Kardiyometabolik Komorbiditeler Ateroskleroz ve Lipidlere dair Hatırlatma

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March 5, 2026 | 3 min read Add Us On Google

Heart attacks are killing more young people—and more women

A new study finds that heart attack deaths in U.S. hospitals are rising in people aged 54 and below, signaling a shift in cardiovascular issues in younger ages

BY LAUREN J. YOUNG EDITED BY TANYA LEWIS

Journal of the American Heart Association

ORIGINAL RESEARCH

Sex Differences in Outcomes of Young Adults Hospitalized With First Myocardial Infarction From 2011 to 2022

Mohan Satish, MD; Ryan W. Walters, PhD; Florian A. Wenzl, MD; Monika Safford, MD; Vinay Kini, MD, MS HP

BACKGROUND: Acute myocardial infarction (AMI) hospitalizations are increasing in young adults, but outcomes stratified by sex and AMI subtype are not well understood.

METHODS: First AMI hospitalizations among young adults 18 to 54 years old were analyzed from 2011 to 2022 in the United States from the National Inpatient Sample and stratified by subtype (ST-segment–elevation myocardial infarction [STEMI] and non–ST-segment–elevation myocardial infarction) and sex. In-hospital mortality by first AMI-subtype was the primary outcome, including in-hospital mortality trends using orthogonal polynomial contrasts; in-hospital complications were secondary outcomes. Patient characteristics included traditional and nontraditional risk factors. All analyses were performed sex-stratified with adjustment using a sequential additive multivariable logistic regression model.

RESULTS: Among 945 977 weighted first AMI hospitalizations in young adults, 356 115 (37.6%) were STEMI and 589 862 (62.4%) were non–ST-segment–elevation myocardial infarction. Overall, adjusted in-hospital mortality increased significantly for first STEMI (1.2% absolute increase, P_{trend}<0.001) and was unchanged for first non–ST-segment–elevation myocardial infarction (0.2% absolute decrease, P_{trend}=0.70) across the study period. Compared with young men, young women had higher in-hospital mortality compared with young men (STEMI: 3.1% versus 2.6%, P<0.001; non–ST-segment–elevation myocardial infarction: 1.0% versus 0.8%, P=0.03) and experienced similar in-hospital complications with lower receipt of cardiovascular procedures. Irrespective of sex, more nontraditional than traditional risk factors were independently associated with higher odds of in-hospital mortality.

CONCLUSIONS: There was a rise in first STEMI in-hospital mortality among young adults from 2011 to 2022. Mortality for both AMI subtypes was higher in young women and was associated with more nontraditional compared with traditional risk factors.


Sahnede kalp krizi geçirdi
VOLKAN KONAK


METİN UCA HAYATINI NEDEN KAYBETTİ?
SAH DAMAR TIKANIKLIĞI NEDİR?


