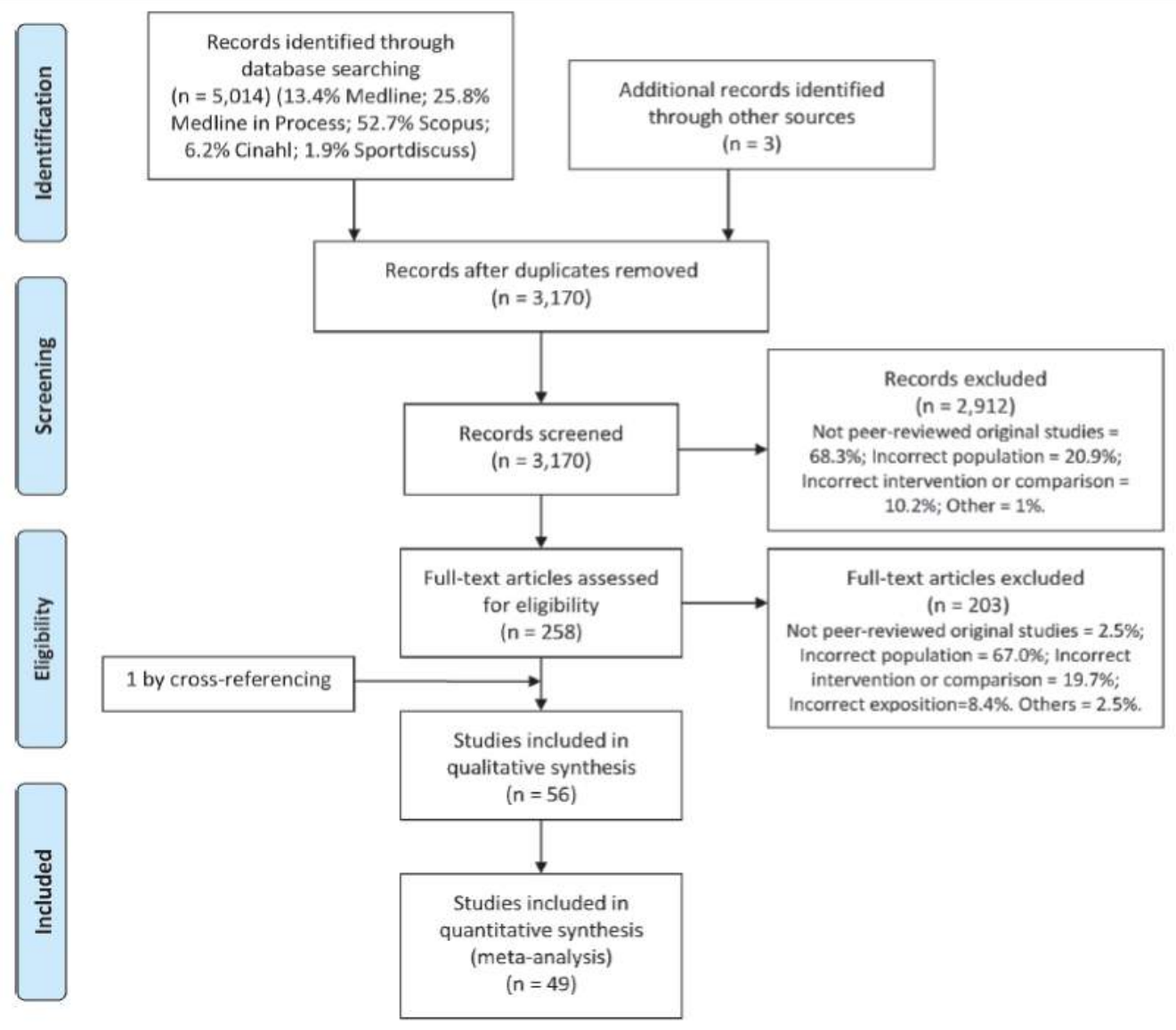
Effects of Lifestyle Interventions That Include a Physical Activity Component in Class II and III Obese Individuals: A Systematic Review and Meta-Analysis

Aurélie Baillot[1,2], Ahmed J. Romain[3], Katherine Boisvert-Vigneault[4,5], Mélisa Audet[4,5], Jean Patrice Baillargeon[1,2], Isabelle J. Dionne[4,5], Louis Valiquette[6], Claire Nour Abou Chakra[6], Antoine Avignon[3,7], Marie-France Langlois[1,2]*

1 Research Center of the Centre hospitalier universitaire de Sherbrooke, Sherbrooke, Quebec, Canada, **2** Department of Medicine, Division of Endocrinology, Université de Sherbrooke, Sherbrooke, Quebec, Canada, **3** Unit of Nutrition and Diabetes, Department of Endocrinology-Nutrition and Diabetes, University Hospital of Montpellier, Montpellier, France, **4** Research Centre on Aging, Health and Social Services Centre, Institute of Geriatrics, Université de Sherbrooke, Sherbrooke, Quebec, Canada, **5** Faculty of Physical Education and Sports, Université de Sherbrooke, Sherbrooke, Quebec, Canada, **6** Department of Microbiology and Infectious Diseases, Université de Sherbrooke, Quebec, Canada, **7** INSERM U1046, Physiology and experimental medicine of heart and muscles, University of Montpellier, Montpellier, France

PLOS ONE | DOI:10.1371/journal.pone.0119017 April 1, 2015

YAŞAM TARZI DEĞİŞİKLİĞİ



YAŞAM TARZI DEĞİŞİKLİĞİ

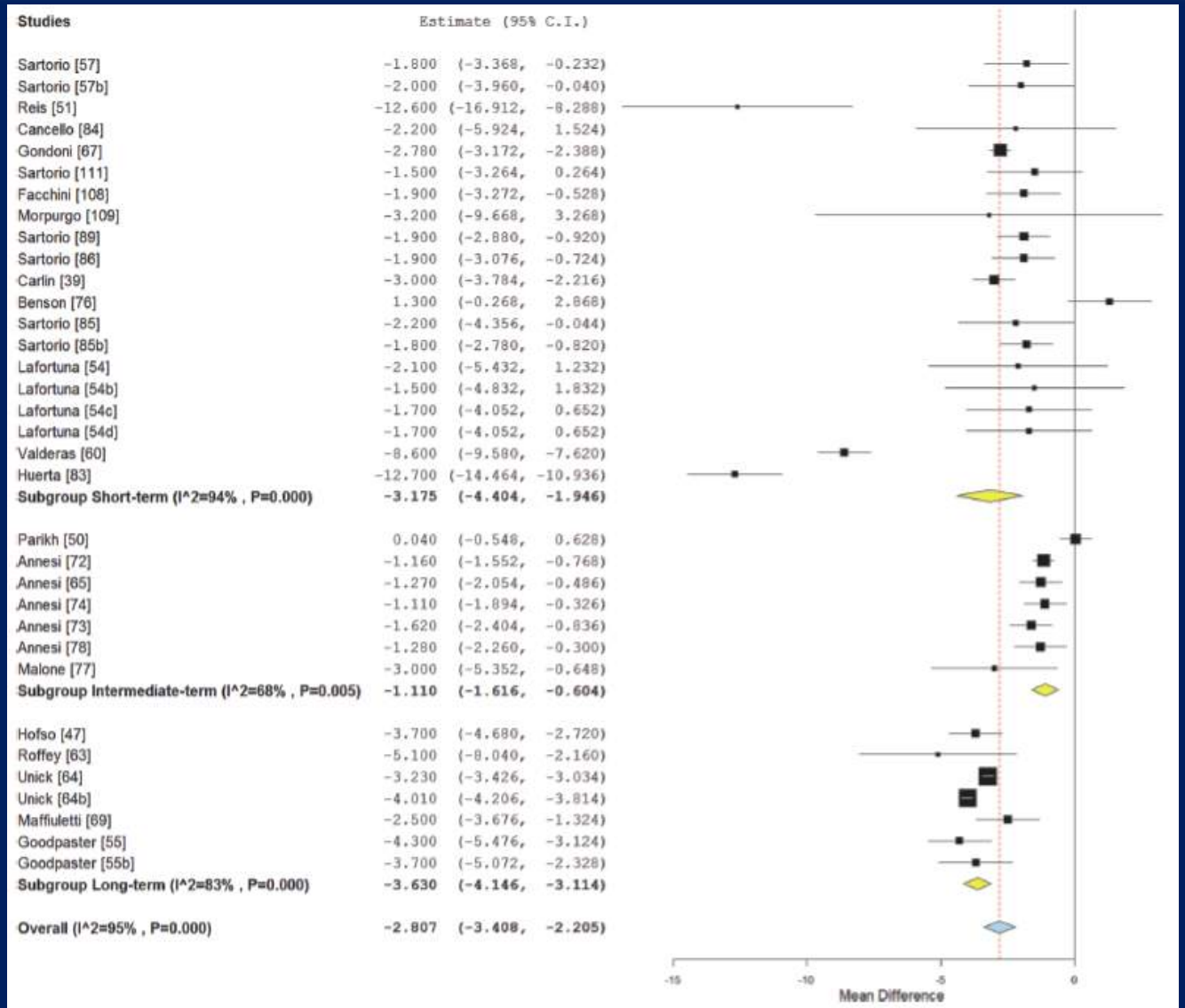


Fig 2. Forest plot of mean body mass index changes according to the intervention length in class II and III obese individuals.

YAŞAM TARZI DEĞİŞİKLİĞİ

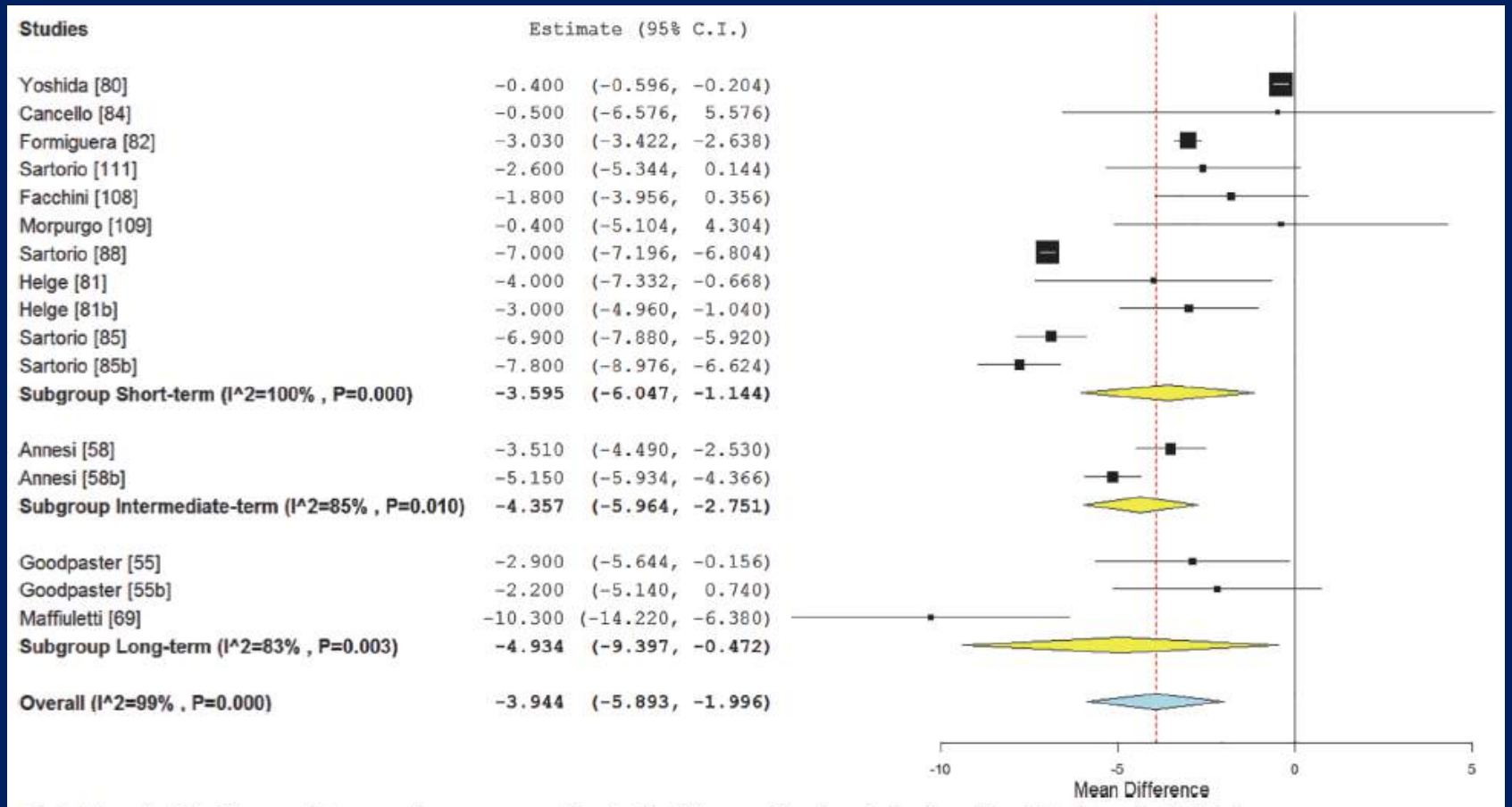


Fig 3. Forest plot of mean fat mass changes according to the intervention length in class II and III obese individuals.

YAŞAM TARZI DEĞİŞİKLİĞİ

- Çalışma süreleri: 3 hafta-61.5 ay
- Kilo kaybı sonuçları:
  - Kısa süreli çalışmalar:

    −7.20 kg, 95% CI [−8.88; −5.53], $p < 0.01$
  - Orta süreli çalışmalar:

    −7.96 kg, 95% CI [−10.82; −5.09], $p < 0.01$
  - Uzun süreli çalışmalar:

    −11.33 kg, 95% CI [−13.07; −9.59], $p < 0.01$

YAŞAM TARZI DEĞİŞİKLİĞİ

- Bel çevresi sonuçları:
  - Kısa süreli çalışmalar:

    −4.78 cm; 95% CI [−8.01; −1.55], p = 0.004
  - Orta süreli çalışmalar:

    −6.26 cm; 95% CI [−11.82; −0.70], p < 0.01
  - Uzun süreli çalışmalar:

    −7.52 cm; 95% CI [−9.42; −5.61], p < 0.01

YAŞAM TARZI DEĞİŞİKLİĞİ

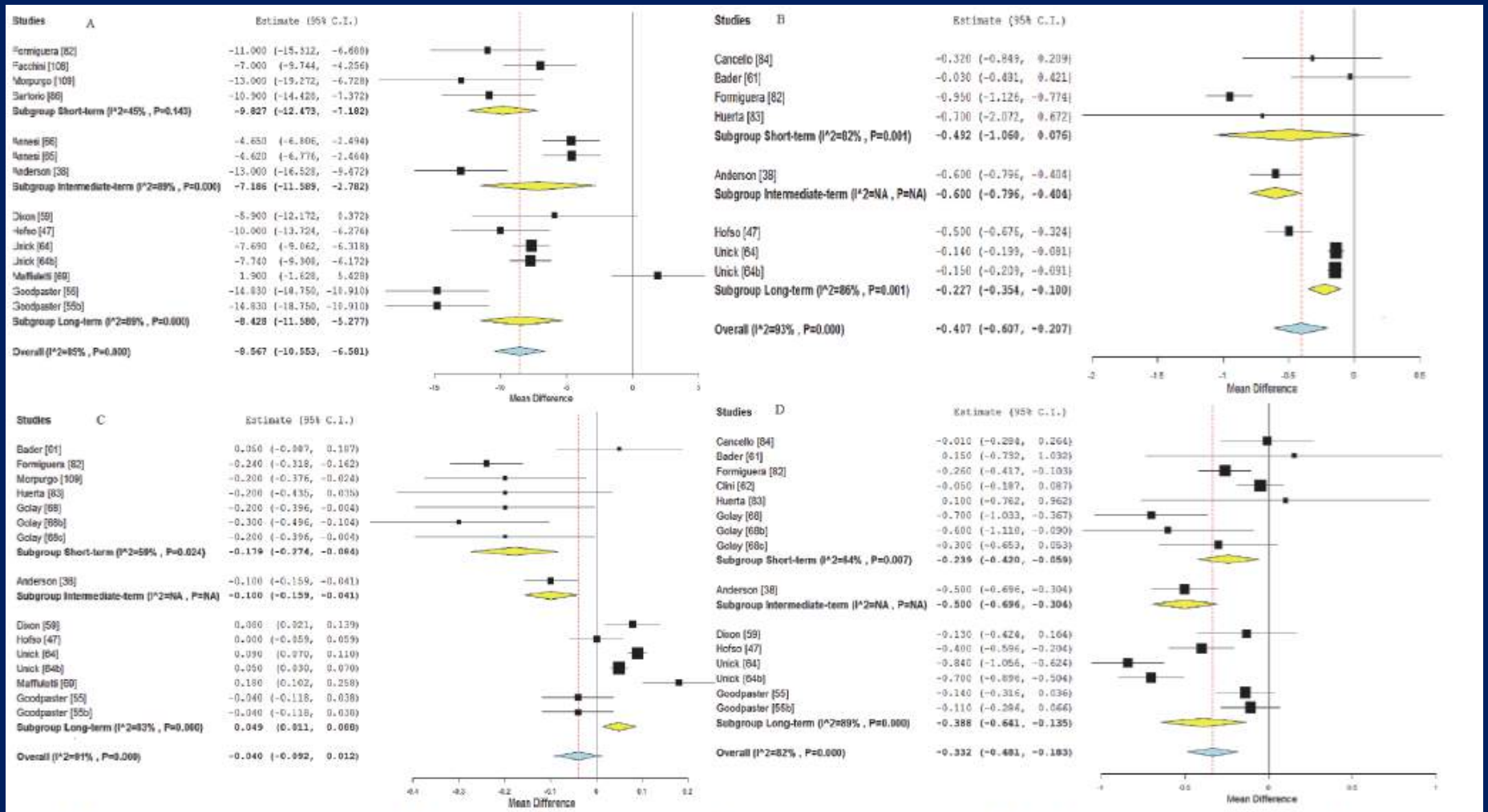
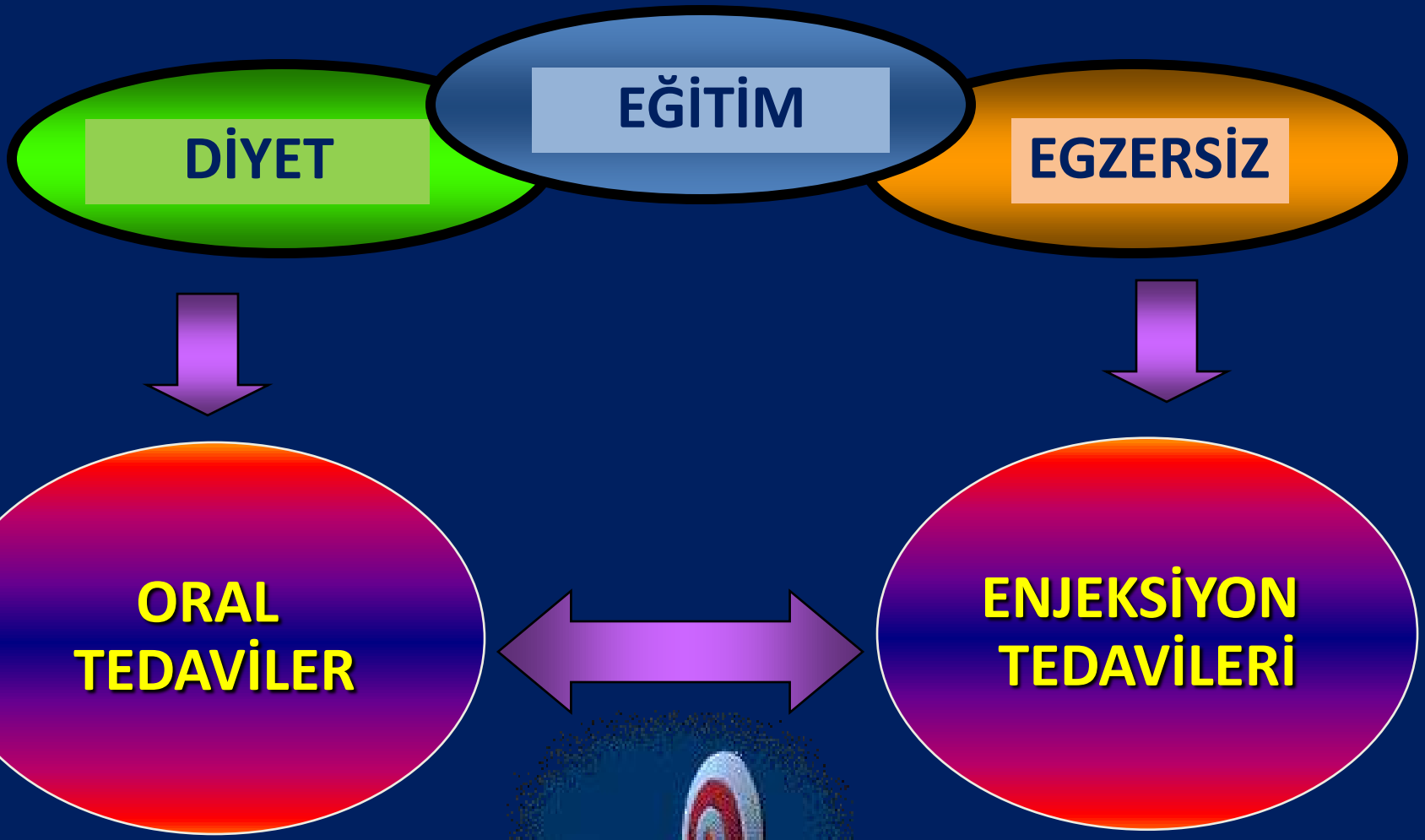