SIRRI SÜREYYA ÖNDER
1962 - ∞
anadoluimages


Tiyatro sanatçısı
#leventgüner
58 y kalp krizi ile
vefat etmiş😔


ÜNLÜ OYUNCU
SETTE KALP KRİZİ
GEÇİRDİ

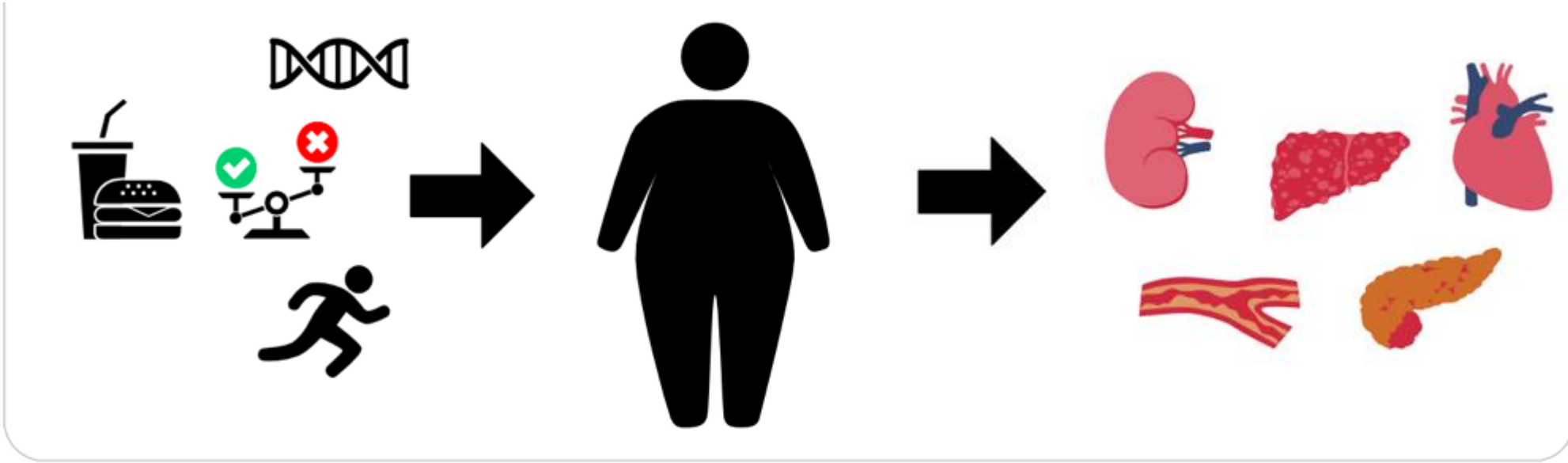

SAHNEDE
KALP KRİZİ
GEÇİRDİ


yine 50 li yaşlar
yine kalp krizi 😞
Biri bizi
durdursun canım!
Yural Çelik'i kaybettik.

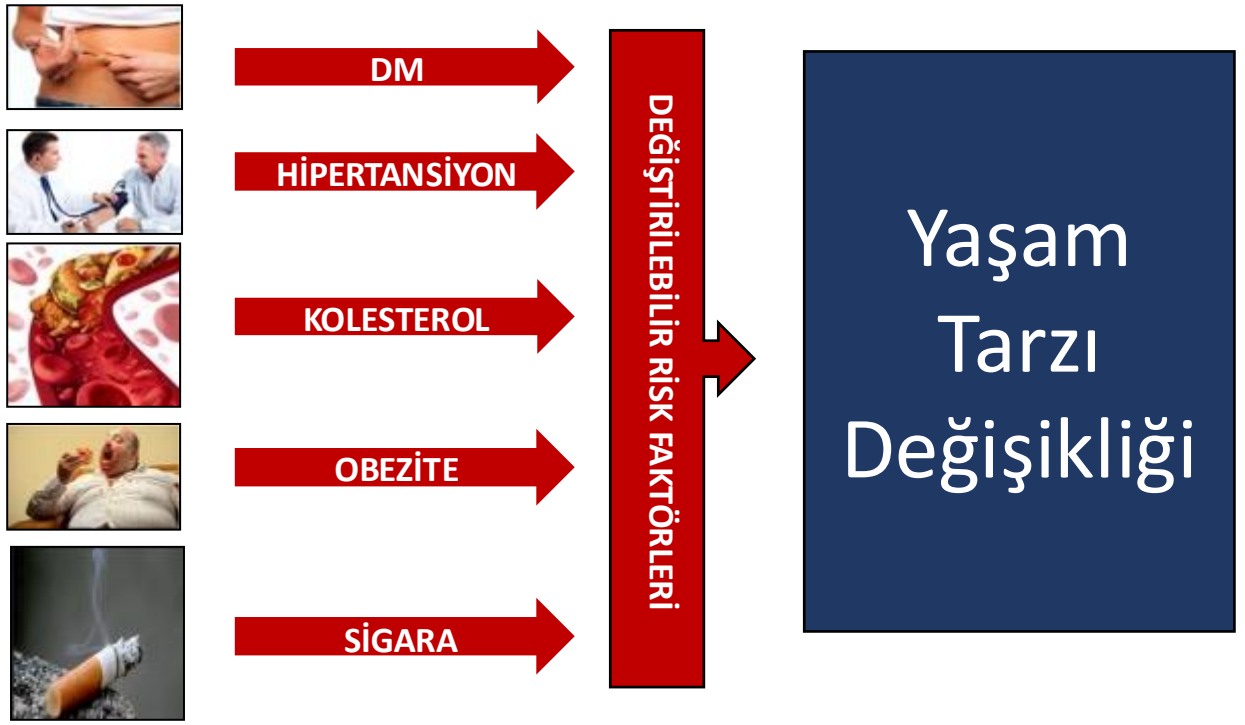
Sayılar neden artıyor?

- Kardiyometabolik pandemi artışı- KV risk faktörleri kümelenmesi-kümülatif etki, erken vasküler yaşlanma-lipitler****
- İnflamasyon ve enfeksiyonlardaki artış ***
- Kadında sigara kullanımı artışı
- Madde, stimulant, enerji içeceği kullanımı….