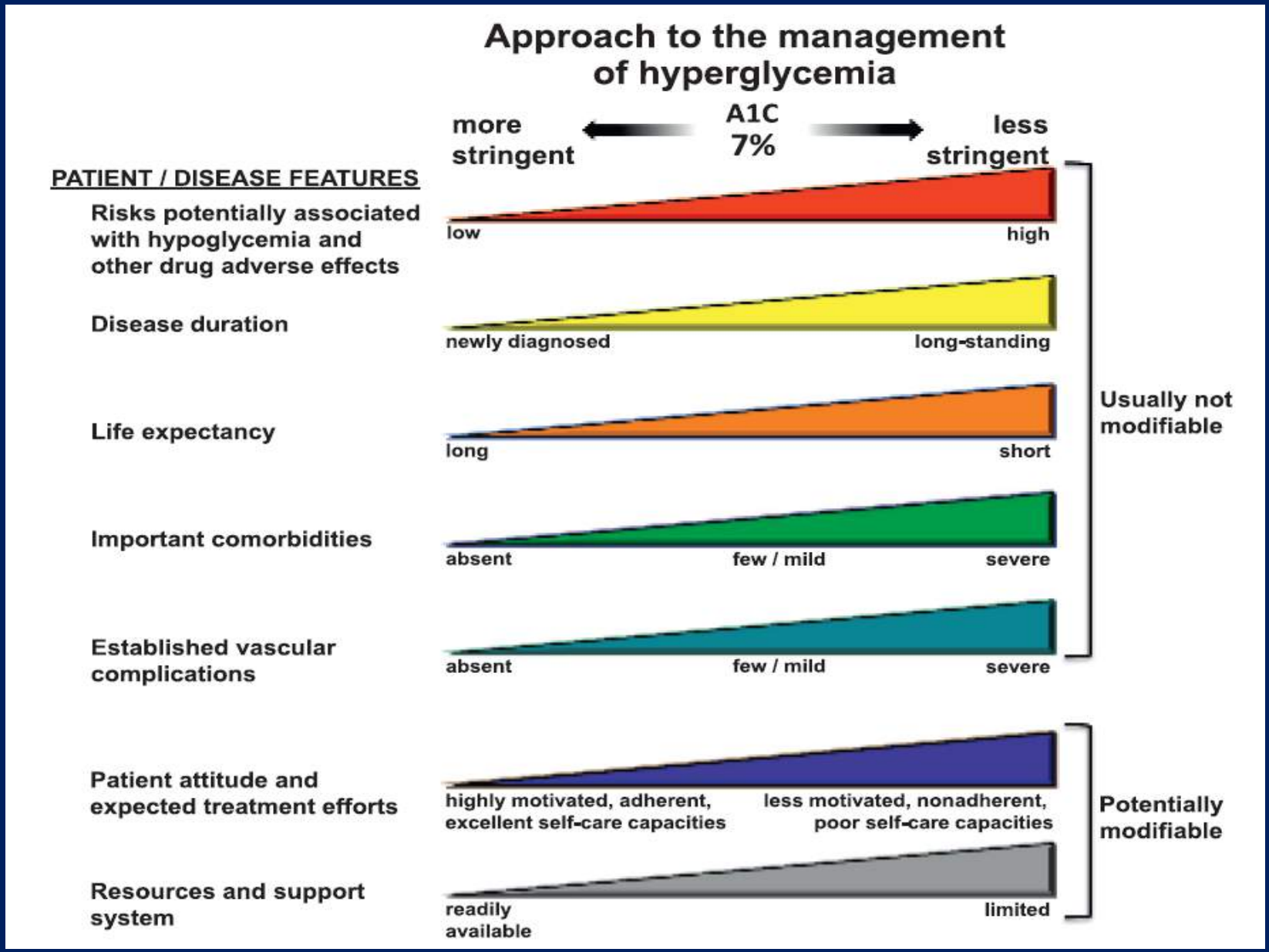
Fig 4. Forest plot of mean systolic blood pressure, LDL cholesterol, HDL cholesterol and triglycerides differences according to the intervention length in class II and III obese individuals. Notes: A (upper corner left): systolic blood pressure; B (upper corner right): LDL cholesterol; C: HDL cholesterol; D: Triglycerides. Letters inserted with the references (b, c, d) represent the different arms of intervention from the same study. A description of each intervention is given in Table 1

DİYABET TEDAVİSİ

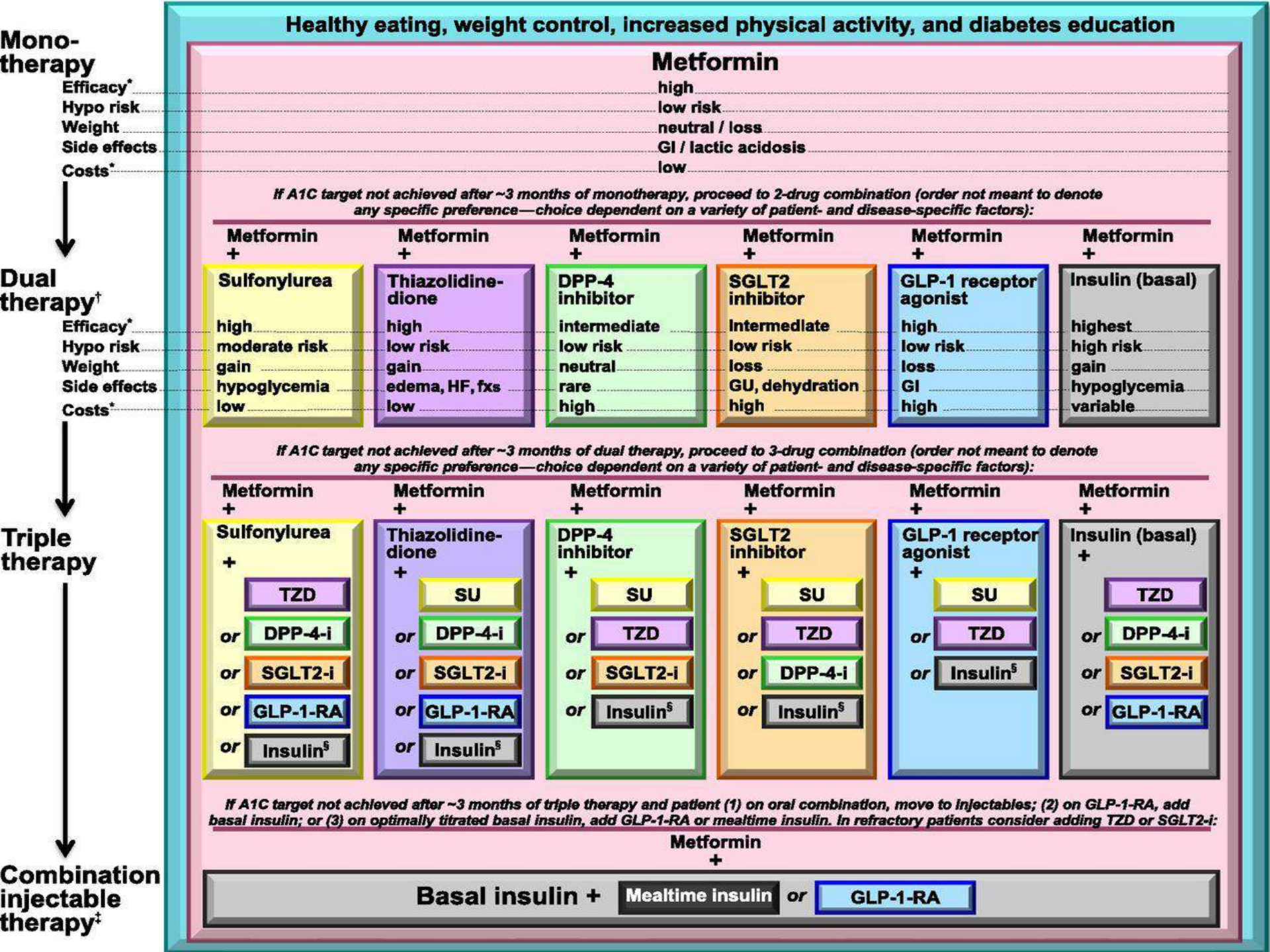


TEDAVİ HEDEFLERİ

	ADA/EASD	TEMD
A1C (%)	<7.0	<6.5
AKŞ (mg/dl)	80-130	70-120
TKŞ (mg/dl)	<180	<140



❖ American Diabetes Association. Standards of Medical Care in Diabetes-2015 Diabetes Care 2015;38 (suppl1):1-84.

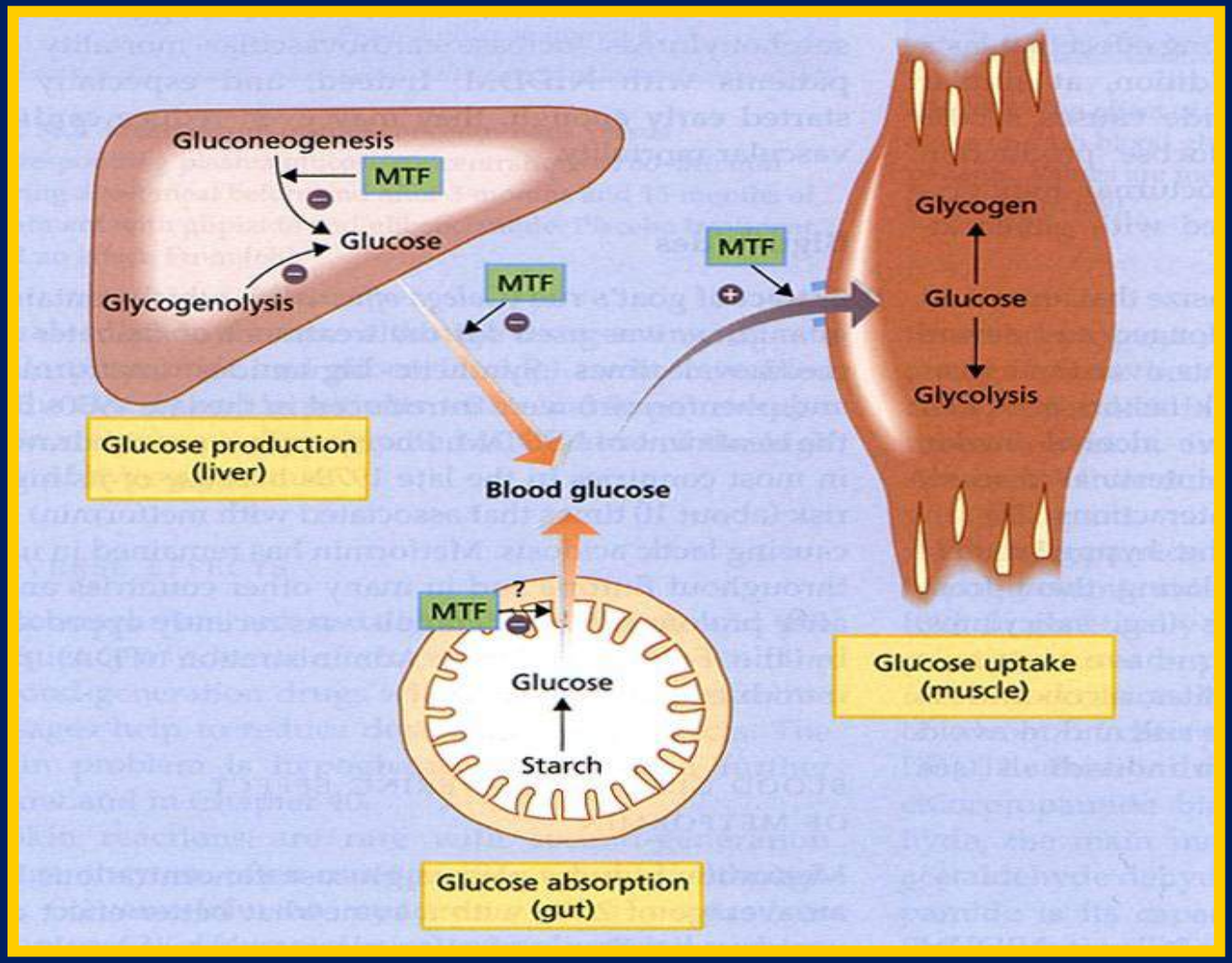

Healthy eating, weight control, increased physical activity, and diabetes education
Mono-therapy
Metformin
Efficacy*
high
Hypo risk
low risk
Weight
neutral / loss
Side effects
GI / lactic acidosis
Costs*
low
If A1C target not achieved after ~3 months of monotherapy, proceed to 2-drug combination (order not meant to denote any specific preference—choice dependent on a variety of patient- and disease-specific factors):
Dual therapy†
Metformin + Sulfonylurea
Efficacy* high
Hypo risk moderate risk
Weight gain
Side effects hypoglycemia
Costs* low
Metformin + Thiazolidine-dione
high
low risk
gain
edema, HF, fxs
low
Metformin + DPP-4 inhibitor
intermediate
low risk
neutral
rare
high
Metformin + SGLT2 inhibitor
Intermediate
low risk
loss
GU, dehydration
high
Metformin + GLP-1 receptor agonist
high
low risk
loss
GI
high
Metformin + Insulin (basal)
highest
high risk
gain
hypoglycemia
variable
If A1C target not achieved after ~3 months of dual therapy, proceed to 3-drug combination (order not meant to denote any specific preference—choice dependent on a variety of patient- and disease-specific factors):
Triple therapy
Metformin + Sulfonylurea + TZD or DPP-4-i or SGLT2-i or GLP-1-RA or Insulin§
Metformin + Thiazolidine-dione + SU or DPP-4-i or SGLT2-i or GLP-1-RA or Insulin§
Metformin + DPP-4 inhibitor + SU or TZD or SGLT2-i or Insulin§
Metformin + SGLT2 inhibitor + SU or TZD or DPP-4-i or Insulin§
Metformin + GLP-1 receptor agonist + SU or TZD or Insulin§
Metformin + Insulin (basal) + TZD or DPP-4-i or SGLT2-i or GLP-1-RA
If A1C target not achieved after ~3 months of triple therapy and patient (1) on oral combination, move to injectables; (2) on GLP-1-RA, add basal insulin; or (3) on optimally titrated basal insulin, add GLP-1-RA or mealtime insulin. In refractory patients consider adding TZD or SGLT2-i:
Combination injectable therapy‡
Metformin +
Basal insulin + Mealtime insulin or GLP-1-RA

METFORMİN

- Galega officinalis (Fransız leylağı/Sedef otu) bitkisinden elde edilmiştir.
- Bu bitkinin içerdiği guanidin maddesi, insülin direncini azaltarak kan glukozunu dengeler.

❖ Witters LA. J Clin Invest 2001;108:1105-7.

METFORMİN


Gluconeogenesis
MTF
Glucose
Glycogenolysis
Glucose production (liver)
MTF
Blood glucose
MTF
Glycogen
Glucose
Glycolysis
Glucose uptake (muscle)
MTF
?
Glucose
Starch
Glucose absorption (gut)

METFORMİN

- Yan etkiler:
  - Gastrointestinal semptomlar
    - Bulantı, kusma, karın ağrısı
    - Abdominal dolgunluk
    - Kramplar
    - Diyare
    - Ağızda metalik tat
  - Vitamin B_{12} eksikliği
  - Laktik asidoz (<1/100.000 hasta)*

❖ Salpeter S, et al. Cochrane Database Syst Rev CD002967, 2006.

METFORMİN

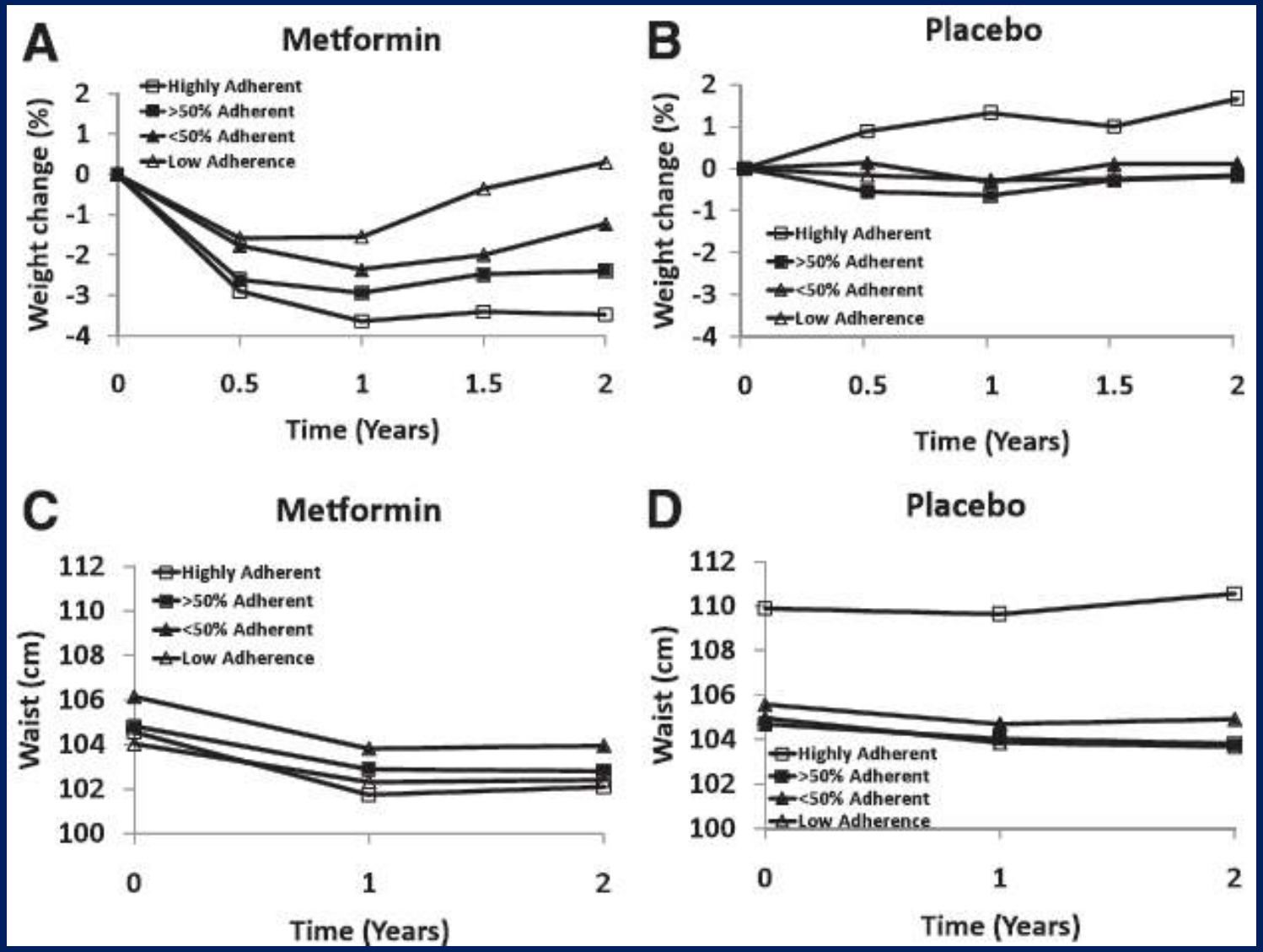
ORIGINAL ARTICLE

Long-Term Safety, Tolerability, and Weight Loss Associated With Metformin in the Diabetes Prevention Program Outcomes Study

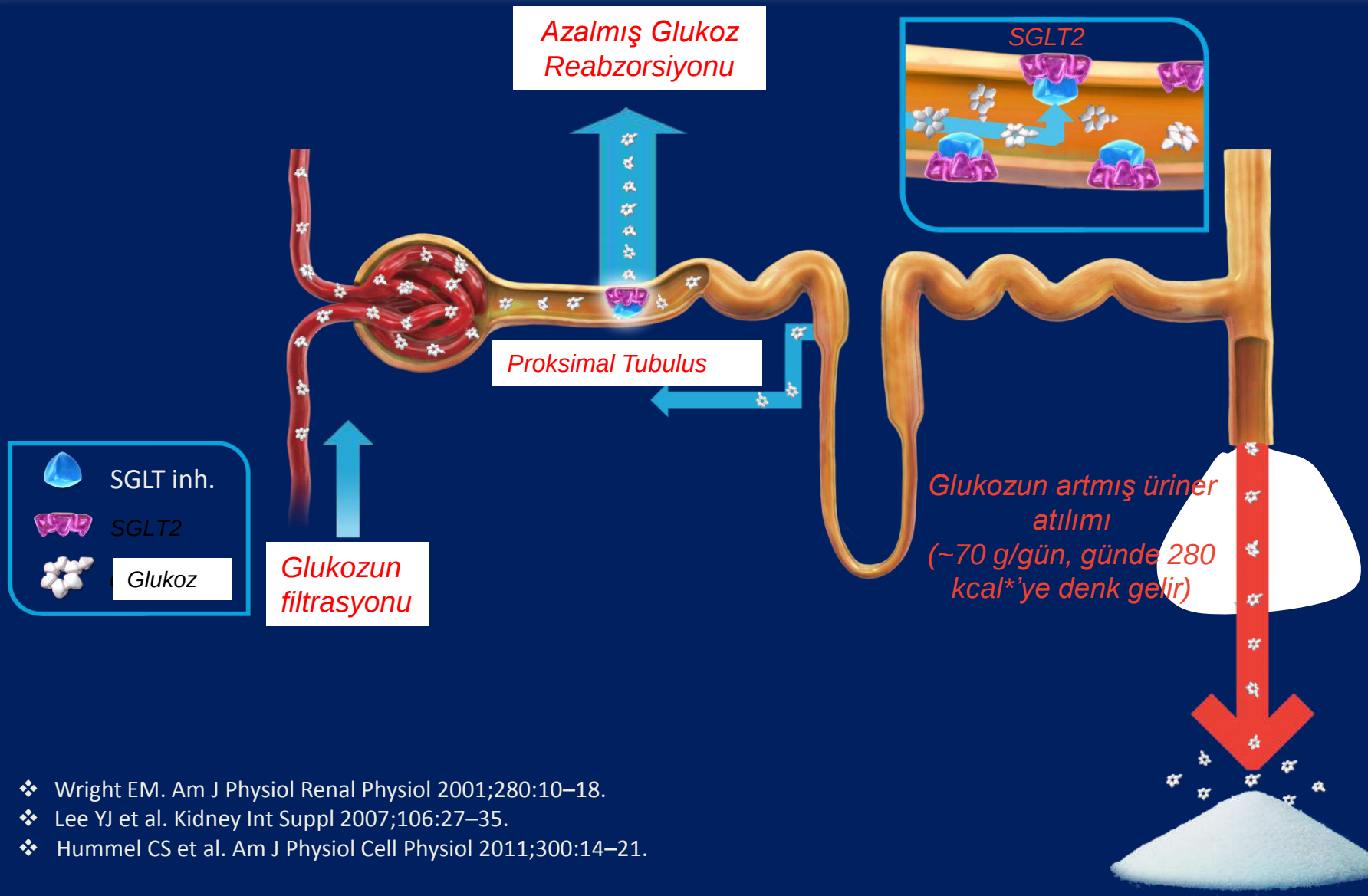
THE DIABETES PREVENTION PROGRAM RESEARCH GROUP*