Systemic Metabolic Disorders (SMD)
Kardiyo renal metabolik sendrom
Metabolik sendrom



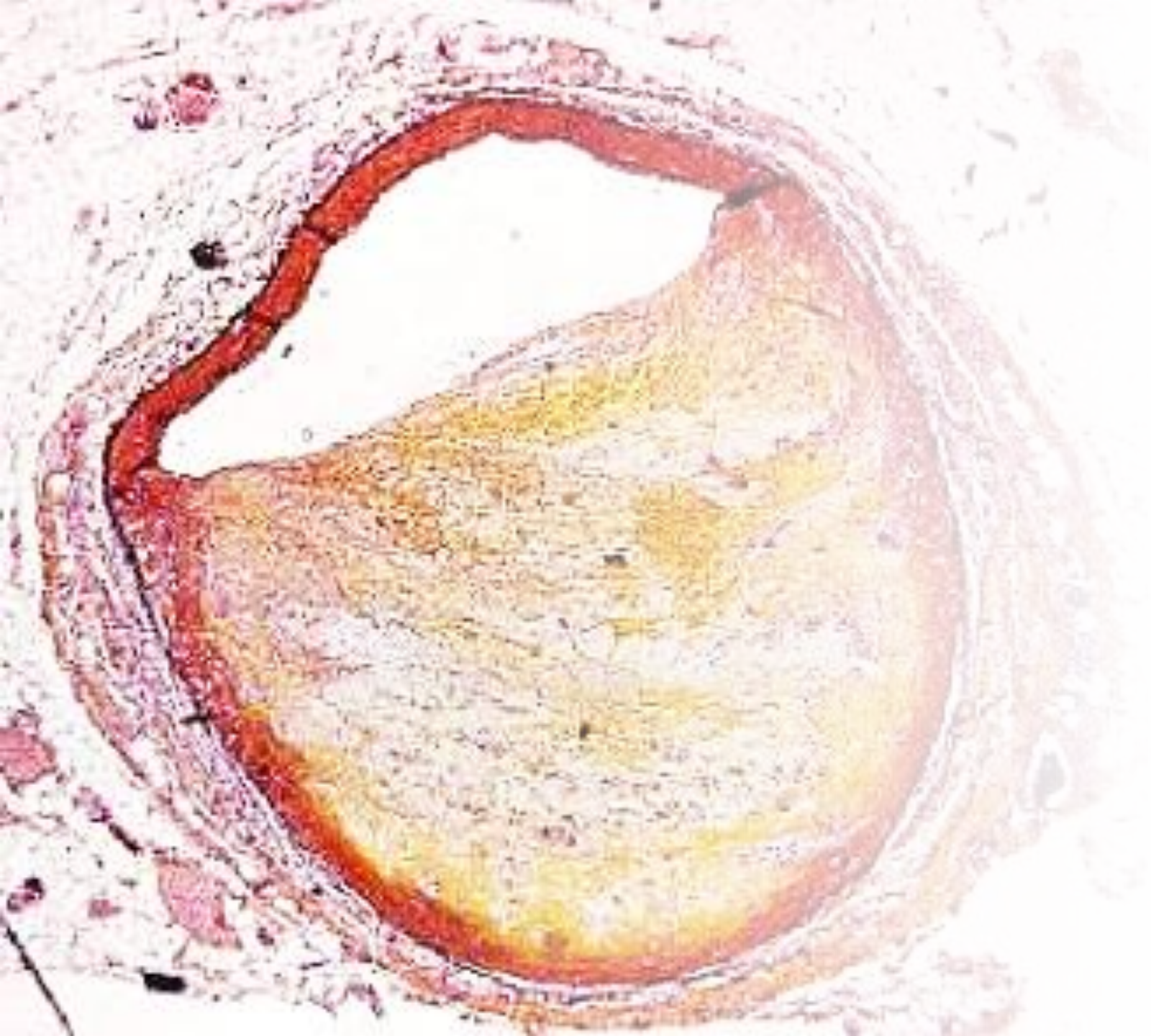
Değiştirilebilir RF; Genetik zeminde gelişseler de yaşam tarzı değişikliği ve/veya ilaç tedavisi ile düzeltilebilir veya kontrol edilebilir RF