Diabetes Care 35:731–737, 2012

METFORMİN

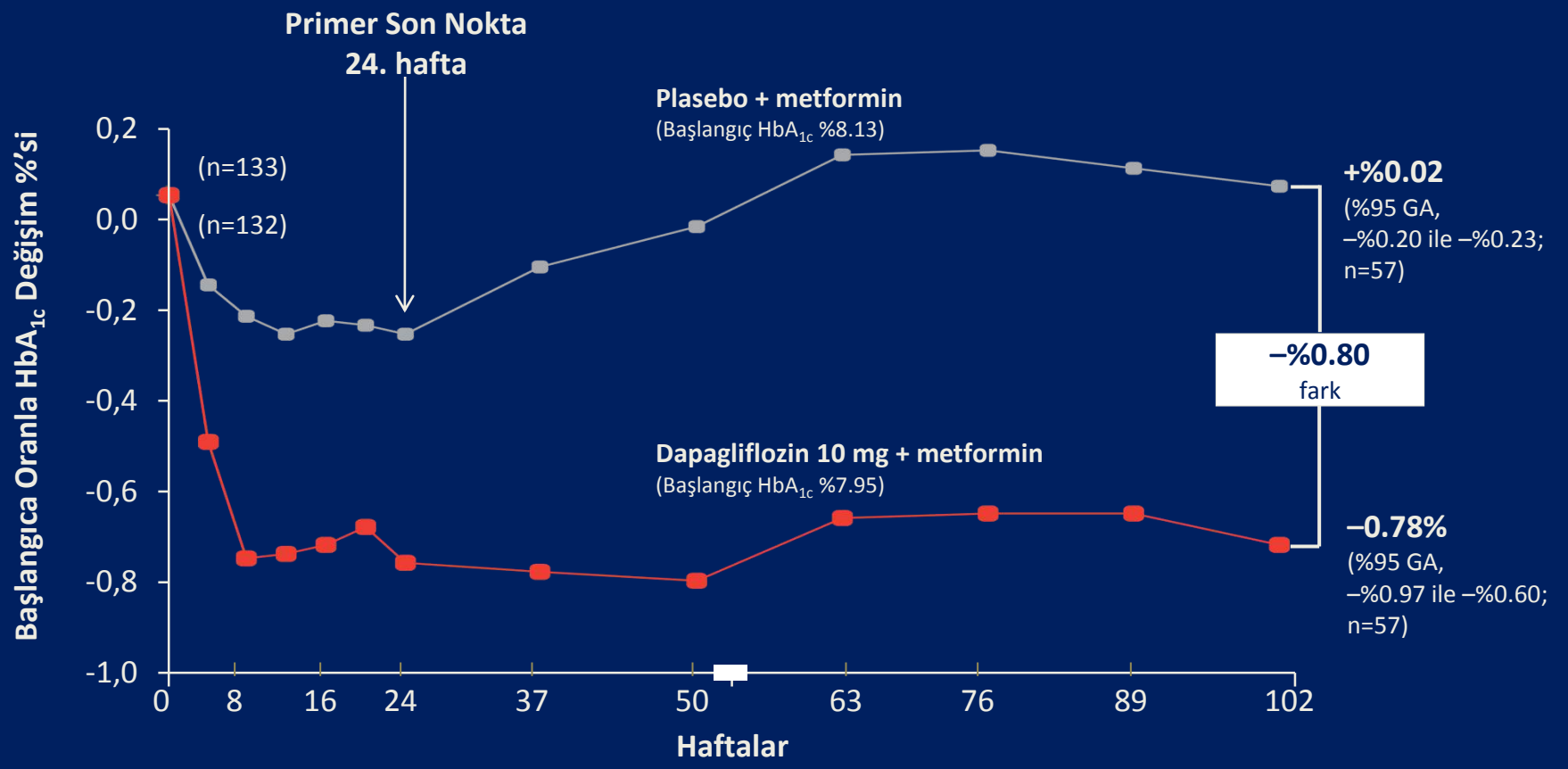

A
Metformin
Highly Adherent
>50% Adherent
<50% Adherent
Low Adherence
Weight change (%)
2
1
0
-1
-2
-3
-4
0
0.5
1
1.5
2
Time (Years)
B
Placebo
Highly Adherent
>50% Adherent
<50% Adherent
Low Adherence
Weight change (%)
2
1
0
-1
-2
-3
-4
0
0.5
1
1.5
2
Time (Years)
C
Metformin
Highly Adherent
>50% Adherent
<50% Adherent
Low Adherence
Waist (cm)
112
110
108
106
104
102
100
0
1
2
Time (Years)
D
Placebo
Highly Adherent
>50% Adherent
<50% Adherent
Low Adherence
Waist (cm)
112
110
108
106
104
102
100
0
1
2
Time (Years)

SGLT2 İNHİBİTÖRLERİ



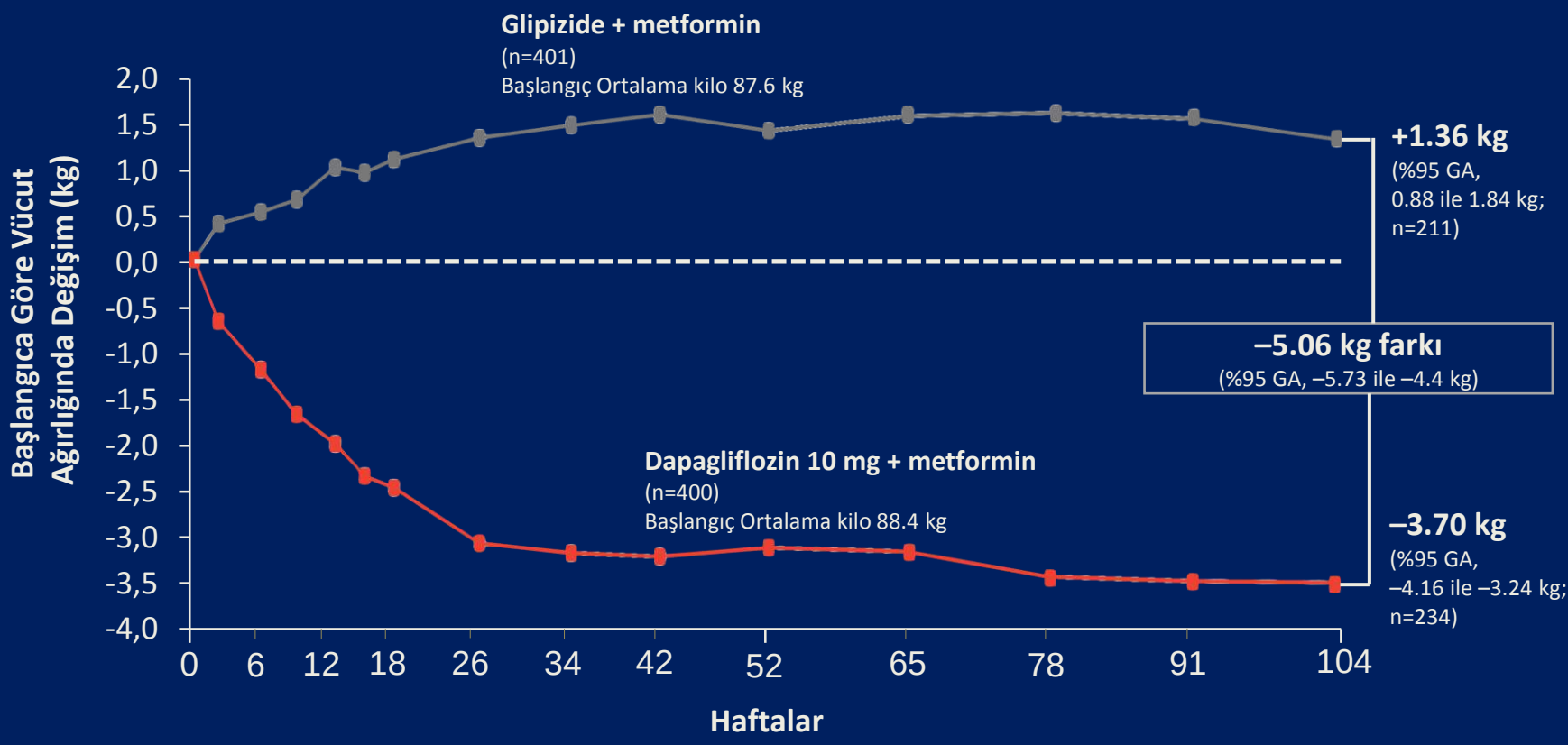
- Wright EM. Am J Physiol Renal Physiol 2001;280:10–18.
- Lee YJ et al. Kidney Int Suppl 2007;106:27–35.
- Hummel CS et al. Am J Physiol Cell Physiol 2011;300:14–21.

SGLT2 İNHİBİTÖRLERİ



❖ Bailey CJ et al. Diabetes 2011;60(Suppl. 1):988.

SGLT2 İNHİBİTÖRLERİ

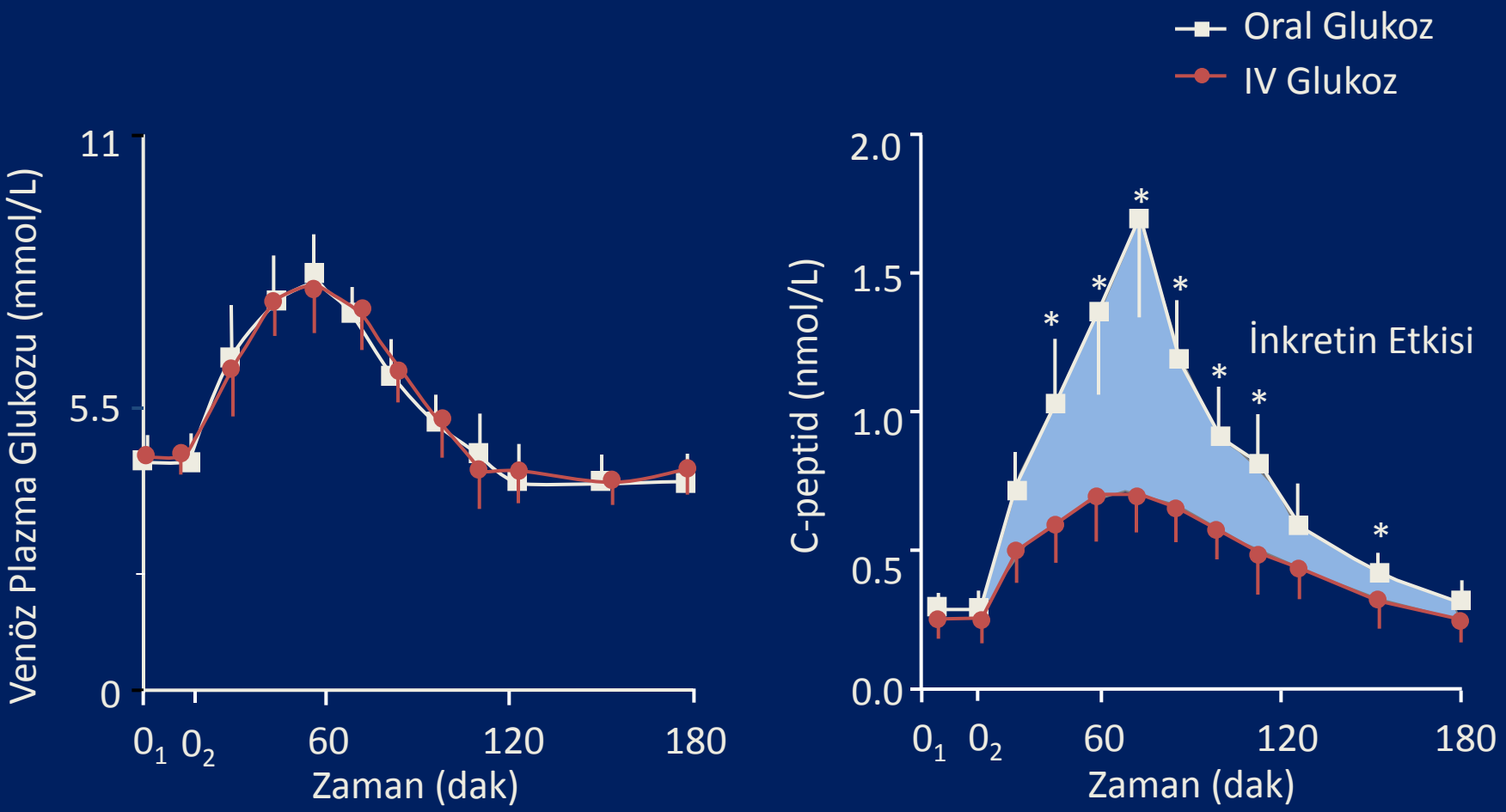


❖ Nauck MA et al. Diabetes 2011;60(Suppl. 1):40-LB.

SGLT2 İNHİBİTÖRLERİ

YAN ETKİLER	Oldukça Sık (≥%10)	Sık* (≥%1 ile <%10)	Nadir† (≥%0.1 ile <%1)
Enfeksiyonlar		Vulvovajinit, balanit ve diğer genital enfeksiyonlar	Vulvovajinal kaşıntı
Metabolizma & beslenme bozuklukları	Hipoglisemi (SU yada insulinle)		Sıvı açığı Susama
Gastrointestinal bozukluklar			Kabızlık
Deri ve subkutan doku bozuklukları			Hiperhidroz
Kas iskelet ve bağ dokusu hastalıkları		Sırt ağrısı	
Renal & üriner hastalıklar		Disüri Poliüri	Nokturi
İncelemeler		Dislipidemi Hematokrit artışı	Kanda kreatinin ve üre artışı

İNKRETİN ETKİSİ



❖ Nauck MA et al. J Clin Endocrinol Metab 1986;63:492-498.

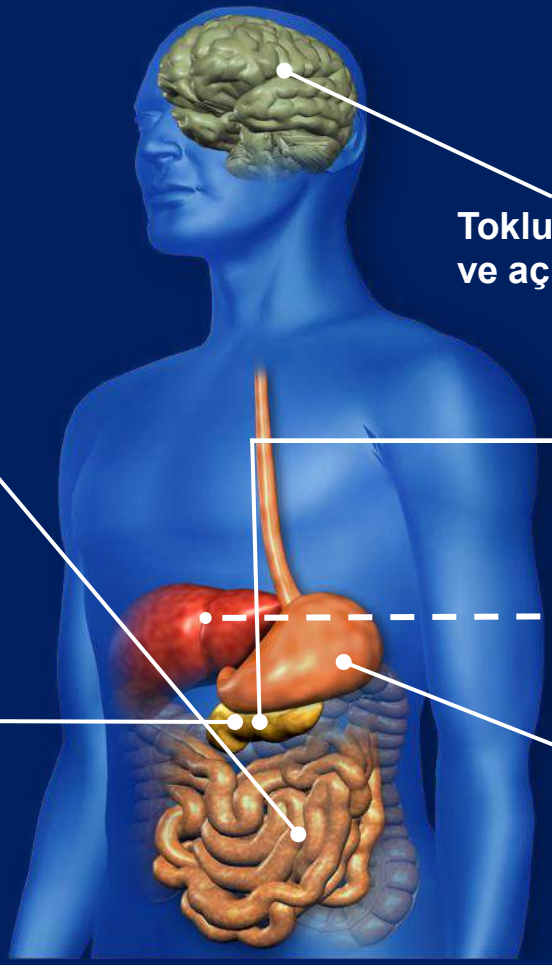
GLP-1'İN ETKİLERİ

Gıda alımına bağlı
GLP-1 salınımı

↓ Beta hücre İşyükü

Tokluk hissini uyarır
ve açlığı azaltır

↑ Beta hücre Yanıtı



Alfa hücreleri:
Postprandiyal
glukagon salınımı ↓

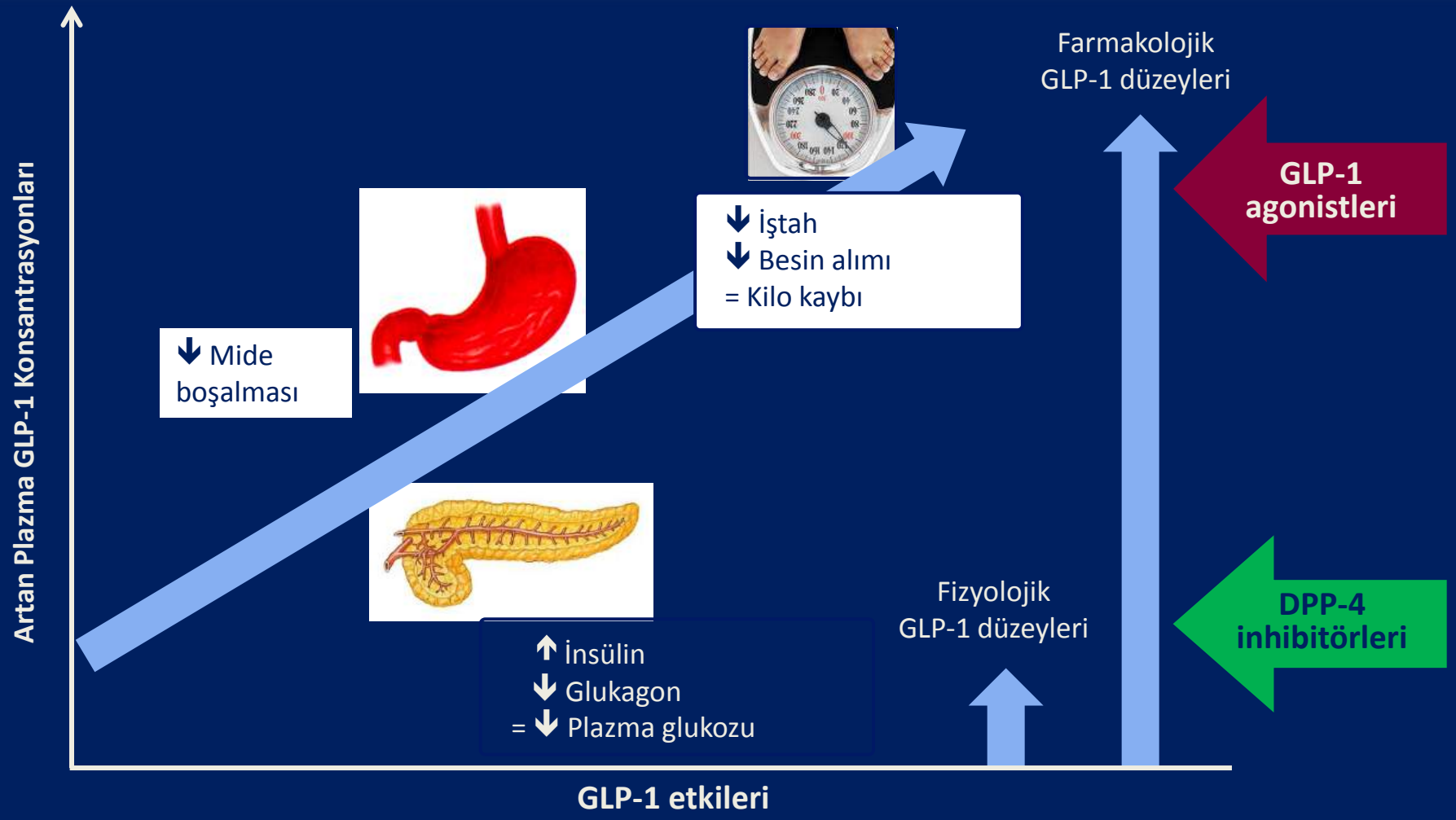
Karaciğer:
↓ Glukagon hepatik glukoz çıkışını azaltır

Beta hücreleri:
Glukoza bağımlı insülin salınımını artırır

Mide boşalmasını
yavaşlatır

Flint A et al. J Clin Invest 1998;101:515-520.
Nauck MA et al. Diabetologia 1996;39:1546-1553.
Larsson H et al. Acta Physiol Scand 1997;160:413-422.
Drucker DJ. Diabetes 1998;47:159-169.

GLP-1 İLE İLİŞKİLİ TEDAVİLER



Holst JJ et al. Trends Mol Med 2008;14:161–168.
Flint A et al. Adv Ther 2011;28:213–226.

Bioorganic & Medicinal Chemistry Letters 23 (2013) 4011–4018

Contents lists available at SciVerse ScienceDirect

Bioorganic & Medicinal Chemistry Letters

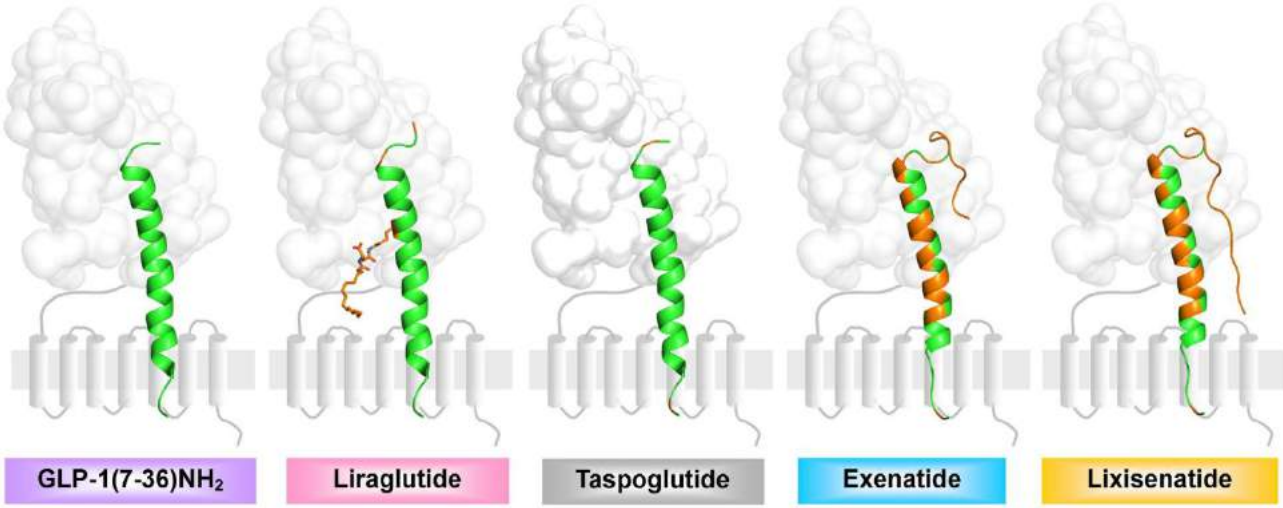
journal homepage: www.elsevier.com/locate/bmcl

BMCL Digest

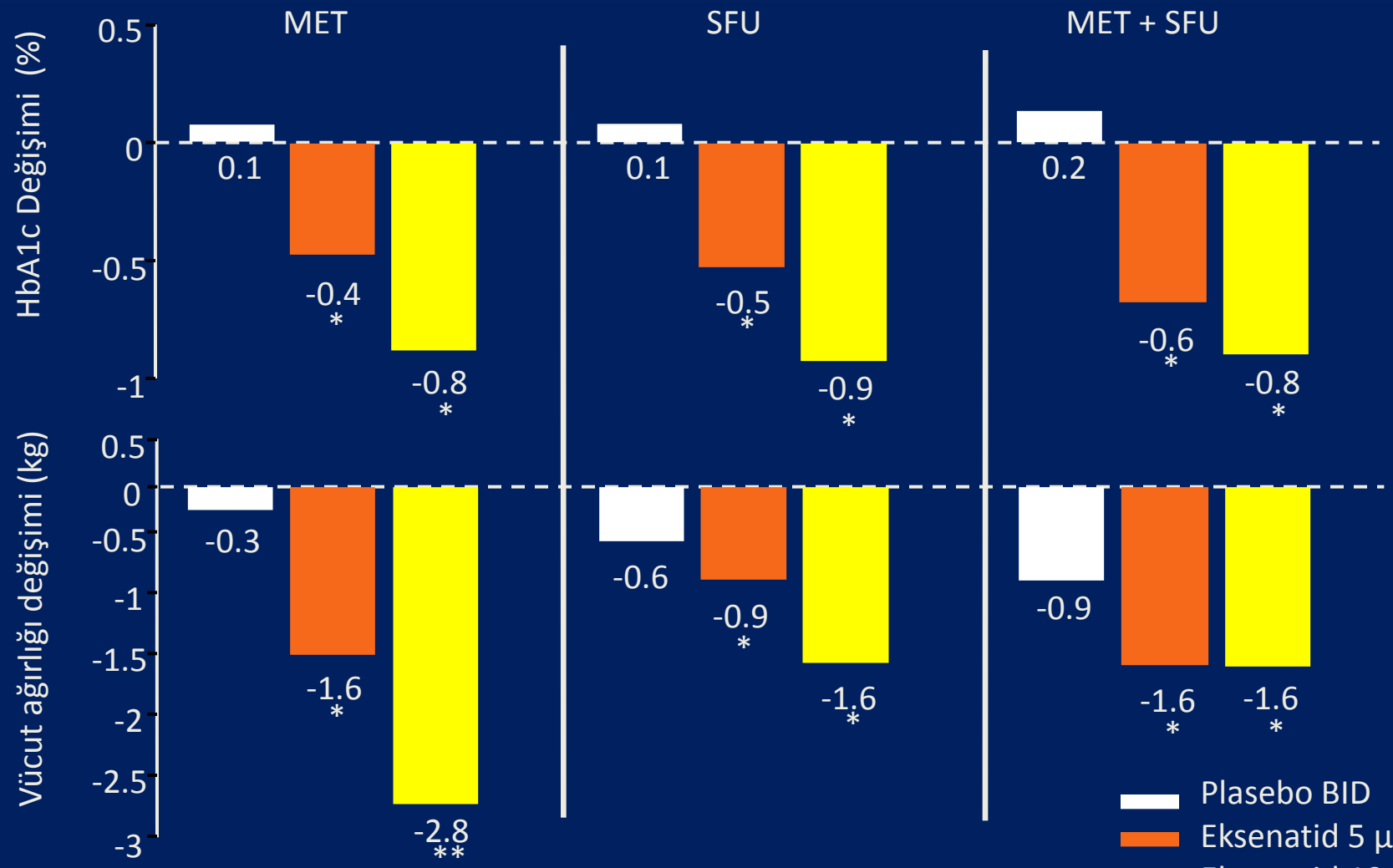
Recent progress and future options in the development of GLP-1 receptor agonists for the treatment of diabesity

Martin Lorenz [a,*], Andreas Evers [b], Michael Wagner [a,*]

[a] Diabetes Division/Res. & Transl. Med, Sanofi-Aventis Deutschland GmbH, Industriepark Höchst, 65926 Frankfurt am Main, Germany
[b] LGCR/Struct., Design & Informatics, Sanofi Deutschland GmbH, 65926 Frankfurt am Main, Germany



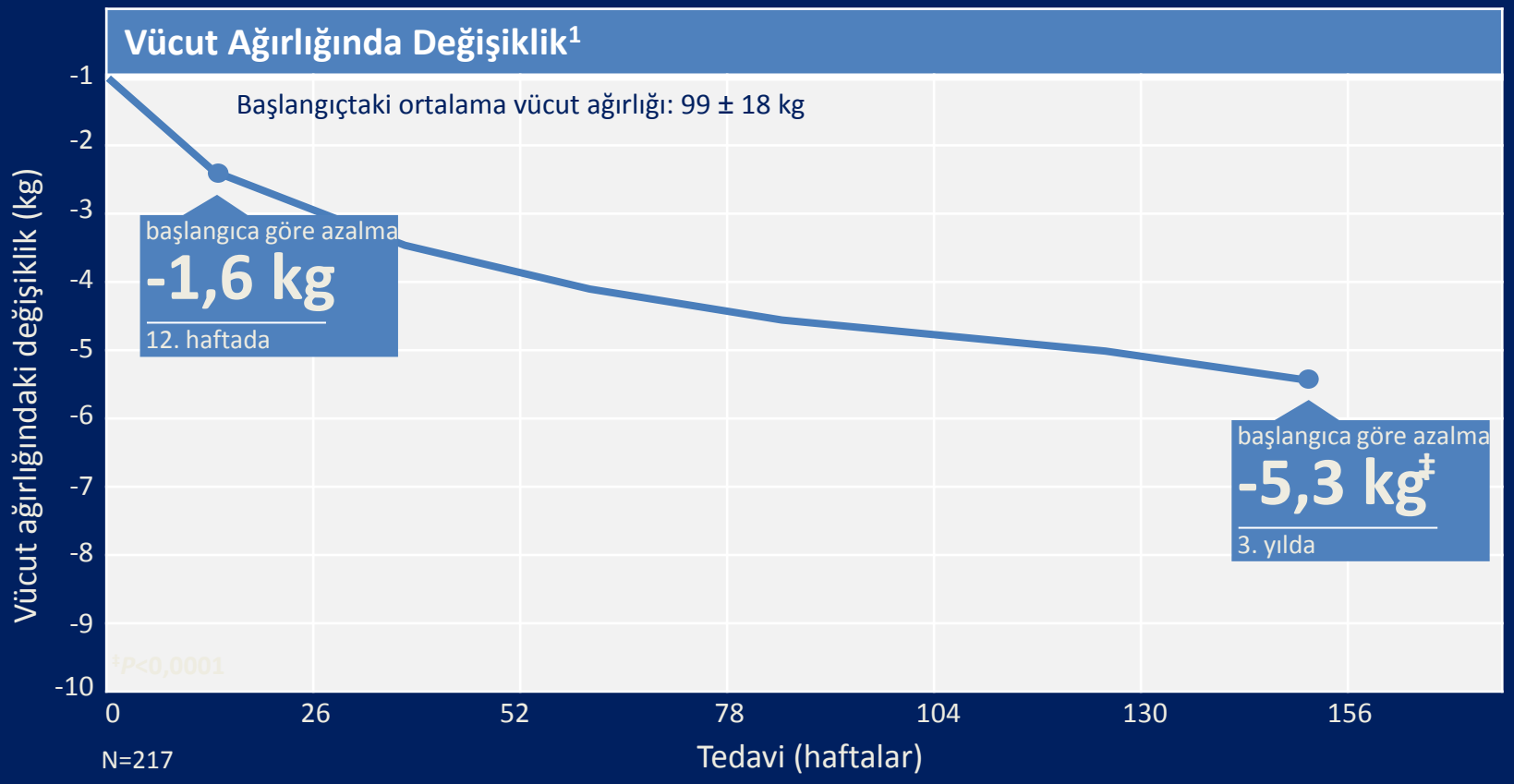
EKSENATİD



- DeFronzo RA et al. Diabetes Care 2005;28:1092-1100.
- Buse JB et al. Diabetes Care 2004;27:2628-2635.
- Kendall DM et al. Diabetes Care 2005;28:1083-1091.

EKSENATİD

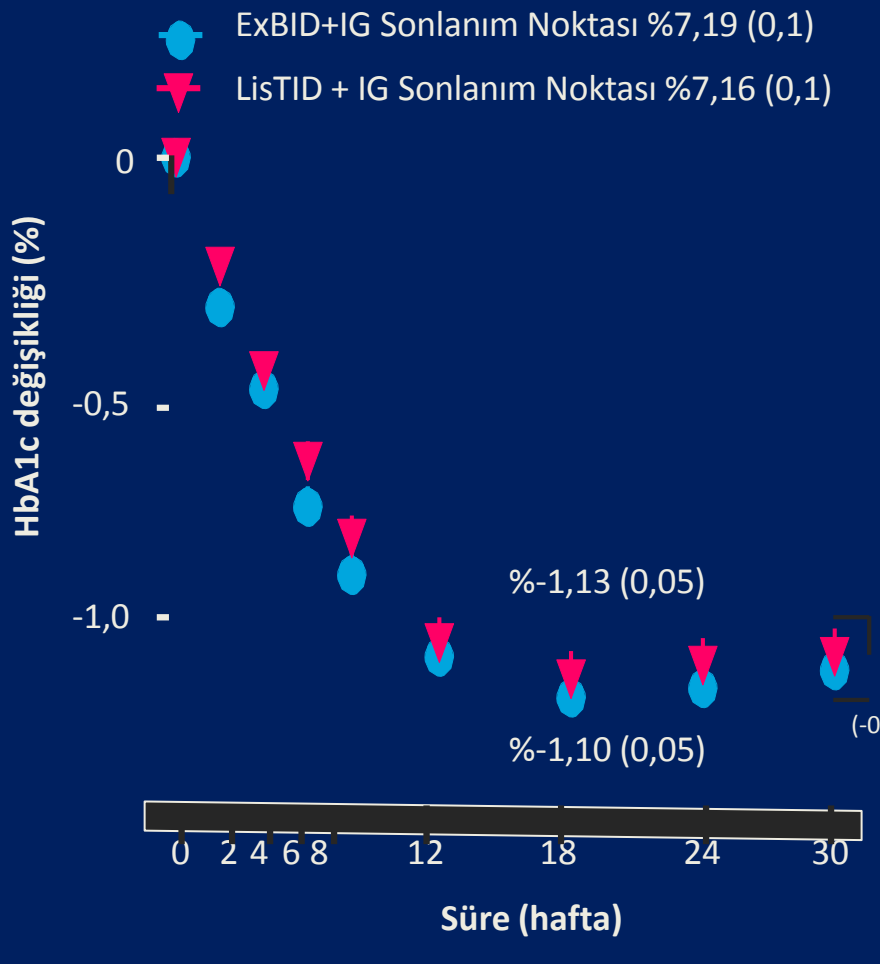
Eksenatidin vücut ağırlığını azaltıcı etkisi 156 haftalık uzatma çalışması boyunca sürmüştür

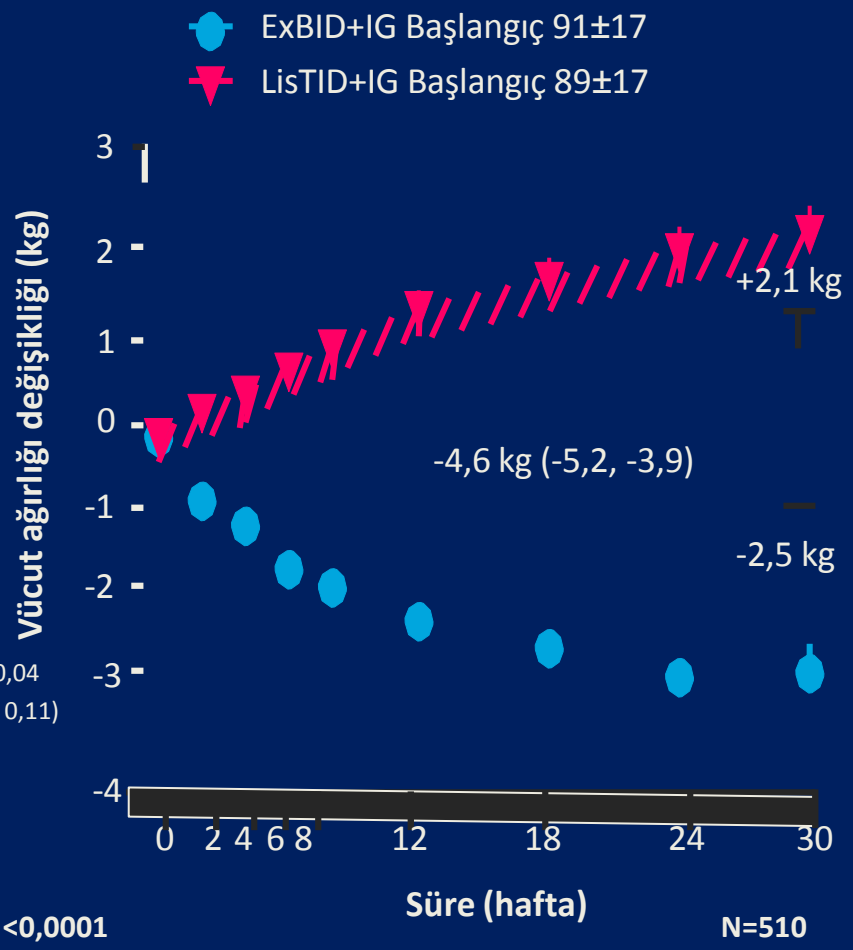


❖ Klonoff DC et al. Curr Med Res Opin 2008;24:275-286.

EKSENATİD

30. Haftada HbA1c ve Vücut Ağırlığı



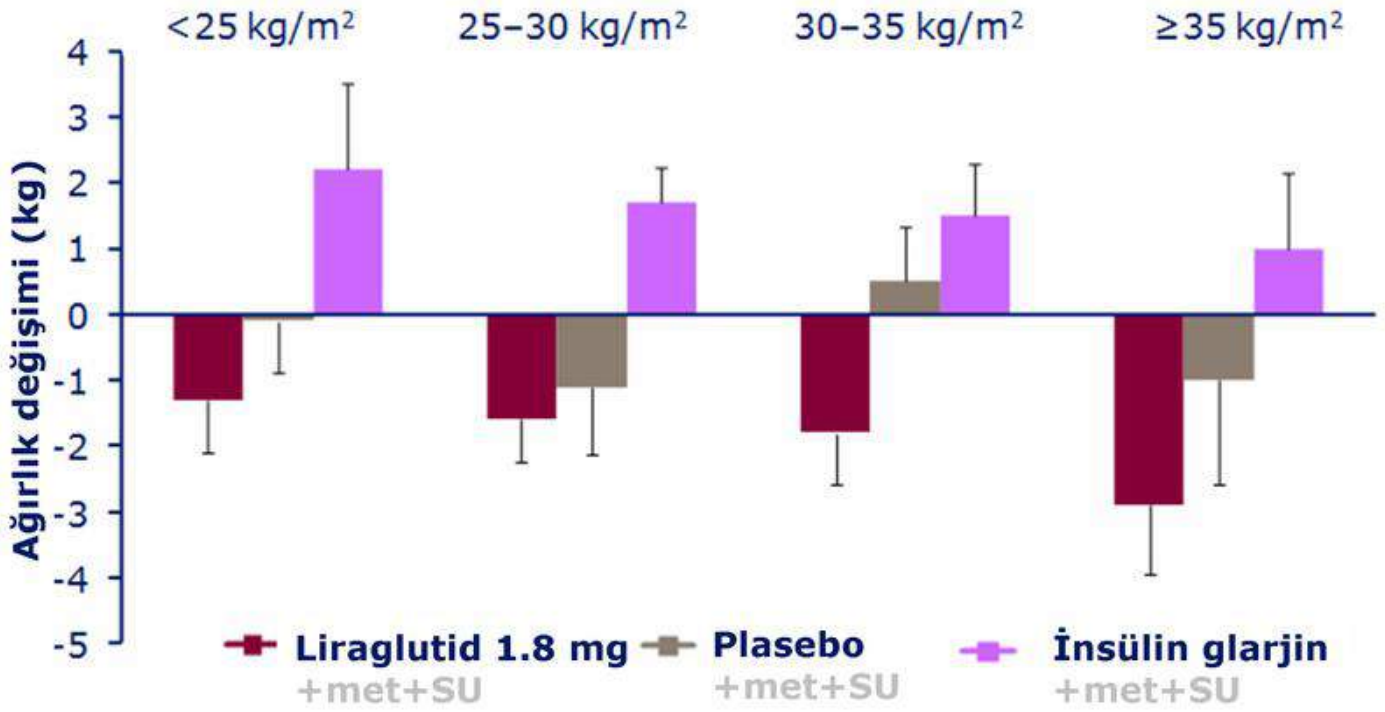


*P <0,0001

N=510

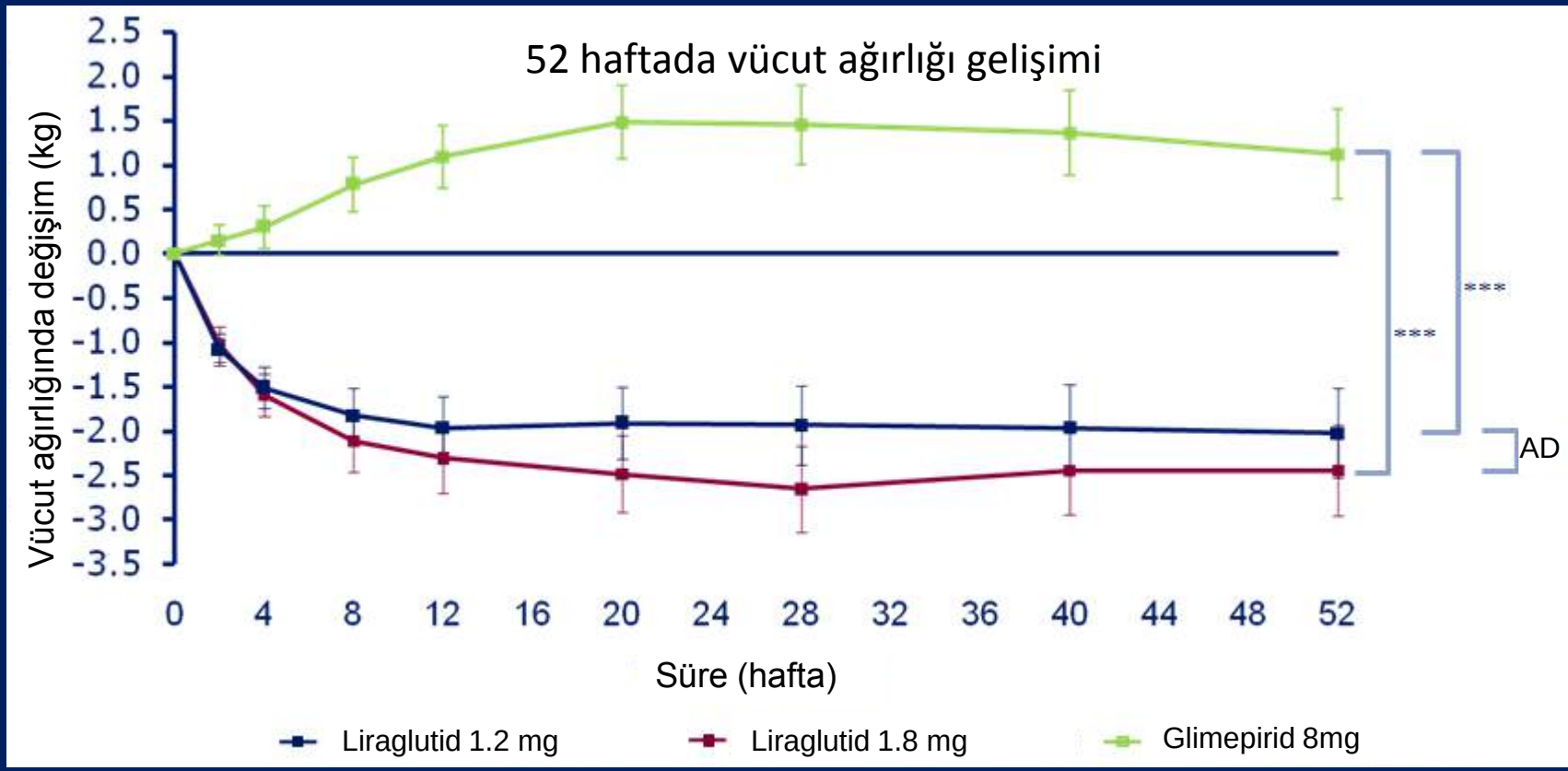
❖ Diamant M et al. Diabetes Care 2014; doi: 10.2337/dc14-0876.