Yüksek kolesterol

Cholesterol is a toxin

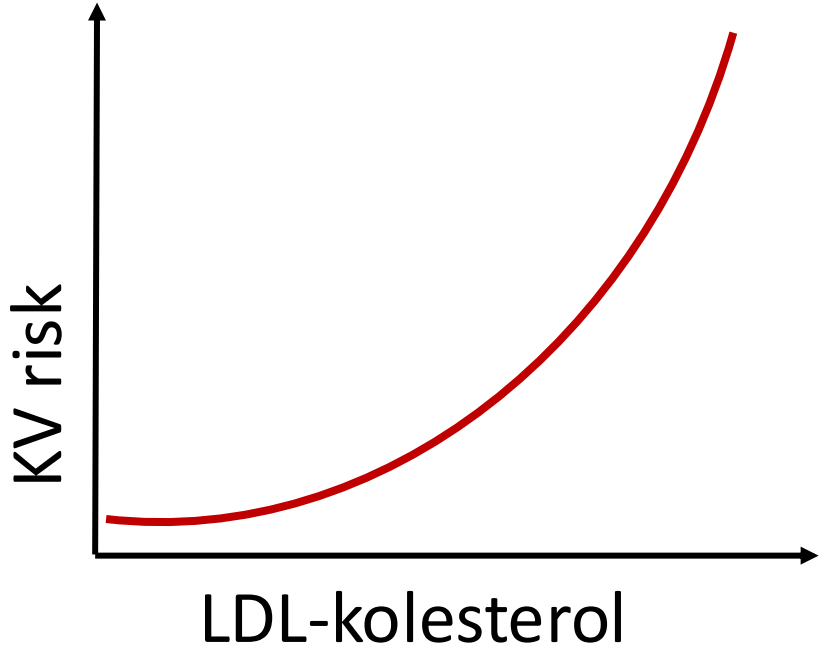
Peter P. Toth, MD, PhD

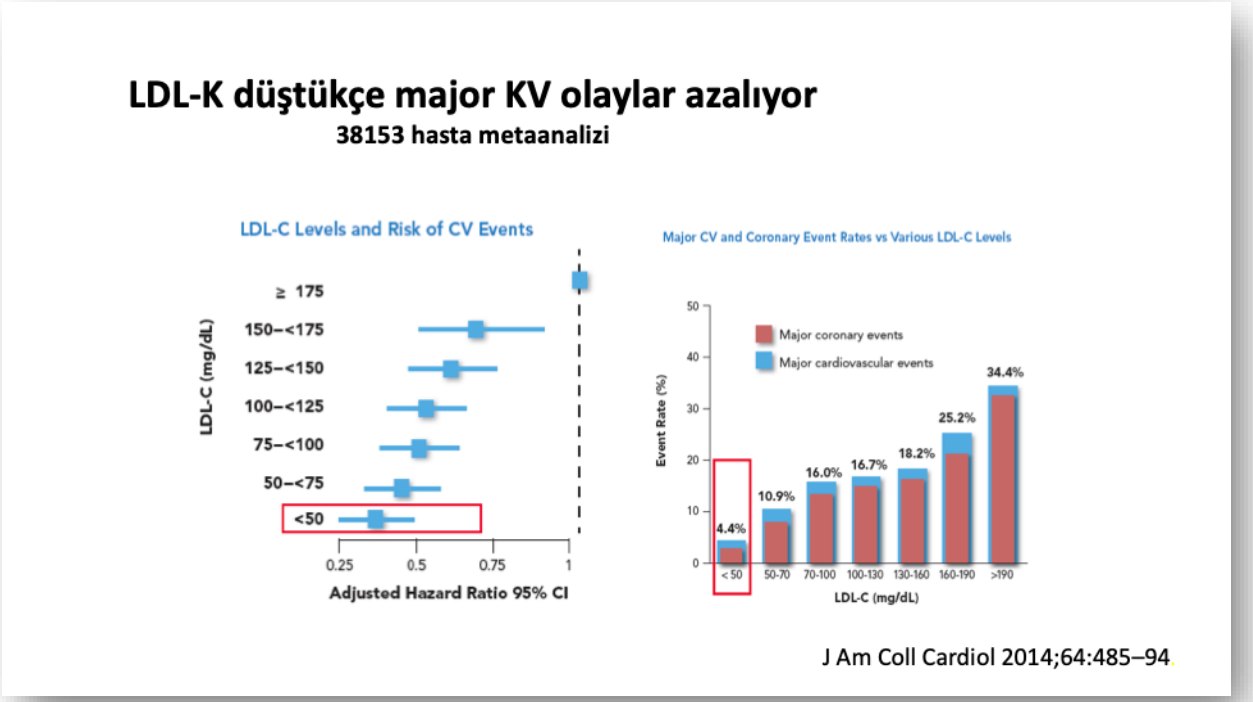


Kolesterol = Aterom Plağı

Atherosclerosis is an inflammatory response against cholesterol

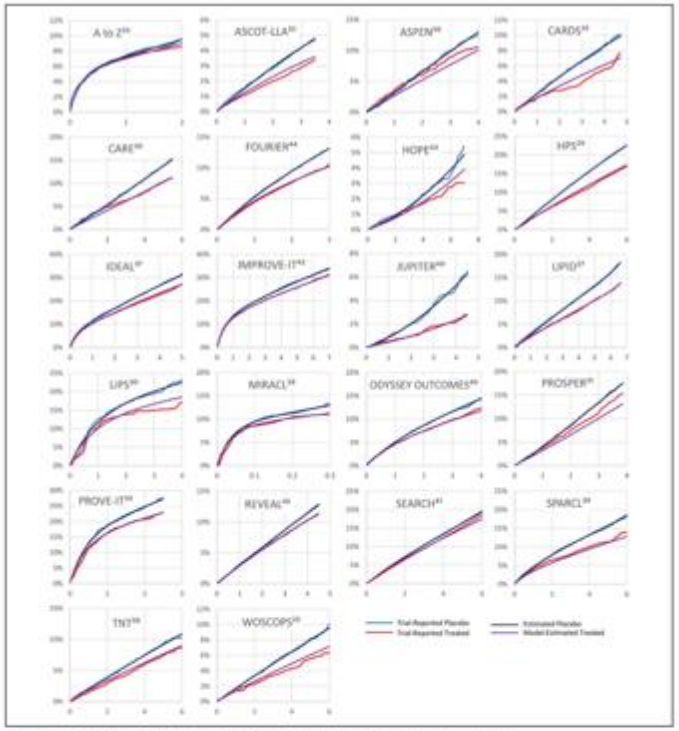
LDL-kolesterol





Daha düşük daha iyi
< 20 mg/dL
ve güvenli

Ne kadar erken,
Ne kadar düşük o kadar faydalı



Journal of the American Heart Association

ORIGINAL RESEARCH

Time-Dependent Cardiovascular Treatment Benefit Model for Lipid-Lowering Therapies

Irfan Khan, PhD; Eric D. Peterson, MD, MPH; Christopher P. Cannon, MD; Lauren E. Sedita, BS; Jay M. Edelberg, MD, PhD; Kausik K. Ray, MD, MPhil