LİRAGLUTİD



Russell-Jones D., Diabetologia DOI 10.1007/s00125-009-1472-y (LEAD-5)

LİRAGLUTİD

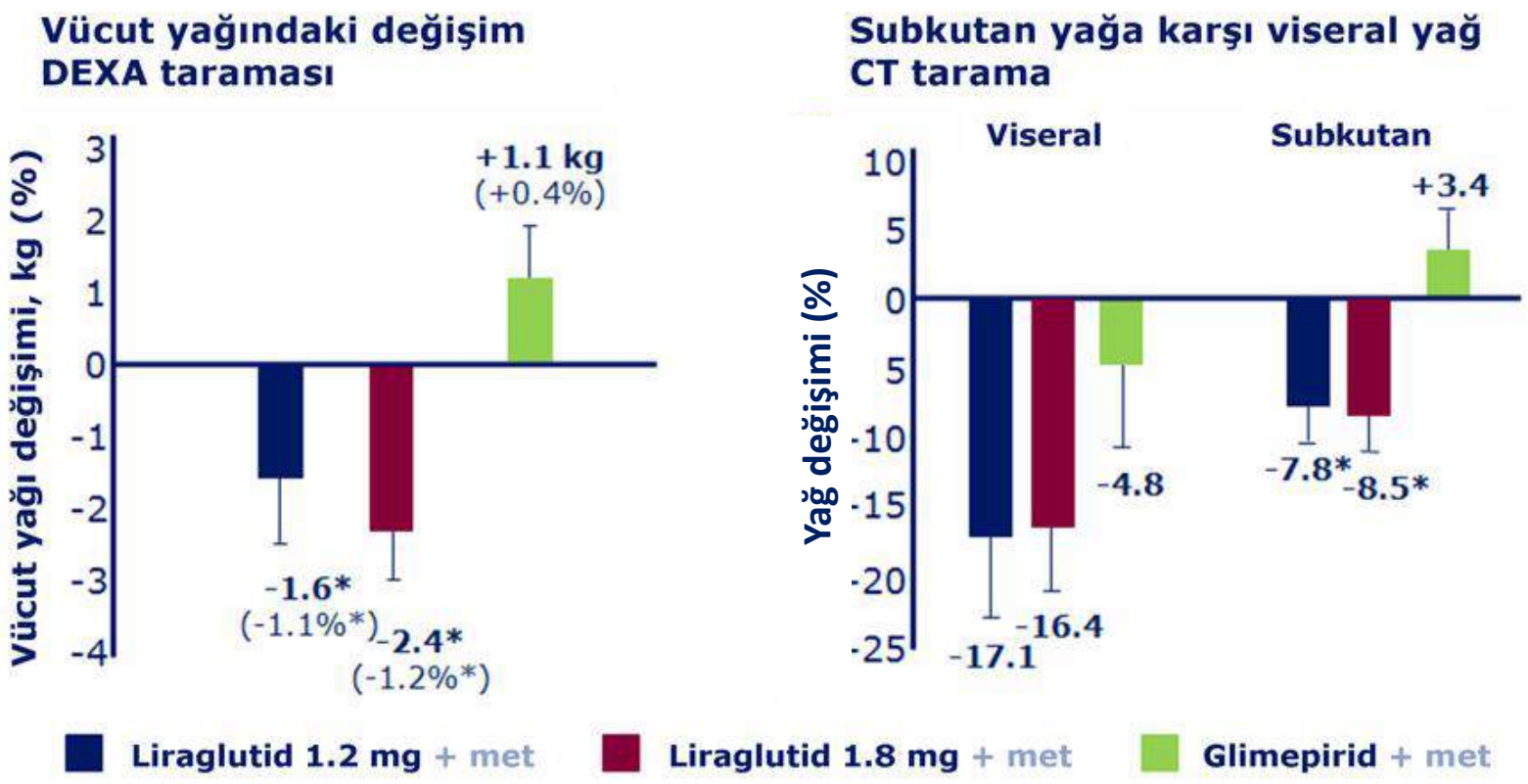


***Başlangıca göre değişim için $p < 0.0001$

❖ Garber et al. Lancet 2009;373:473–81 (LEAD-3)

LİRAGLUTİD

Liraglutidin viseral vücut yağına etkisi



LEAD-2

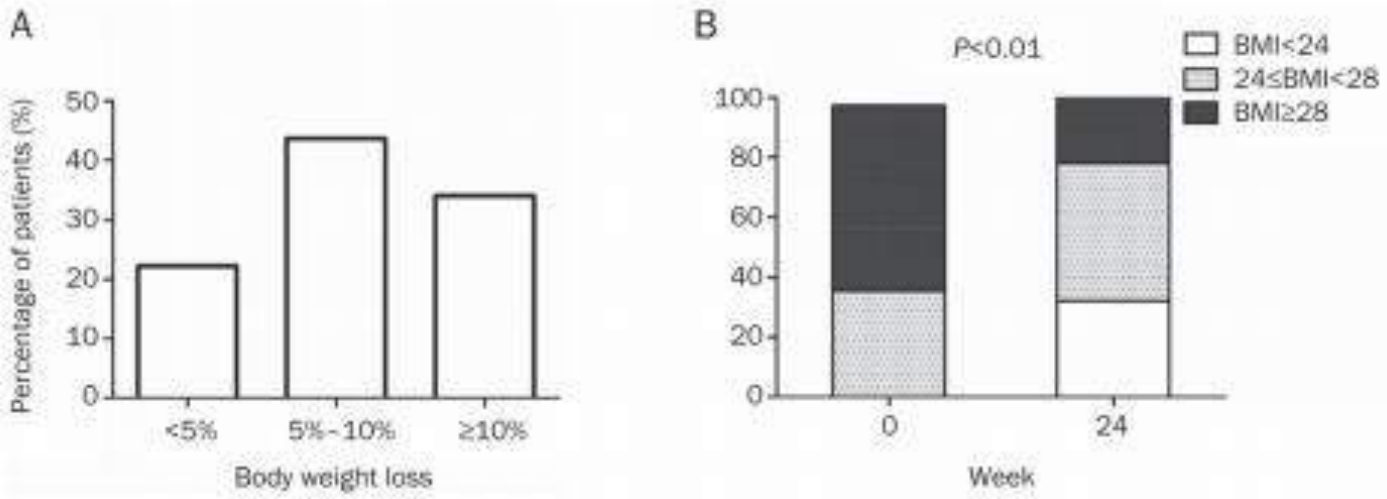
❖ Nauck M et al. Diabetes Care 2009;32;84–90 .

Acta Pharmacologica Sinica (2015) 36: 200–208
 1671-4083/15 $32.00
www.nature.com/aps

Original Article

Liraglutide reduces the body weight and waist circumference in Chinese overweight and obese type 2 diabetic patients

Ping FENG[1], De-min YU[2], Li-ming CHEN[2], Bao-cheng CHANG[2], Qiu-di JI[1], Shu-ying LI[1], Mei ZHU[1], Sheng-hua DING[3], Bao-zhen ZHANG[3], Su-li WANG[4], Hong-tao LI[5], Jing-na LIN[6], Mao-jun WANG[7], Jian-chao GUO[8], Jie LIU[9], Zhong-dong LIU[9], Shen-tao WU[10], Ju-hong YANG[2, *], Clinical Cooperation Group of Liraglutide in Chinese Type 2 Diabetes



Blonde et al. Cardiovascular Diabetology (2015) 14:12
DOI 10.1186/s12933-014-0171-2

CARDIO VASCULAR DIABETOLOGY

ORIGINAL INVESTIGATION Open Access

Association among weight change, glycemic control, and markers of cardiovascular risk with exenatide once weekly: a pooled analysis of patients with type 2 diabetes

Lawrence Blonde[1*], Richard Pencek[2] and Leigh MacConell[2]

Table 1 Characteristics of exenatide once weekly studies

Author	N	Study duration (weeks)	Baseline A1C (%)[a]	Change in A1C (%)[a,b]	Baseline body weight (kg)[a]	Change in body weight (kg)[a,b]
Drucker et al. 2008 [14] (DURATION-1)	148	30	8.3	−1.9	102	−3.7
Bergenstal et al. 2010 [9] (DURATION-2)	160	26	8.6	−1.5	89	−2.3
Diamant et al. 2010 [13] (DURATION-3)	233	26	8.3	−1.5	91.2	−2.6
Russell-Jones et al. 2012 [16] (DURATION-4)	248	26	8.5	−1.5	87.5	−2.0
Blevins et al. 2011 [10] (DURATION-5)	129	24	8.5	−1.6	97.0	−2.3
Buse et al. 2013 [11] (DURATION-6)	461	26	8.5	−1.3	90.9	−2.7
Davies et al. 2013 [12]	111	26	8.4	−1.3	96.7	−2.7
Ji et al. 2013 [15]	340	26	8.7	−1.4	69.6	−1.6

A1C: glycated hemoglobin; [a]All mean or least-squares mean values; [b]At study end point.

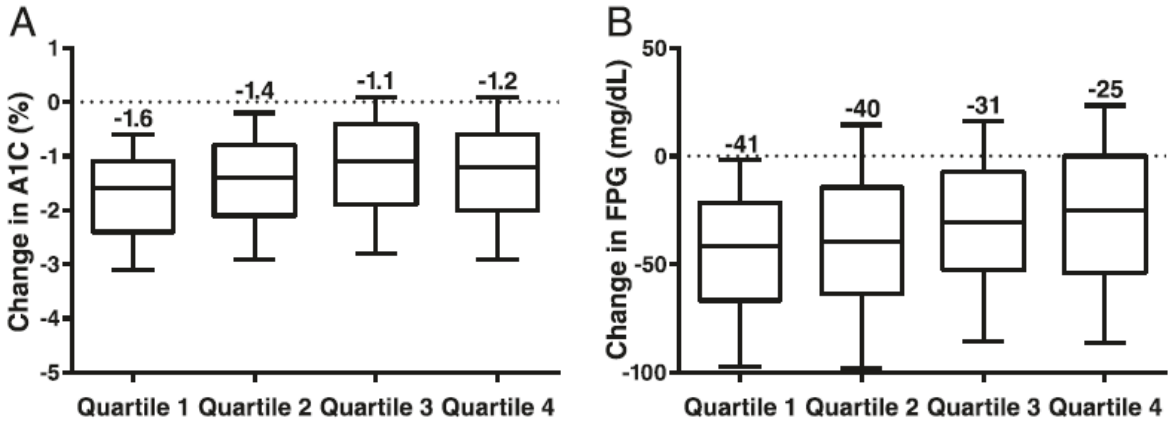


Figure 2 Median changes in A1C and FPG, by end-point body weight change quartiles. (A) A1C. **(B)** FPG. A1C, hemoglobin A1C; FPG, fasting plasma glucose. The central line represents the median (also labelled above the plot), the box encloses the 25th to 75th percentiles of the distribution, and the outer bars are drawn to the 10th and 90th percentiles.

Table 3 Mean changes in parameters from baseline to end point

Parameter, mean (SE) [95% CI]	Quartile 1 (n = 455)	Quartile 2 (n = 458)	Quartile 3 (n = 450)	Quartile 4 (n = 455)	All Patients (N = 1830)
Weight (kg)	−7.0 (0.15)	−3.0 (0.03)	−1.0 (0.03)	1.5 (0.09)	−2.4 (0.09)
	[−7.3, −6.7]	[−3.0, −2.9]	[−1.1, −1.0]	[1.4, 1.7]	[−2.5, −2.2]
A1C (%)	−1.7 (0.05)	−1.4 (0.05)	−1.2 (0.06)	−1.3 (0.05)	−1.4 (0.03)
	[−1.8, −1.6]	[−1.5, −1.3]	[−1.3, −1.1]	[−1.4, −1.2]	[−1.5, −1.3]
FPG (mg/dL)	−43.5 (2.30)	−38.3 (2.29)	−31.7 (2.13)	−29.1 (2.50)	−35.7 (1.16)
	[−48.0, −39.0]	[−42.8, −33.8]	[−35.9, −27.6]	[−34.1, −24.2]	[−38.0, −33.5]

OLGU - 2

- Yakınma: Karında şişkinlik
- Boy: 170 cm VA: 118 kg
- VKİ: 40.8 kg/m^2
- Bel çevresi: 128 cm
- A1C: %6.9

Sabah açlık	S abah tokluk	Öğle tokluk	Akşam tokluk
121	144	163	133
135	150	138	145

OLGU - 2

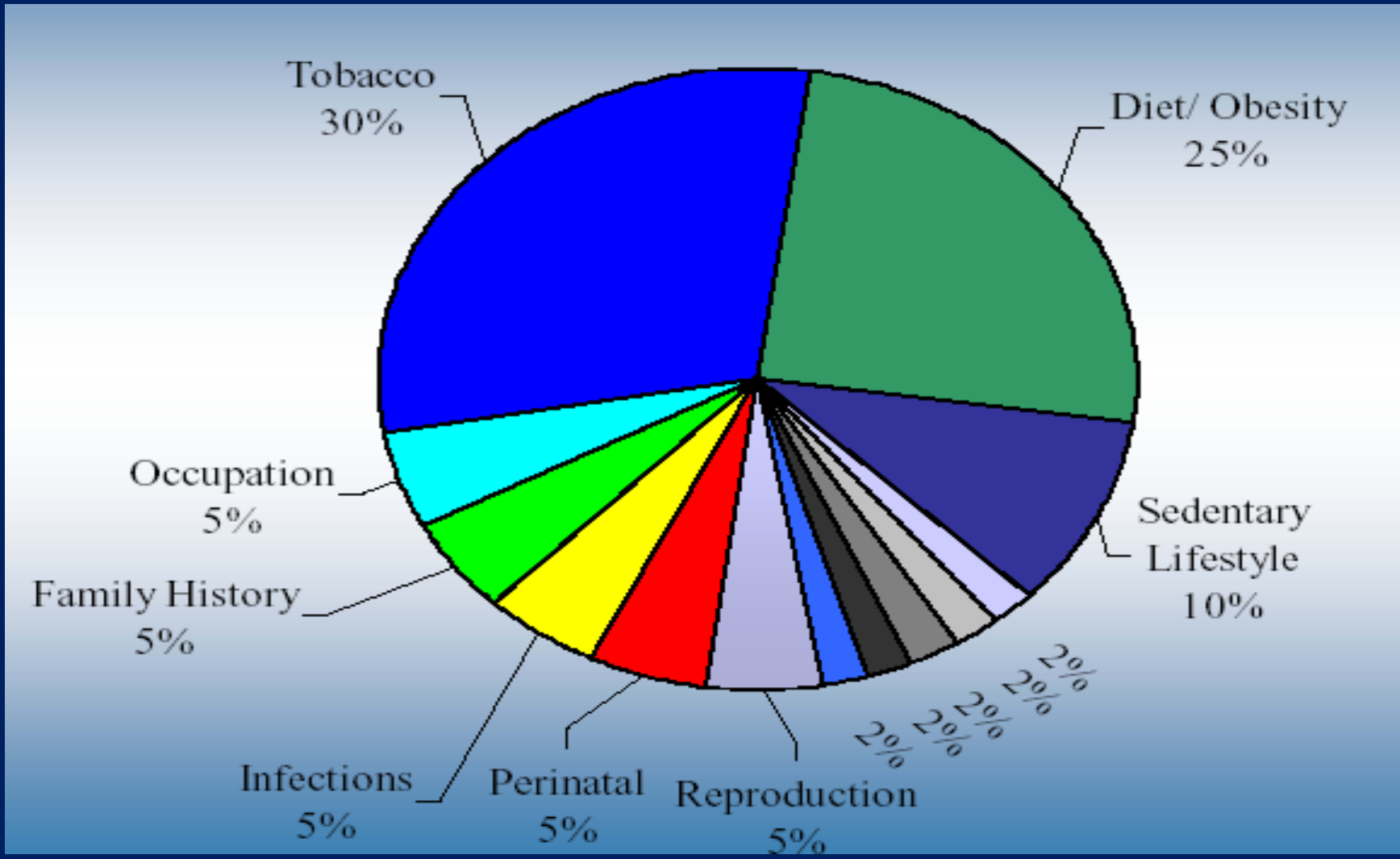
- Kullandığı ilaçlar:

  Byetta 2x10 µg Levemir 20 U Glifor 1000 mg 2x1 Crestor 10 mg 1x1 Coveram 10/5 mg 1x1 Coraspin 100 mg 1x1

- Tiroid USG:

  Sağ lob:35-38-70 mm Sol lob:27-27-45 mm. Parenkim heterojen. Sağ lobda 34 mm sınırları düzensiz, milimetrik kalsifikasyon içeren hipoekoik nodül, sol lobda 12 mm düzgün sınırlı izoekoik nodül

OBEZİTE VE KANSER



OBEZİTE VE KANSER

Purpose

Analyze the relationship between obesity and type-2 diabetes mellitus (DM) and the development of differentiated thyroid cancer (DTC).

Materials and methods

A randomized case-controlled retrospective chart review of outpatient clinic patients at an academic medical center between January 2005 and December 2012. DTC patients were compared to two control groups: primary hyperparathyroidism (PHPTH) patients with euthyroid state and Internal Medicine (IM) patients. Exposure variables included historical body-mass-index (BMI), most recent BMI within 6 months and DM. Multivariate logistic regressions adjusting for gender, age, and year of BMI assessed the adjusted Odds Ratio (OR) of DTC with both BMI and DM.

Results

Comparison of means showed a statistically significant higher BMI in DTC (BMI = 37.83) than PHPTH, IM, and pooled controls, BMI = 30.36 p = <0.0001, BMI = 28.96 p = < 0.0001, BMI = 29.53 p = <0.0001, respectively. When compared to PHPTH, DM was more frequent in DTC (29% vs. 16%) and prevalence trended towards significance (p = 0.0829, 95% CI =0.902–5.407). BMI adjusted OR was significant when compared to PHPTH, IM and pooled controls: 1.125 (p = 0.0001), 1.154 (p = <0.0001), and 1.113 (p = < 0.0001), respectively. DM adjusted OR was significant when compared to PHPTH and pooled controls at 3.178 (95% 1.202,8.404, p = 0.0198) and 2.237 (95% 1.033,4.844, p = 0.0410), respectively.

Conclusion

Our results show that obesity and, to a lesser degree, DM are significantly associated with DTC. BMI in particular was a strong predictive variable for DTC (C = 0.82 bivariate, C = 0.84 multivariate).

❖ Oberman B et al. Relationship between obesity, diabetes and the risk of thyroid cancer. Am J Otolaryngol. 2015 Mar 3. pii: S0196-0709(15)00064-2. [Epub ahead of print]

OLGU - 3

- F.G. 49 K, Öğretmen, Aydın
- Yakınma: Kilo verememe
- Öykü: Çocukluğundan beri fazla kilo sorunu olan hasta gebelik dönemlerinde aldığı kiloları veremediğini, ayrıca son yıllarda kilo almaya devam ettiğini ifade ediyor. Sürekli diyet uygulamasına rağmen kilo veremiyormuş.
- 6 yıldır diyabetik olan hastaya 1 yıl önceki kontrolde GLP-1 analoğu başlanmış. 4-5 kg kadar vermiş ama 6 ay önce sigarayı bırakınca geri almış.

OLGU - 3

- Hipertansiyon ve talasemi minör var
- Ailede DM öyküsü yok
- Sigara:6 ay önce bırakmış Alkol:Sosyal içici
- Fizik muayene:
  - TA: 140/90 mm Hg.
  - Obez
  - Boy: 158 cm VA: 118 kg
  - VKİ: 44.9 kg/m^2 Bel çevresi: 130 cm
- Vücut yağ oranı: %46.6

OLGU - 3

- Kullandığı ilaçlar:

  Byetta 10 2x1 Matofin XR 500 1x2 Hyperium 1x1 Coraspin 100 mg 1x1

- Laboratuvar:

  AKŞ:111 mg/dl TKŞ:157 mg/dl A1C:%6.6

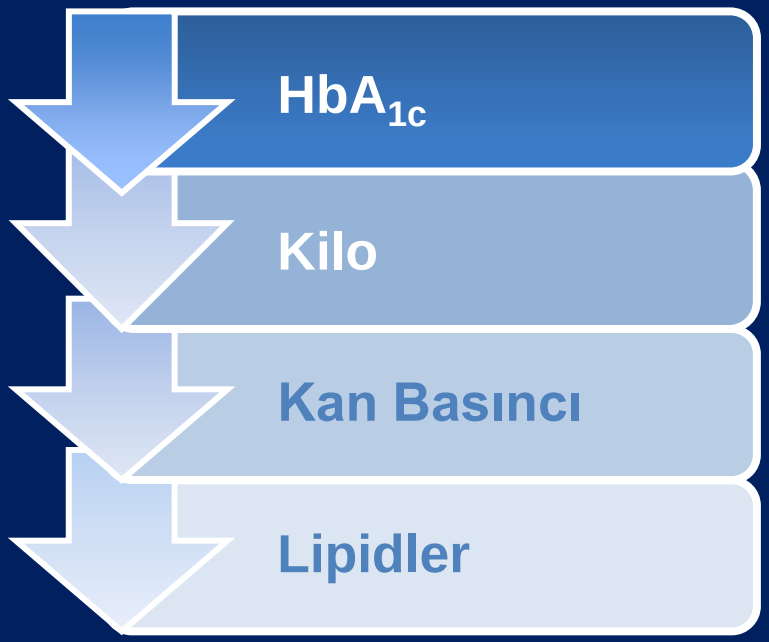
  LDL:114 mg/dl Trigliserid:174 mg/dl

  Kreatinin:0.6 mg/dl ALT: 22 U/L

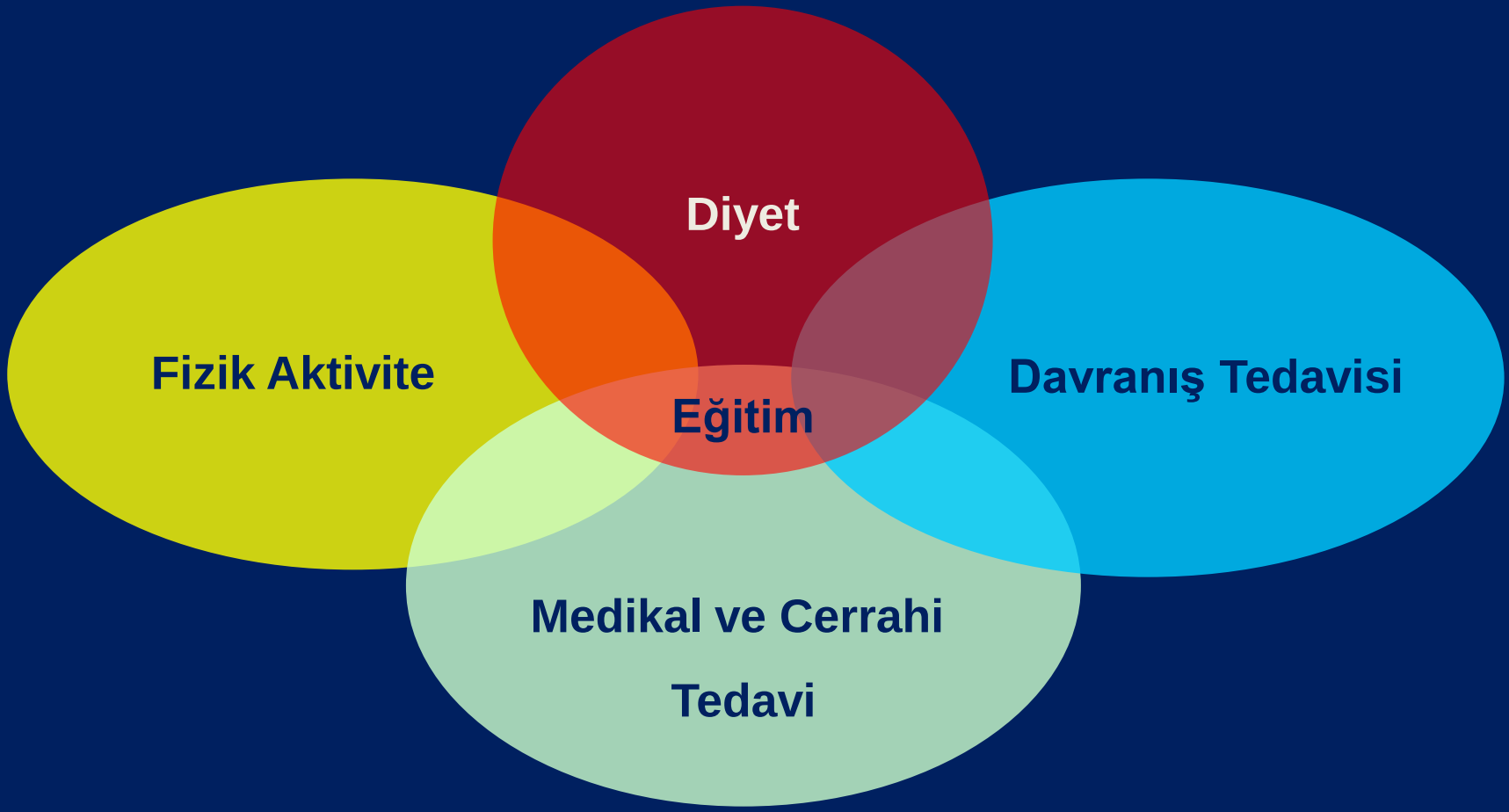
  Mikroalbüminüri:55 mg/gün

OLGU - 3

- Bu hastaya yaklaşımda ilk olarak aşağıdakilerden hangisini yapmayı düşünürsünüz?
  - Kan şekeri regülasyonu
  - Obeziteye yönelik tedavi
  - Kan basıncı ve lipidlerin düzenlenmesi
  - Hepsi
  - Hiçbiri



OBEZİTE TEDAVİSİ



DAVRANIŞ TEDAVİSİ

Open Access Research

BMJ Open Diabetes Research & Care

The effect of slow spaced eating on hunger and satiety in overweight and obese patients with type 2 diabetes mellitus

Theodoros Angelopoulos,[1] Alexander Kokkinos,[1] Christos Liaskos,[1] Nicholas Tentolouris,[1] Kleopatra Alexiadou,[1] Alexander Dimitri Miras,[2] Iordanis Mourouzis,[3] Despoina Perrea,[4] Constantinos Pantos,[3] Nicholas Katsilambros,[1] Stephen R Bloom,[2] Carel Wynard le Roux[2]

❖ BMJ Open Diabetes Research and Care 2014;2:e000013.

DAVRANIŞ TEDAVİSİ

- 300 ml dondurma
- 675 kcal
- %59 yağ
- %33 karbonhidrat
- %9 protein

- 2 eşit parça 5 dk arayla toplam süre 5 dk
- 7 eşit parça 5 dk arayla toplam süre 30 dk

DAVRANIŞ TEDAVİSİ

Table 2 Postprandial responses of the study participants (mean±SEM)

	5 min Meal	30 min Meal	Difference*	df	t	p Value
Glucose AUC (mg/dL × min)	28 687.7±1490.9	28 566.8±1557.9	120.9±496.4	19	0.24	0.81
Insulin AUC (IU/L × min)	6793.7±940.1	6752.4±1015.2	41.3±321.1	19	0.13	0.90
Triglycerides AUC (mg/dL × min)	24 203.8±2392.2	24 468.7±2085.1	−264.9±860.0	19	−0.31	0.76
Ghrelin AUC (pg/mL × min)	39 275.9±4359.1	40 733.8±5191.7	−1457.9±1395.0	19	−1.05	0.31
PYY AUC (pmol/L × min)	10 570.9±1550.2	9740.0±974.8	830.9±831.4	19	0.99	0.34
GLP-1 AUC (pmol/L × min)	7414.0±948.9	7159.4±827.6	254.6±356.7	19	0.71	0.49
Fullness AUC (mm × min)	10 901.0±568.8	11 943.7±541.2	−1042.7±301.9	19	−3.45	0.003
Hunger AUC (mm × min)	4966.7±347.5	4442.9±328.0	523.8±188.2	19	2.78	0.012

*Difference between the 5 and 30 min meal.

AUC, area under the curve; df, degrees of freedom; GLP-1, glucagon-like peptide-1; PYY, peptide YY.

DAVRANIŞ TEDAVİSİ

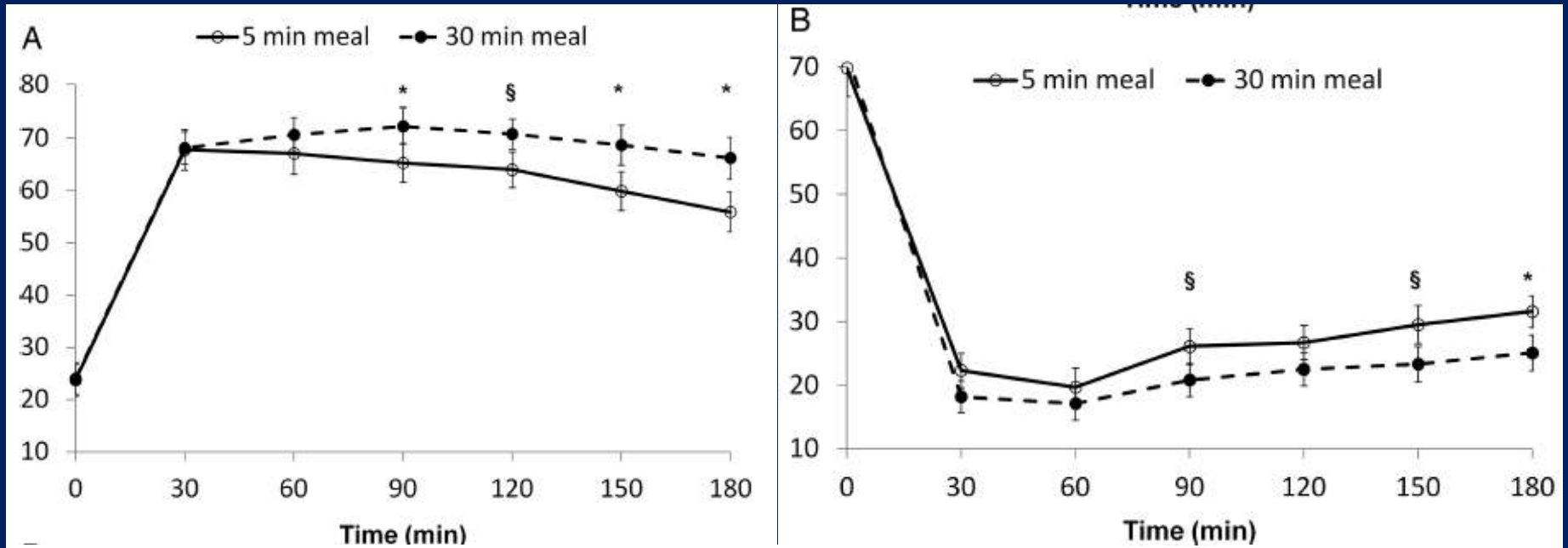
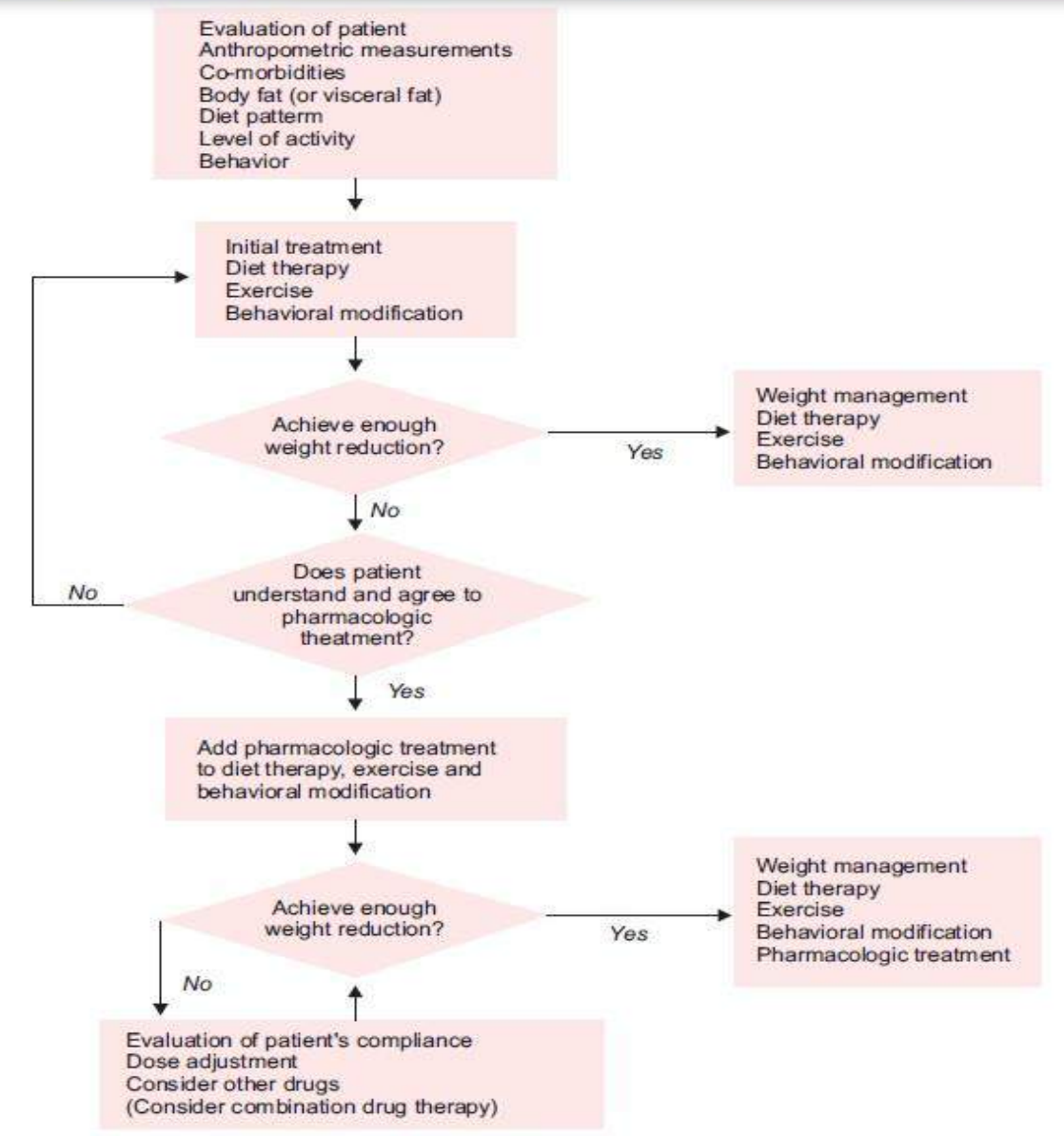


Figure 1 Visual analog scale (VAS) ratings for fullness (A) and hunger (B) after a 5 and 30 min meal (*p<0.01, §p<0.05).

MEDİKAL TEDAVİ



MEDİKAL TEDAVİ

Drug Design, Development and Therapy

Dovepress

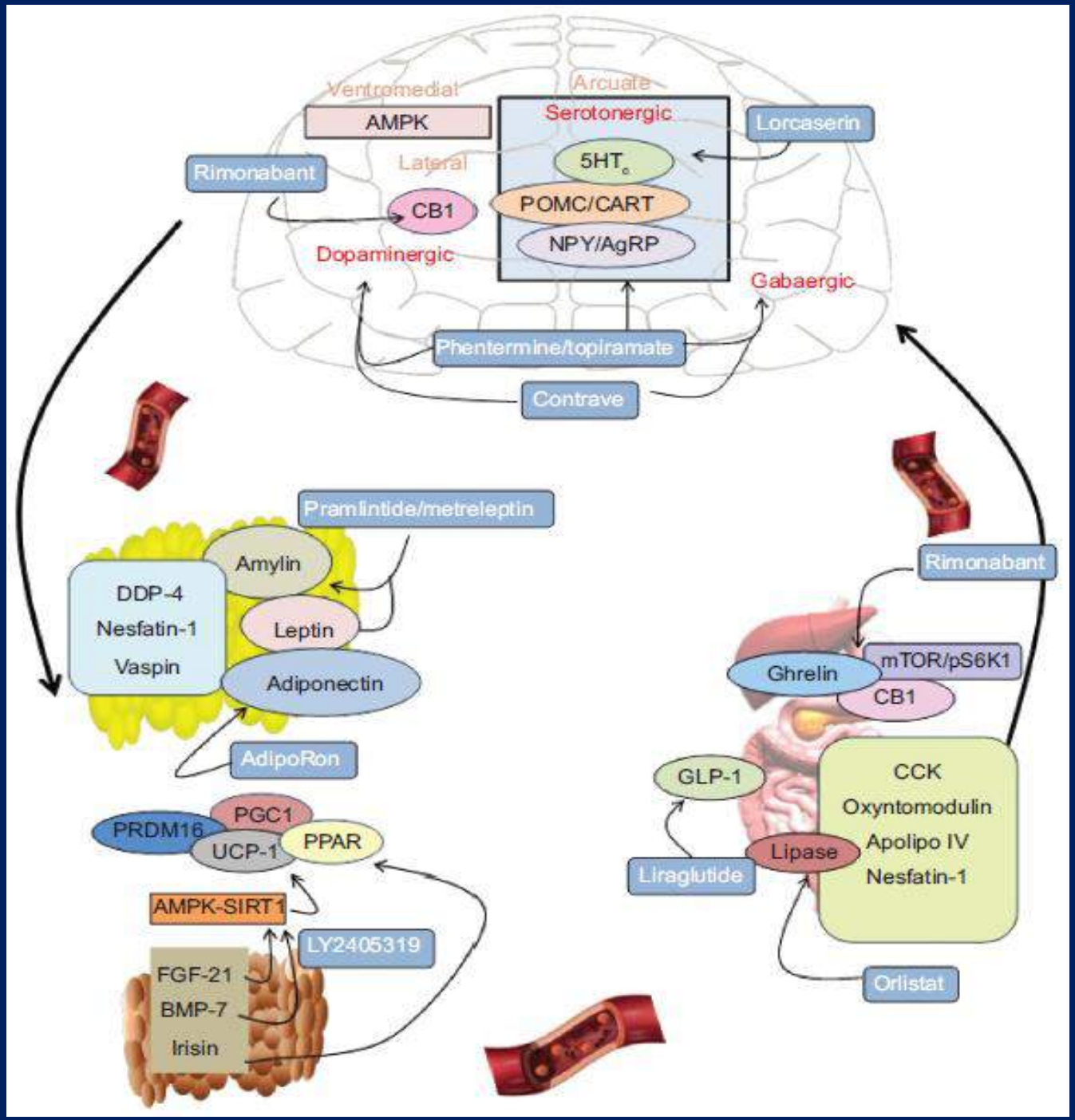
open access to scientific and medical research

Open Access Full Text Article

REVIEW

Drug development strategies for the treatment of obesity: how to ensure efficacy, safety, and sustainable weight loss

This article was published in the following Dove Press journal:
Drug Design, Development and Therapy
1 December 2014


Ventromediat
Arcuate
AMPK
Serotonergic
Lorcaserin
Rimonabant
Lateral
5HT$_c$
CB1
POMC/CART
NPY/AgRP
Doparminergic
Gabaergic
Phentermine/topiramate
Contrave
Pramlintide/metreleptin
Amylin
DDP-4
Nesfatin-1
Vaspin
Leptin
Adiponectin
AdipoRon
Rimonabant
mTOR/pS6K1
Ghrelin
CB1
GLP-1
CCK
Oxyntomodulin
Apolipo IV
Nesfatin-1
Lipase
Liraglutide
PGC1
PRDM16
UCP-1
PPAR
AMPK-SIRT1
LY2405319
FGF-21
BMP-7
Irisin
Orlistat

MEDİKAL TEDAVİ

- Obezite farmakoterapisi, birçok umut verici ilacın çıkışı ve kabul edilemeyecek güvenlik sorunları nedeniyle kullanımdan kaldırılması nedeniyle çok sayıda iniş-çıkışa tanıklık etmiştir.

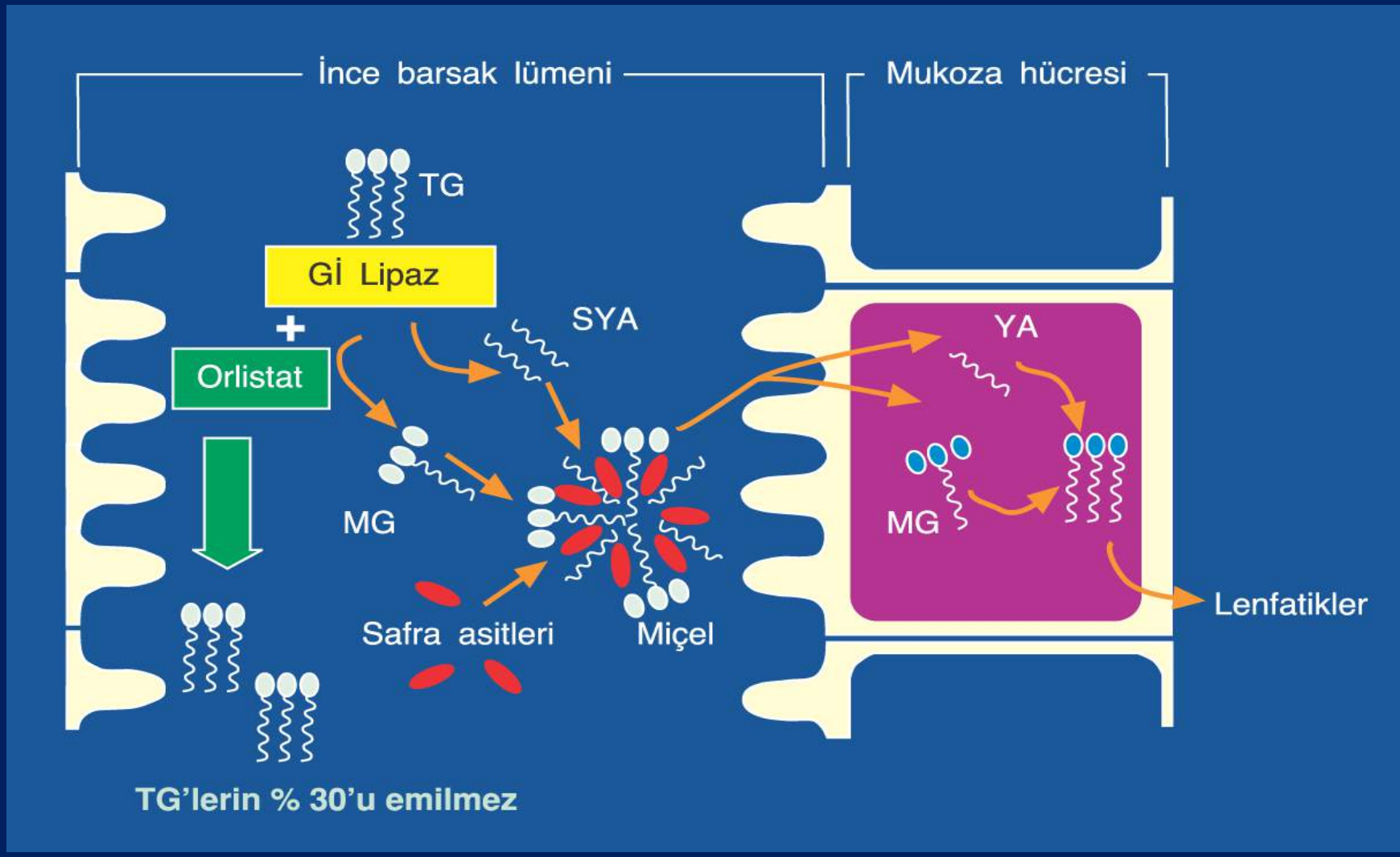
- Kakkar AK, Dahiya N. Drug treatment of obesity: Current status and future prospects. Eur J Intern Med 2015 Mar;26(2):89-94.

MEDİKAL TEDAVİ

- Günümüzde kullanımı onaylı ilaçlar (FDA):
- ✓ Orlistat (1999)
- ✓ Lorcaserin (2012)
- ✓ Phentermine/topiramate CR (2012)
- ✓ Naltrexone/bupropion CR (2014)

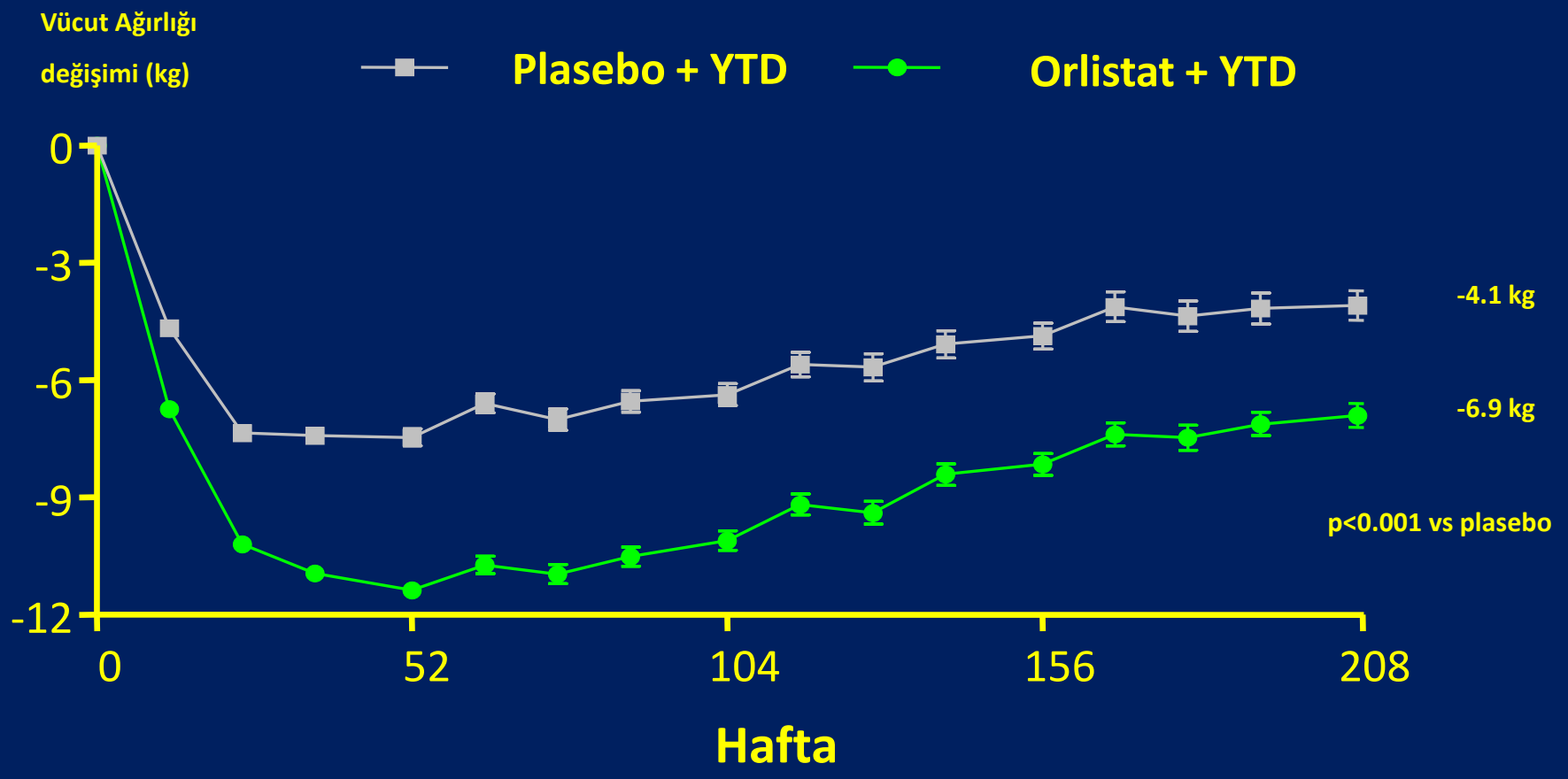
- Kakkar AK, Dahiya N. Drug treatment of obesity: Current status and future prospects. Eur J Intern Med 2015 Mar;26(2):89-94.

ORLİSTAT


İnce barsak lümeni
Mukoza hücresi
TG
Gİ Lipaz
+
Orlistat
SYA
YA
MG
MG
Safra asitleri
Miçel
Lenfatikler
TG'lerin % 30'u emilmez

ORLİSTAT

XENDOS (3304 hasta)



❖ Torgerson JS et al. Diabetes Care 2004:27:155-61.