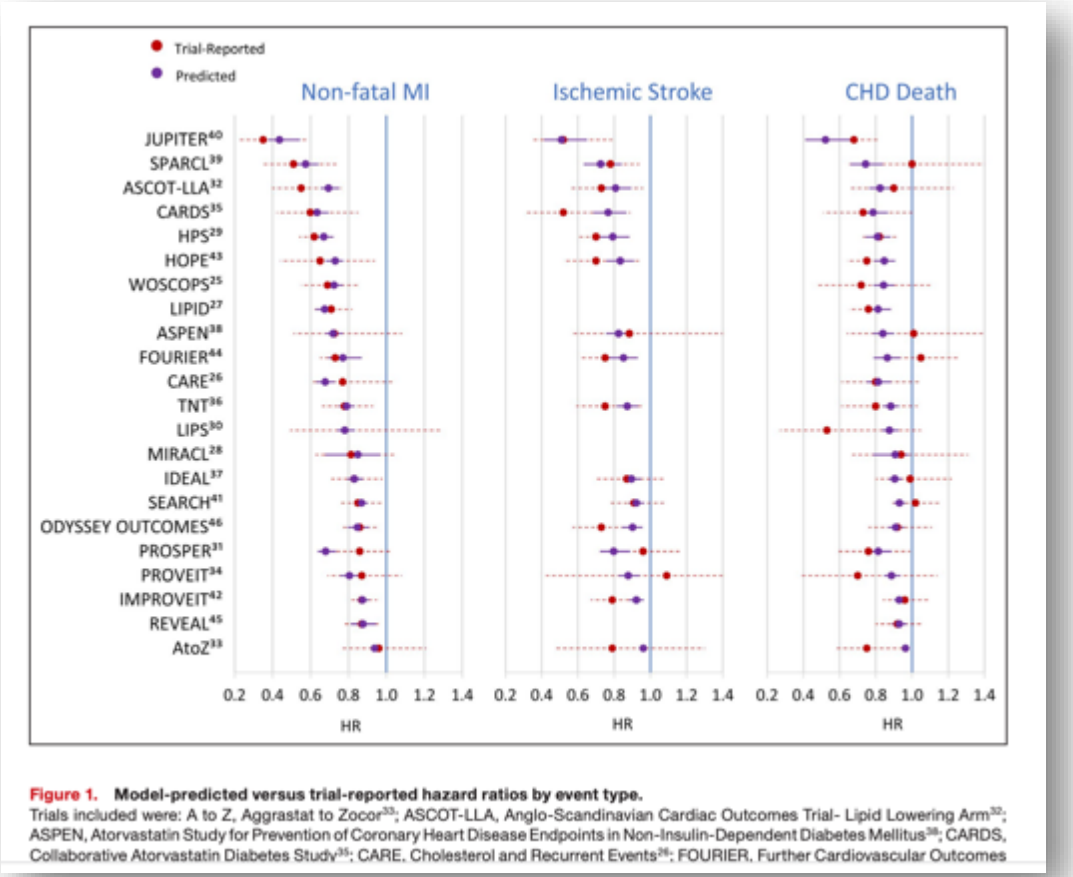
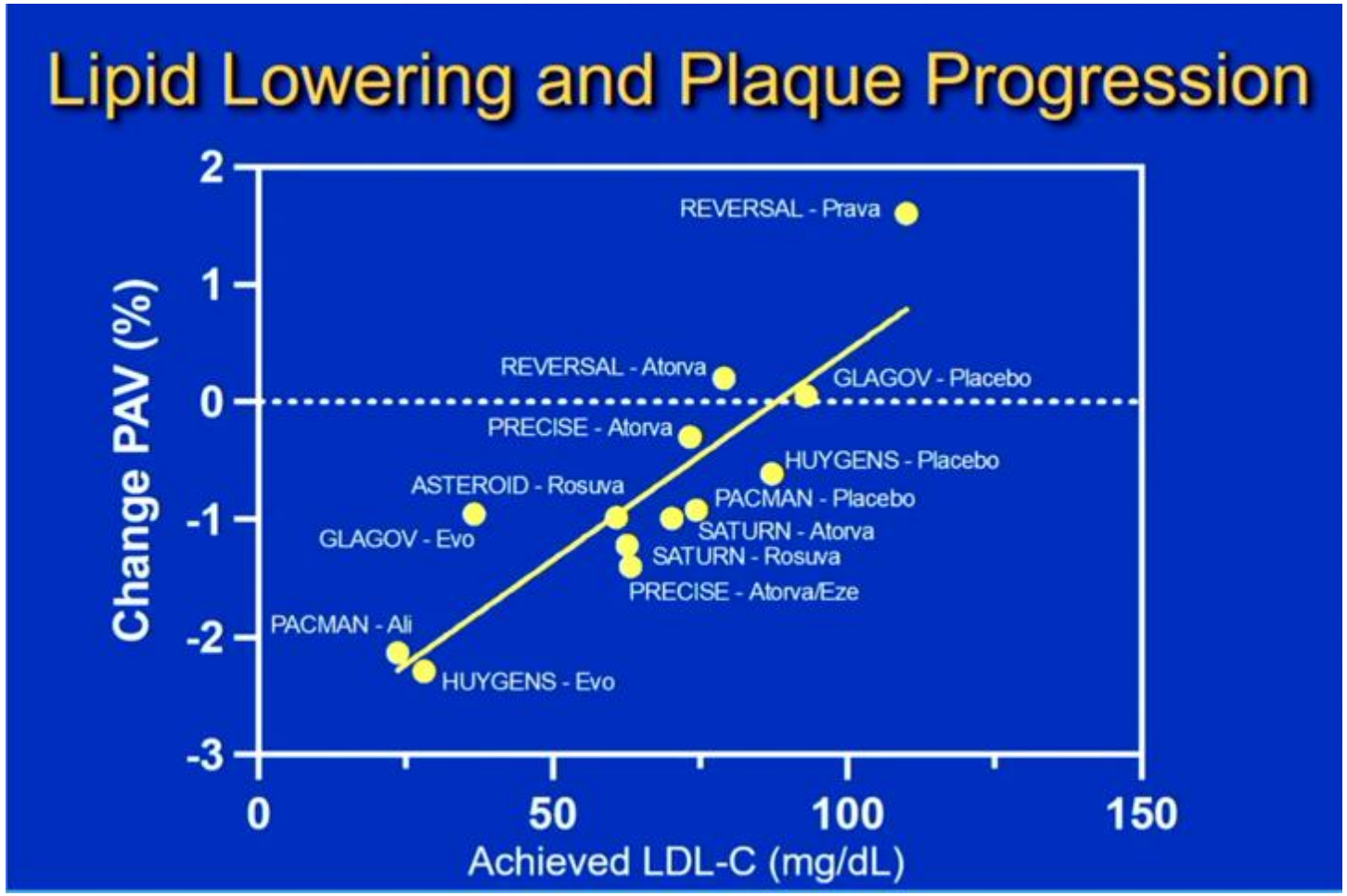