ORLİSTAT

- UK Multimorbidity Study
- 54 hafta izlem
- Çift-kör, randomize plasebo kontrollü çalışma
- Ortalama kilo kaybı:
  - Orlistat: %5.8
  - Plasebo: %2.3

  ($p<0.0001$)

- Broom I et al. Int J Clin Pract 2002; 56: 494-9.

ORLİSTAT

- Kardiyovasküler risk faktörlerinde azalma:
  - Sistolik kan basıncı ($p<0.01$)
  - Diastolik kan basıncı ($p<0.01$)
  - Total kolesterol ($p<0.0001$)
  - LDL kolesterol ($p<0.0001$)
  - Açlık glukoz düzeyi ($p<0.05$)
  - Bel çevresi ($p<0.0001$)

- Broom I et al. Int J Clin Pract 2002; 56: 494-9.

ORLİSTAT

- Yan etkiler:
  - Yağda eriyen vitaminlerde azalma
  - Gastrointesinal yakınmalar

    Diare, yağlı dışkılama, gaz…
  - Bildirilen olgular

    Ciddi karaciğer hasarı

    Meme kanseri

Joo JK, Lee KS. J Menopausal Med 2014;20:90-6.

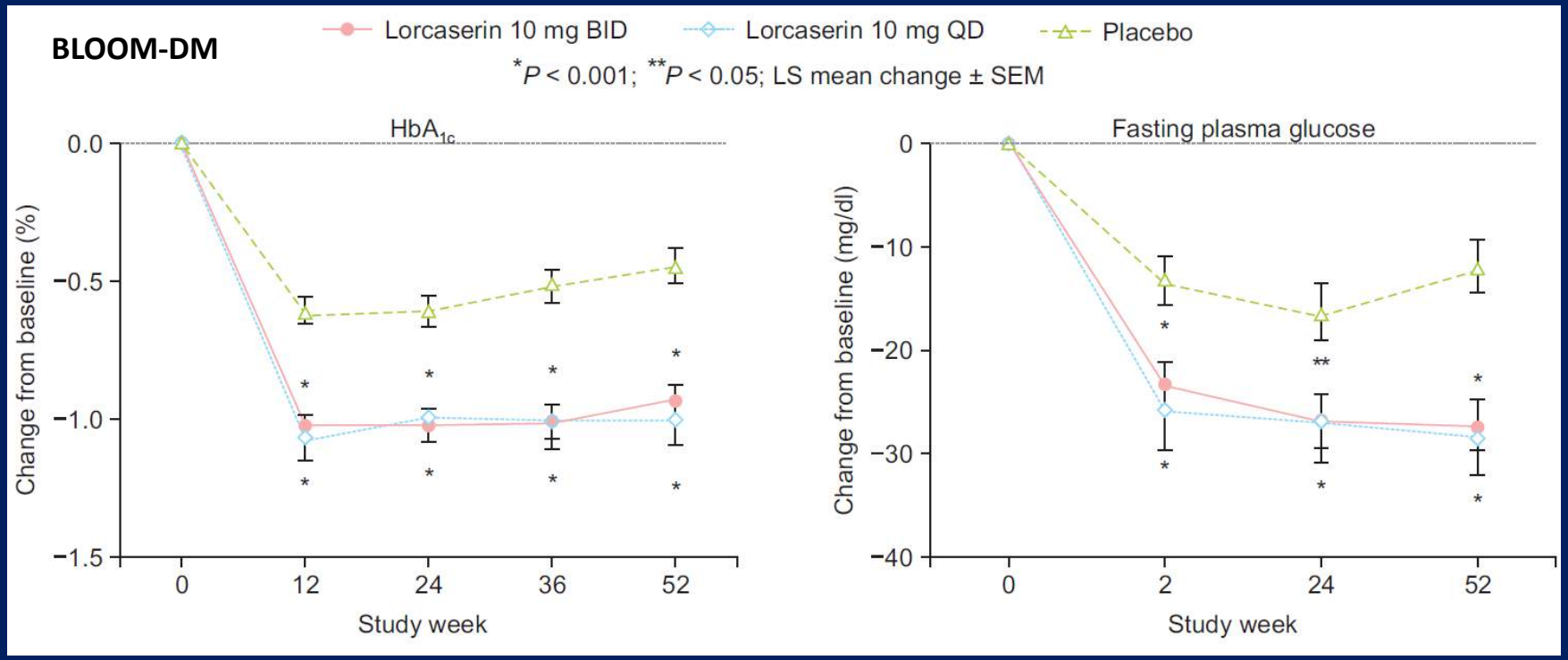
LORCASERİN

- Serotonin tip 2C reseptör agonisti
- BLOOM-DM çalışması:
- Kilo kaybı:
  - Lorcaserin: %4.5 ± 0.35
  - Plasebo: %1.5 ± 0.36
  - P < 0.001

- O'Neil PM et al. Obesity (Silver Spring) 2012;20:1426-36.

LORCASERİN

- A1C: (P < 0.001)
- Lorcaserin: % 0.9 ± 0.06 Plasebo: % 0.4 ± 0.06



- O'Neil PM et al. Obesity (Silver Spring) 2012;20:1426-36.

LORCASERİN

- Yan etkiler:
  - Baş ağrısı
  - Bulantı
  - Halsizlik
  - Ağız kuruluğu
  - Konstipasyon
  - ✓ Valvulopati saptanmamış! (Faz 3 - 5200 hasta)

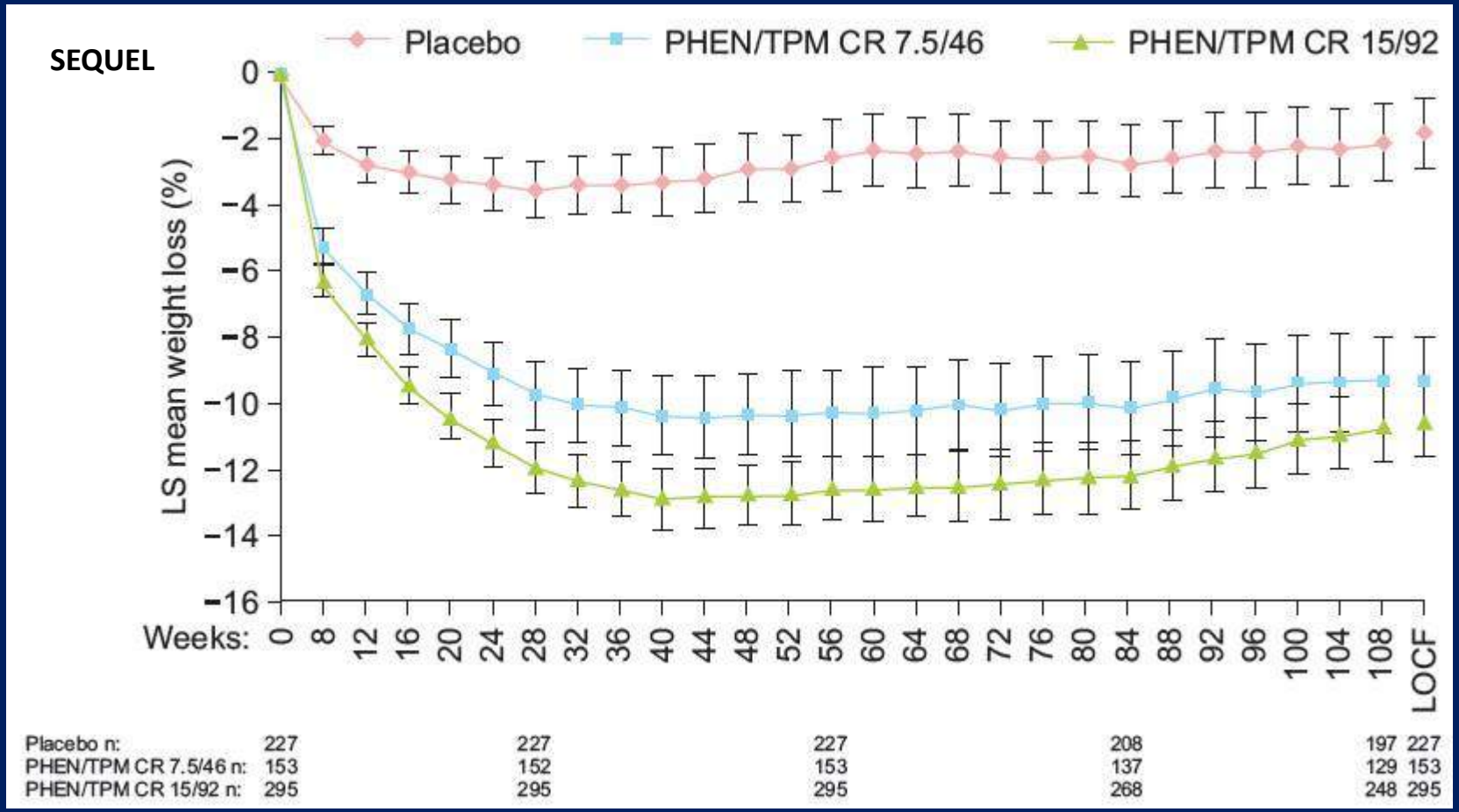
Joo JK, Lee KS. J Menopausal Med 2014;20:90-6.

FENTERMİN/TOPİRAMAT CR

- Fentermin: Sempatomimemik
- Topiramat: Antikonvülzan
  (GABA reseptörleri üzerine etki?)
- 2 yıllık izlem
- Ortalama %9.3 kilo kaybı
- Glisemik parametreler, kan basıncı,
  HDL ve trigliseridler üzerine olumlu etki

- Joo JK, Lee KS. J Menopausal Med 2014;20:90-6.

FENTERMİN/TOPİRAMAT CR



❖ Garvey WT et al. Am J Clin Nutr 2012;95:297-308.

FENTERMİN/TOPİRAMAT CR

- Yan etkiler:
  - Parestezi
  - Baş dönmesi
  - Uykusuzluk
  - Tat değişikliği
  - Ağız kuruluğu
  - Konstipasyon

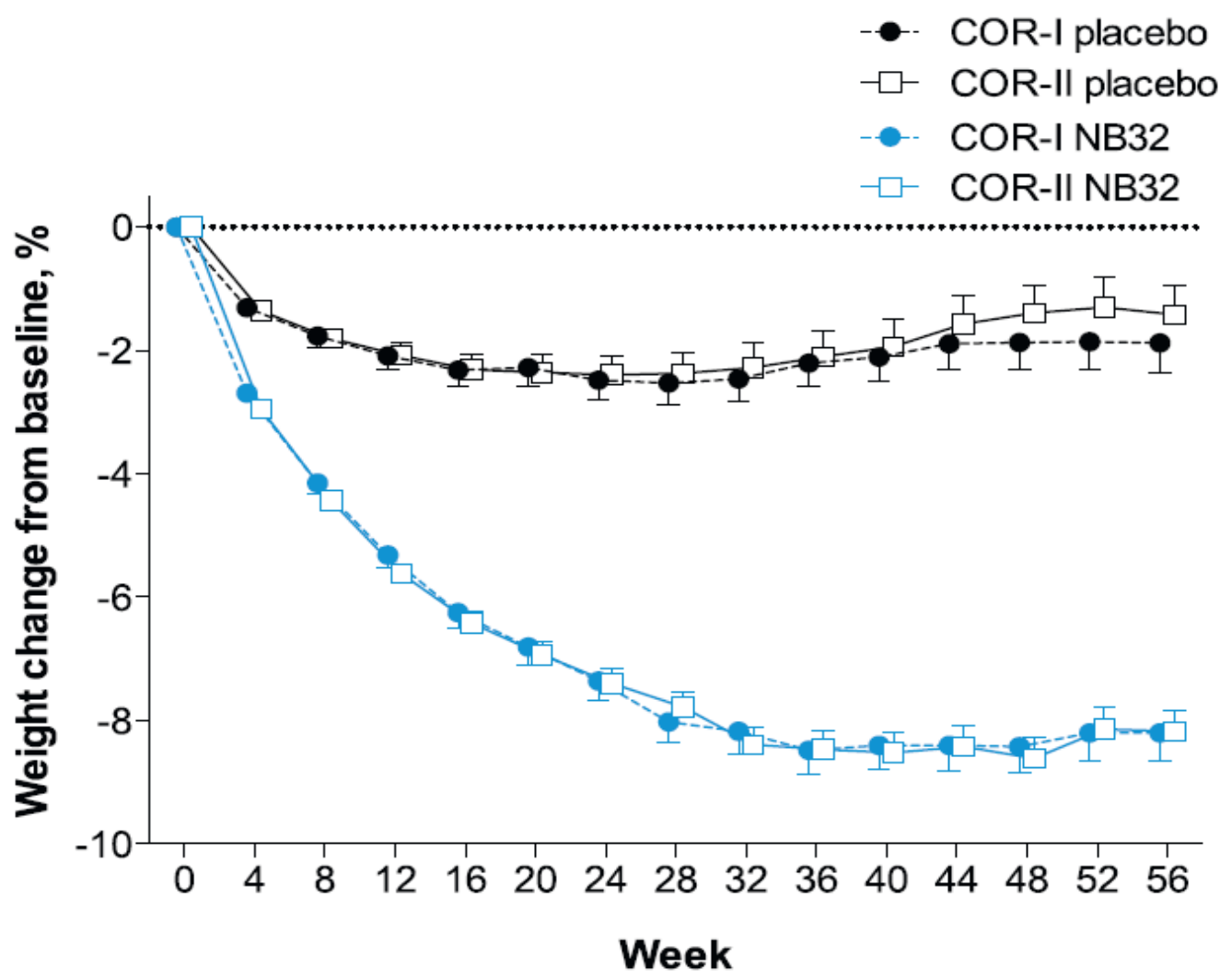
- Joo JK, Lee KS. J Menopausal Med 2014;20:90-6.

NALTREKSON/BUPROPİON

- Naltrekson: Opioid antagonisti
- Bupropion: Antidepresan
  (Dopamin ve noradrenalin gerialım inhibitörü ve nikotinik asetilkolin reseptörler antagonisti)
- Kilo kaybı (COR-I çalışması):
  - Naltrekson/Bupropion: % 8.1
  - Plasebo: % 1.8
  - P < 0.01

Billes SK et al. Pharmacological Research 2014;84 :1–11.

NALTREKSON/BUPROPİON



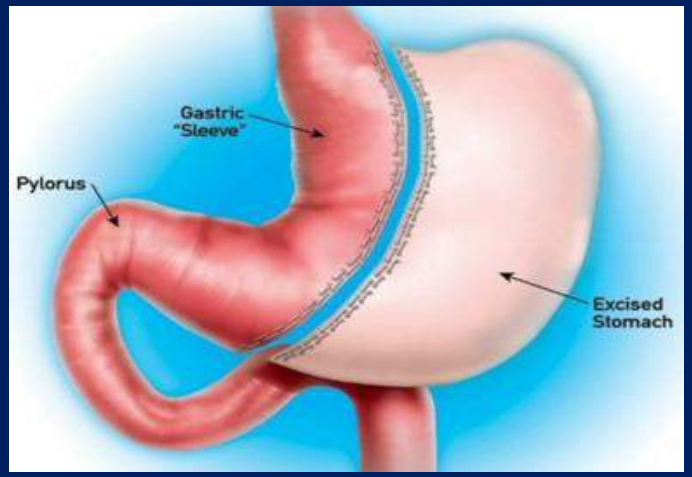
❖ Billes SK et al. Pharmacological Research 2014;84 :1–11.

NALTREKSON/BUPROPİON

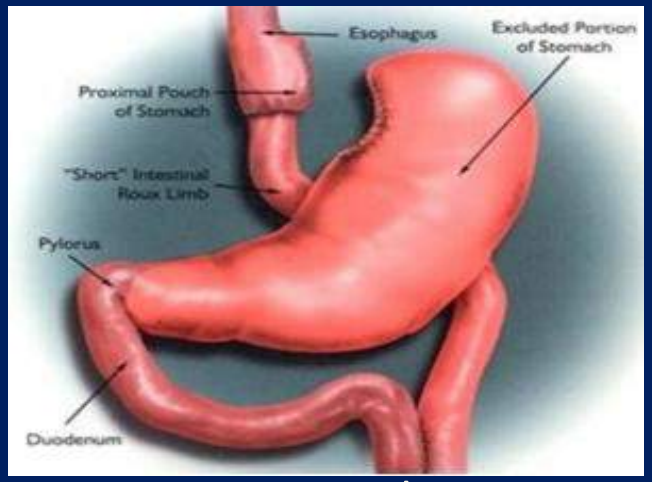
- Yan etkiler:
  - Bulantı
  - Baş ağrısı
  - Konstipasyon
  - Kusma
  - Kan basıncında hafif artış

- Billes SK et al. Pharmacological Research 2014;84 :1–11.

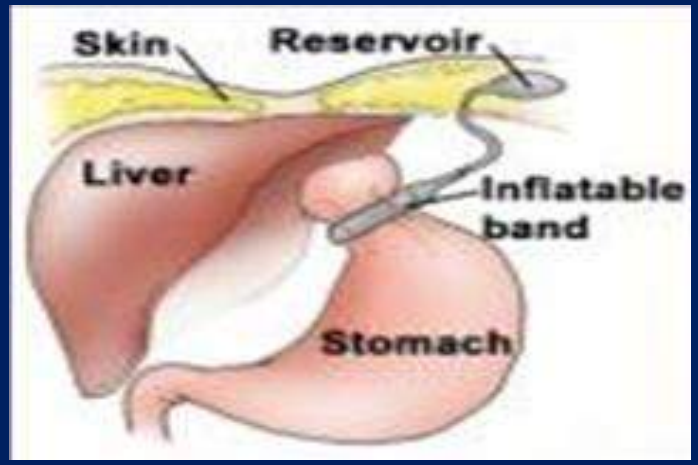
BARİATRİK CERRAHİ



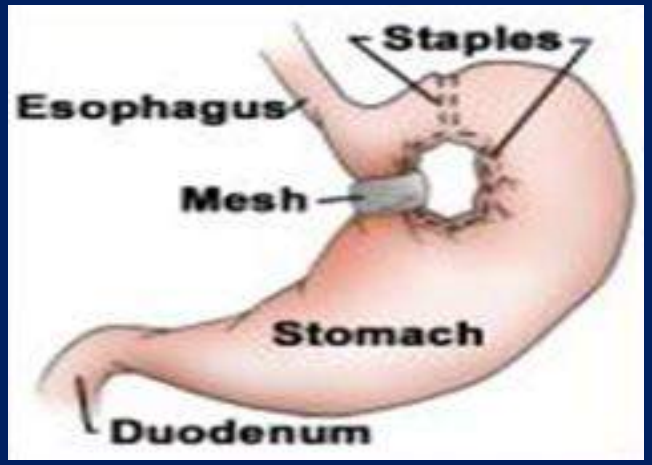
Vertikal Sleeve Gastrektomi



Roux-en-Y Gastrik Bypass



Gastrik Band



Vertikal Band Gastroplasti

BARİATRİK CERRAHİ

Lindegaard *et al. Diabetology & Metabolic Syndrome* (2015) 7:12
DOI 10.1186/s13098-015-0012-9

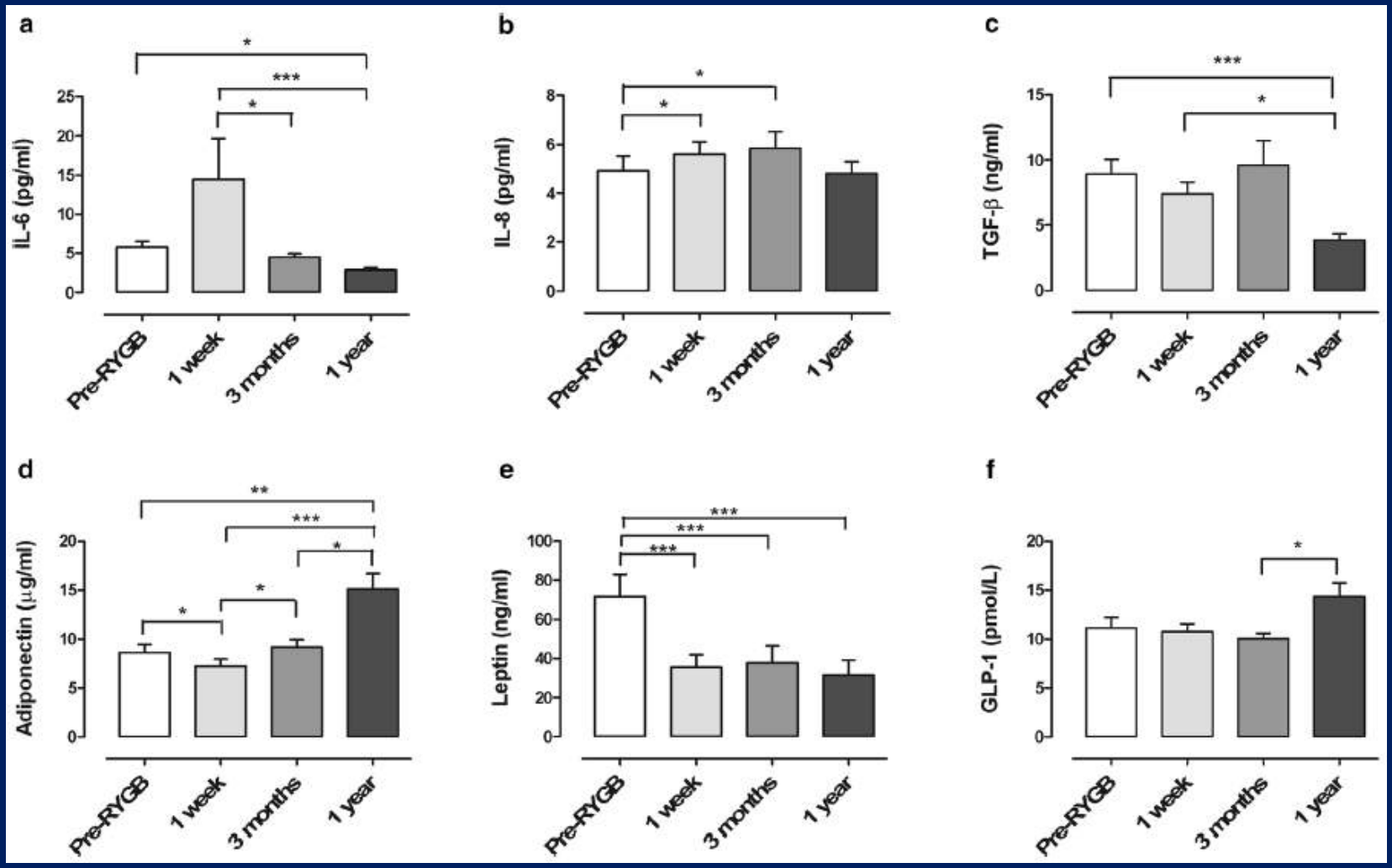
DIABETOLOGY & METABOLIC SYNDROME

RESEARCH Open Access

Effects of Roux-en-Y gastric bypass on fasting and postprandial inflammation-related parameters in obese subjects with normal glucose tolerance and in obese subjects with type 2 diabetes