Figure 1. Model-predicted versus trial-reported hazard ratios by event type.
Trials included were: A to Z, Aggrastat to Zocor[33]; ASCOT-LLA, Anglo-Scandinavian Cardiac Outcomes Trial- Lipid Lowering Arm[32]; ASPEN, Atorvastatin Study for Prevention of Coronary Heart Disease Endpoints in Non-Insulin-Dependent Diabetes Mellitus[38]; CARDS, Collaborative Atorvastatin Diabetes Study[35]; CARE, Cholesterol and Recurrent Events[26]; FOURIER, Further Cardiovascular Outcomes

Lipid düşürücü tedavide ulaşılan LDL düzeyi ve plak regresyonu ile ilişkili



Plak varsa
Çok yüksek risk
LDL hedefi < 55 mg/dL olmalı

Bütünsel KVH riski kategorileri için LDL-K tedavi hedefleri

LDL-K için tedavi hedefi

Ve başlangıca göre ≥%50 azalma

116 mg/dL

100 mg/dL,

70 mg/dL

55 mg/dL

- SCORE < %1

Düşük

•SCORE ≥ %1 ve < %5
•DM'li genç hastalar (T1DM <35 yaş; T2DM <50 yaş); DM süresi <10 yıl; başka risk faktörü yok

Orta derece

•SCORE ≥ %5 ve < %10
•Belirgin derecede yüksek tekli risk faktörleri, özellikle TK > 8 mmol/L (310 mg/dL) veya LDL-K > 4.9 mmol/L (190 mg/dL) veya KB ≥180/110 mmHg
•FH, başka önemli risk faktörü yok
•Orta derece KBH (eGFR 30–59 mL/dk)
•DM , hedef organ hasarı yok, DM süresi ≥10 yıl veya diğer ek risk faktörü var

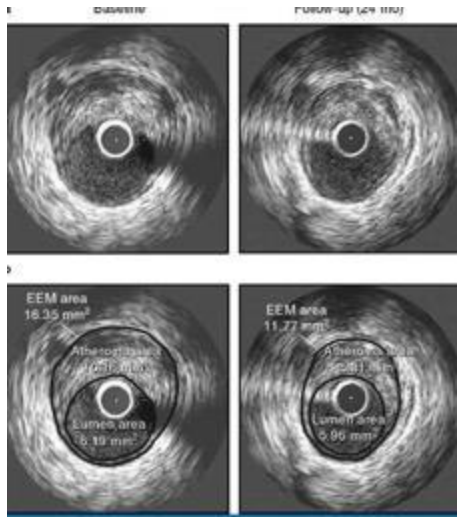
Yüksek

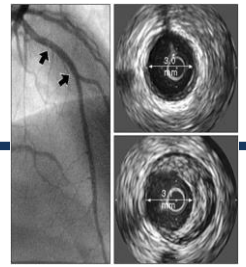
Çok yüksek

•ASKVH (klinik/görüntüleme ile)
•SCORE ≥ %10
•ASKVH veya diğer bir majör risk faktörü ile birlikte FH
•Şiddetli KBH (eGFR <30 mL/dk)
•DM ve hedef organ hasarı: 3'den fazla majör risk faktörü; veya erken başlayıp uzun süren (>20 yıl) T1DM

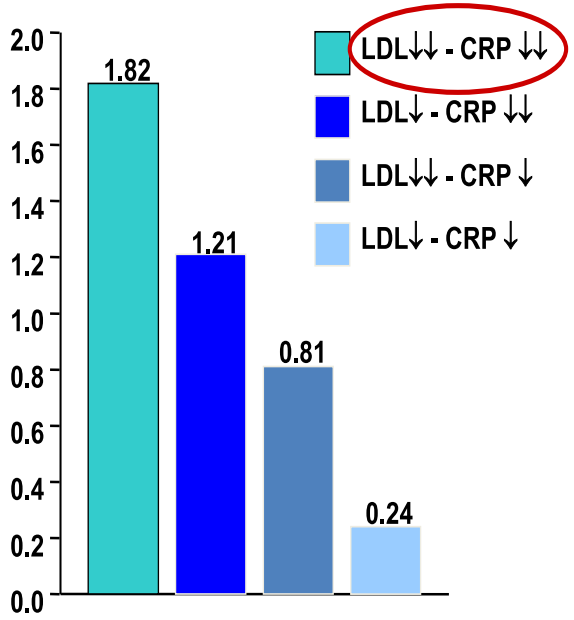
Düşük Orta derece Yüksek Çok yüksek **KV risk**