Kirsten Katrine Lindegaard[1,2*], Nils Bruun Jorgensen[3], Rasmus Just[1], Peter MH Heegaard[2] and Sten Madsbad[3]

BARİATRİK CERRAHİ

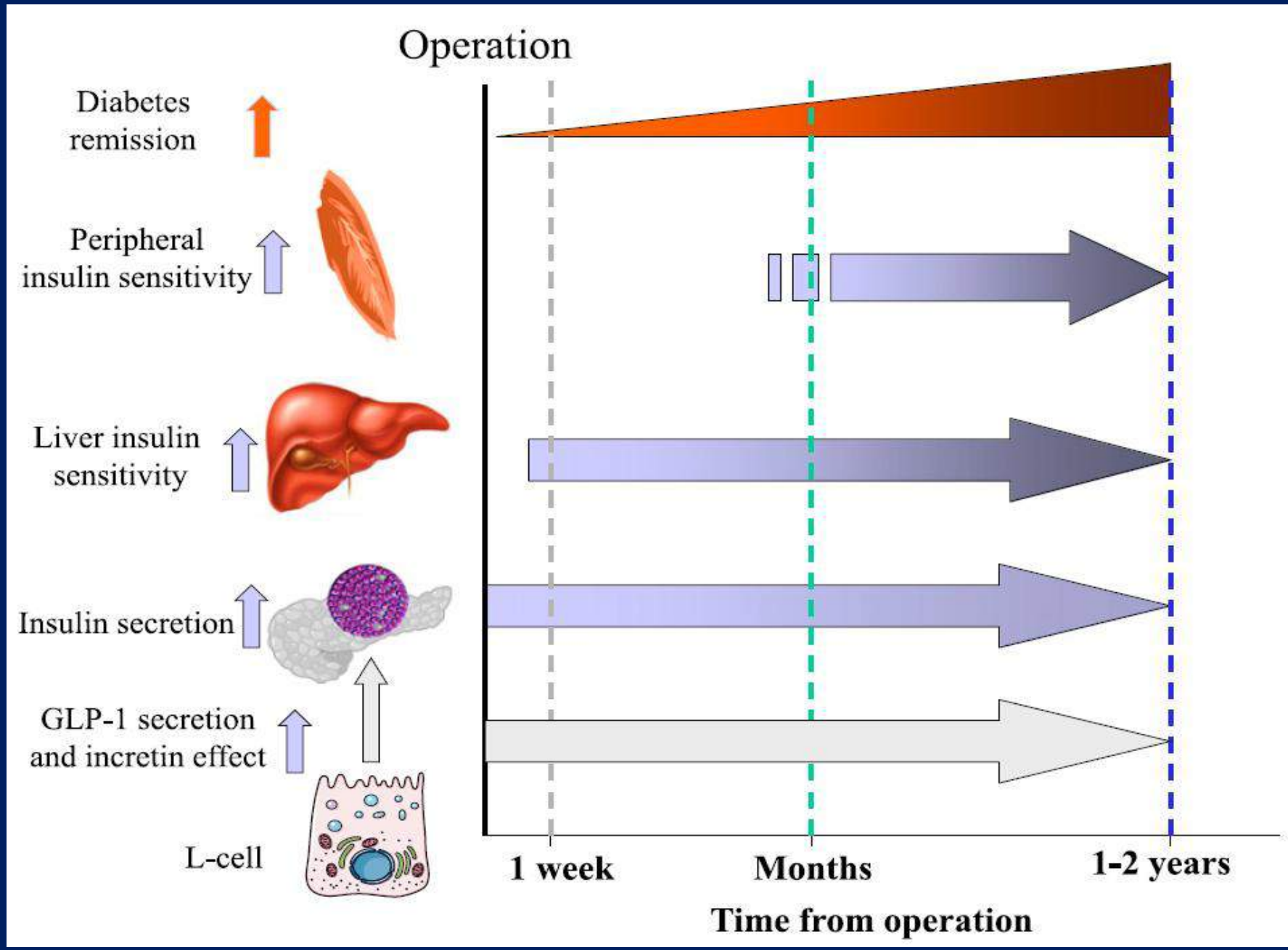


BARİATRİK CERRAHİ

Sten Madsbad[1] and Jens J. Holst[2]

GLP-1 as a Mediator in the Remission of Type 2 Diabetes After Gastric Bypass and Sleeve Gastrectomy Surgery

Diabetes 2014;63:3172–3174 | DOI: 10.2337/db14-0935


Operation
Diabetes remission
Peripheral insulin sensitivity
Liver insulin sensitivity
Insulin secretion
GLP-1 secretion and incretin effect
L-cell
1 week
Months
1-2 years
Time from operation

BARİATRİK CERRAHİ

JBR

The Journal of Biomedical Research, 2015, 29(2):98-104

Review Article

Recent advances in bariatric/metabolic surgery: appraisal of clinical evidence

Wei-Jei Lee✉, Abdullah Almulaifi

BARİATRİK CERRAHİ

Table 2 **Variables and point values used for the computation of the age, body-mass index, c-peptide, duration of diabetes (ABCD) score.***

Variable	Points on ABCD index Gastric bypass *P* value			
	0	1	2	3
Age	⩾40	< 40		
BMI (kg/m^2)	< 27	27–34.9	35–41.9	⩾ 42
C-peptide (mmol/L)	< 2	2–2.9	3–4.9	⩾ 5
Duration of DM (years)	> 8	4–8	1–3.9	< 1

BARİATRİK CERRAHİ

Table 3 **Remission rate of T2DM according to ABCD score**

ABCD score	Complete remission (HbA1C < 6%)	Partial remission (HbA1C < 6.5%)
0	5.9%	5.9%
1	5.0%	20.0%
2	26.3%	38.6%
3	31.9%	42.0%
4	52.5%	67.8%
5	55.4%	75.0%
6	61.7%	78.3%
7	77.0%	92.3%
8	85.2%	96.3%
9	87.1%	87.1%
10	93.3%	93.3%
Overall	52.2%	64.7%

BARİATRİK CERRAHİ

- Bariatrik cerrahi, VKİ>35 kg/m^2 olan tip 2 diyabetik erişkinlerde, özellikle diyabet ya da eşlik eden komorbiditelerin yaşam tarzı değişikliği ve farmakolojik tedavilerle kontrol altına alınmasında güçlük çekilen hastalarda düşünülebilir.

BARIATRIC SURGERY

Recommendations

- Bariatric surgery may be considered for adults with BMI >35 kg/m^2 and type 2 diabetes, especially if diabetes or associated comorbidities are difficult to control with lifestyle and pharmacological therapy. **B**
- Patients with type 2 diabetes who have undergone bariatric surgery need lifelong lifestyle support and medical monitoring. **B**
- Although small trials have shown glycemic benefit of bariatric surgery in patients with type 2 diabetes and BMI 30–35 kg/m^2, there is currently insufficient evidence to generally recommend surgery in patients with BMI <35 kg/m^2. **E**

American Diabetes Association. Standards of Medical Care in Diabetes-2015 Diabetes Care 2015;38 (suppl1):1-84.

BARİATRİK CERRAHİ

- Bariatrik cerrahi uygulanan tip 2 diyabetiklerin yaşam boyu yaşam tarzı desteği ve medikal izleme gereksinimi vardır.
- Bazı çalışmalarda bariatrik cerrahinin VKİ 30-35 kg/m^2 olan tip 2 diyabetiklerde glisemik yararı gösterilmiş olmakla birlikte, genel olarak VKİ<35 kg/m^2 olan hastalarda cerrahi önerilmesi için yeterli kanıt yoktur.

American Diabetes Association. Standards of Medical Care in Diabetes-2015 Diabetes Care 2015;38 (suppl1):1-84.

OLGU - 3

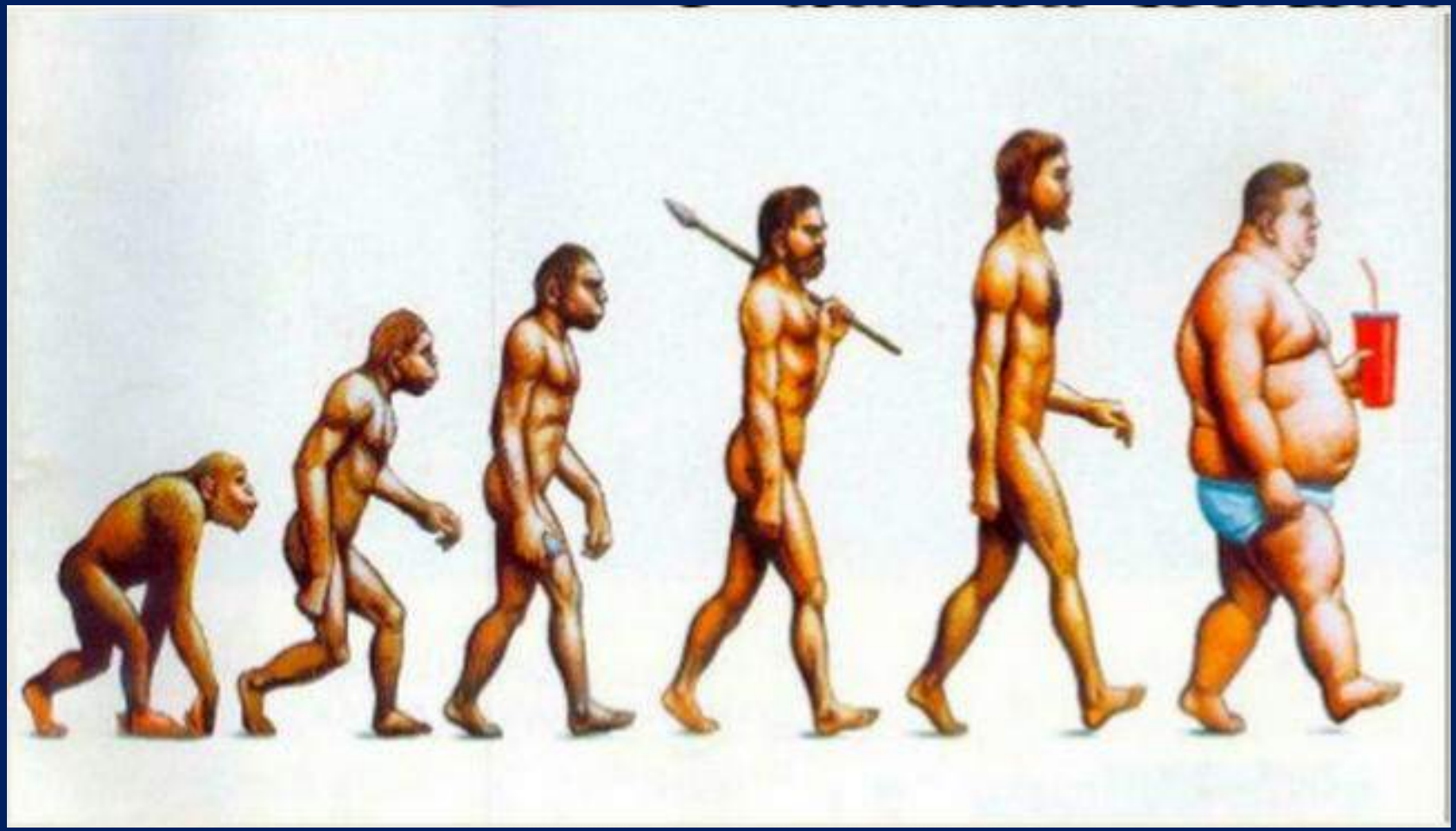
- TA: 130/80 mm Hg.
- Boy: 158 cm VA: 114 kg
- VKİ: 45.6 kg/m^2 Bel çevresi: 128 cm
- Vücut yağ oranı: %46.0
- Kullandığı ilaçlar:

  Byetta 10 µg 2x1 Matofin XR 1000 mg 2x1
  Cozaar 100 mg 1x1 Coraspin 100 mg 1x1 Thincal 3x1
- Laboratuvar:

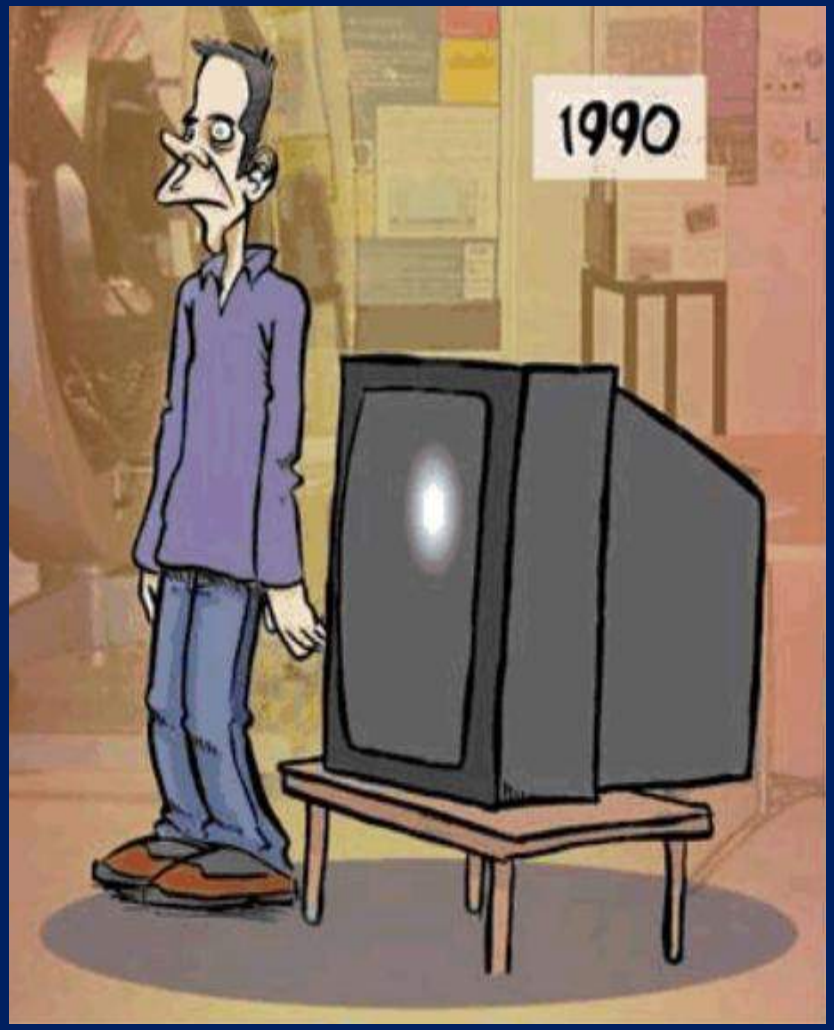
  AKŞ:105 mg/dl TKŞ:125 mg/dl A1C:%6.2

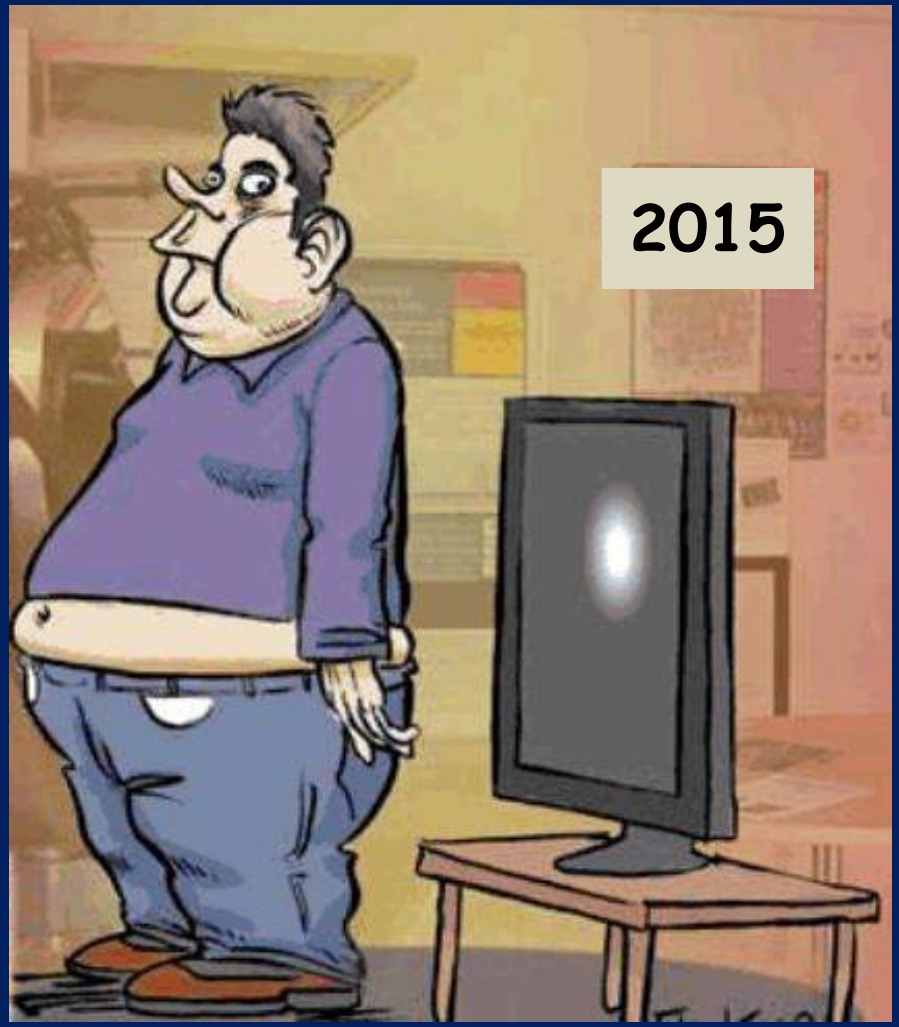
  Mikroalbüminüri:35 mg/gün

ÖZET



OBEZİTE





OBEZİTENİN SONUÇLARI

FİZİKSEL

PSİKOLOJİK

SOSYAL

EKONOMİK

Tell Me What You Eat and I Will Tell You Your Sociotype: Coping with Diabesity

Elliot M. Berry, M.D., F.R.C.P.[1]*, and Sabina De Geest, Ph.D., R.N., F.A.A.N., F.R.C.N.[2]

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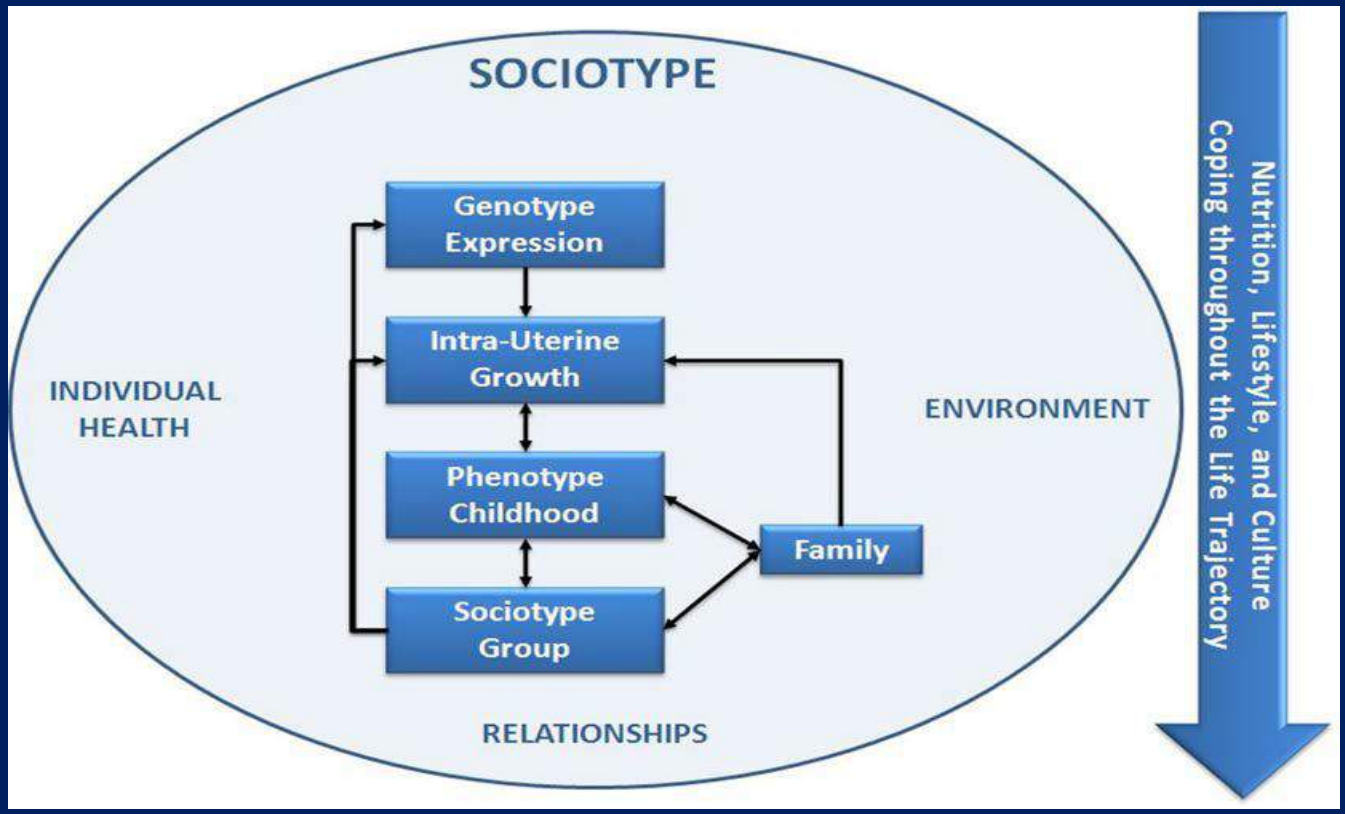

TEDAVİ

TEDAVİ


DİYETİSYENİ UYURKEN BEŞ YERİNDEN BIÇAKLAYARAK ÖLDÜRDÜN HALA NEFSİ MÜDAFAMI DİYORSUN
BEN MASUMUN HAKIM BEY YEMEK İÇİN VERDİĞİ SABAH BİR PARÇA PEYNİR BİR DİLİM EKMEK ÖĞLEN ÇORBA AKŞAM SALATA BEN ÖLDÜRMEZSEM O BENİ ÖLDÜRCEKTİ KENDİMİ KORUDUM

TEDAVİ


Meselâ bu hastamız 130 kiloydu, özel diyetimizle bir ayda tam 122 kilo verdi...
Abi internetten baktım, Bakırköy hastanesinin obezite diye bir bölümü yok...
Kaçalım

SONUÇ

TEŞEKKÜRLER