Statinlerin plak üzerindeki etkileri





REVERSAL:
LDL ve CRP düzeylerindeki düşüş



Aterom plağındaki
Hacim azalması
(%)

Nissen et al. *N Engl J Med.* 2005;352:29.
Reproduced from Nissen. *Am J Cardiol.* 2005;96(suppl):61F, with permission.

MERAL KAYIKCIOGLU
23.06.2022 POST-EAS ONLINE MEETING

Nissen SE, JAMA 2006 Apr 5; 295 (13)

ESC European Society of Cardiology
European Heart Journal (2024) 00, 1–123
https://doi.org/10.1093/eurheartj/ehae177

ESC GUIDELINES

2024 ESC Guidelines for the management of chronic coronary syndromes

Developed by the task force for the management of chronic coronary syndromes of the European Society of Cardiology (ESC)

Endorsed by the European Association for Cardio-Thoracic Surgery (EACTS)

Recommendation Table 20 — Recommendations for anti-inflammatory drugs in patients with chronic coronary syndrome (see also Evidence Table 20)

Recommendation	Class[a]	Level[b]
In CCS patients with atherosclerotic CAD, low-dose colchicine (0.5 mg daily) should be considered to reduce myocardial infarction, stroke, and need for revascularization.[714–716]	IIa	A

CAD, coronary artery disease; CCS, chronic coronary syndrome.
[a]Class of recommendation.
[b]Level of evidence.

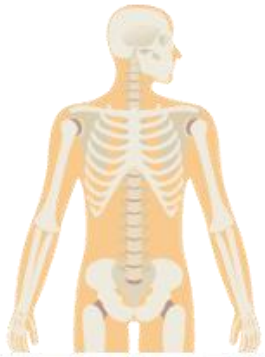
Inflamasyonun kaynağı
1. Makro çevre

Inflamasyonun kaynağı
2. Mikro çevre

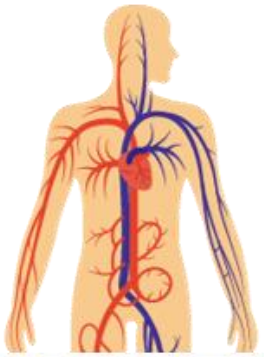
Oto-immun hastalıklar

‘Immun mediated inflammatory diseases-IMIDs’

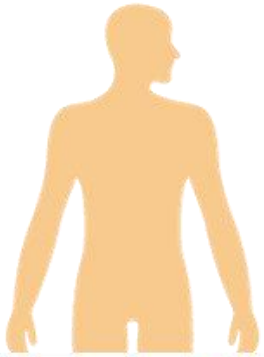
Kronik Enfeksiyonlar



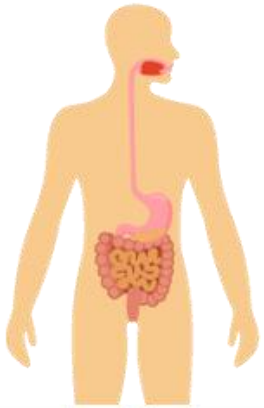
Inflammatory rheumatic diseases



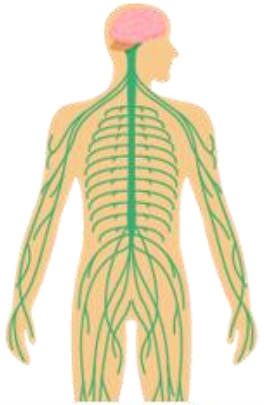
Vasculitides



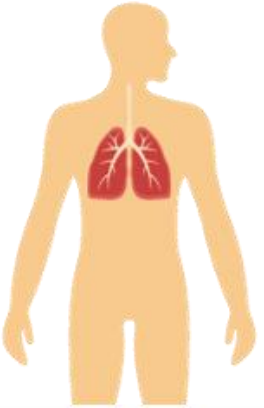
Inflammatory dermatoses



Chronic-inflammatory bowel diseases



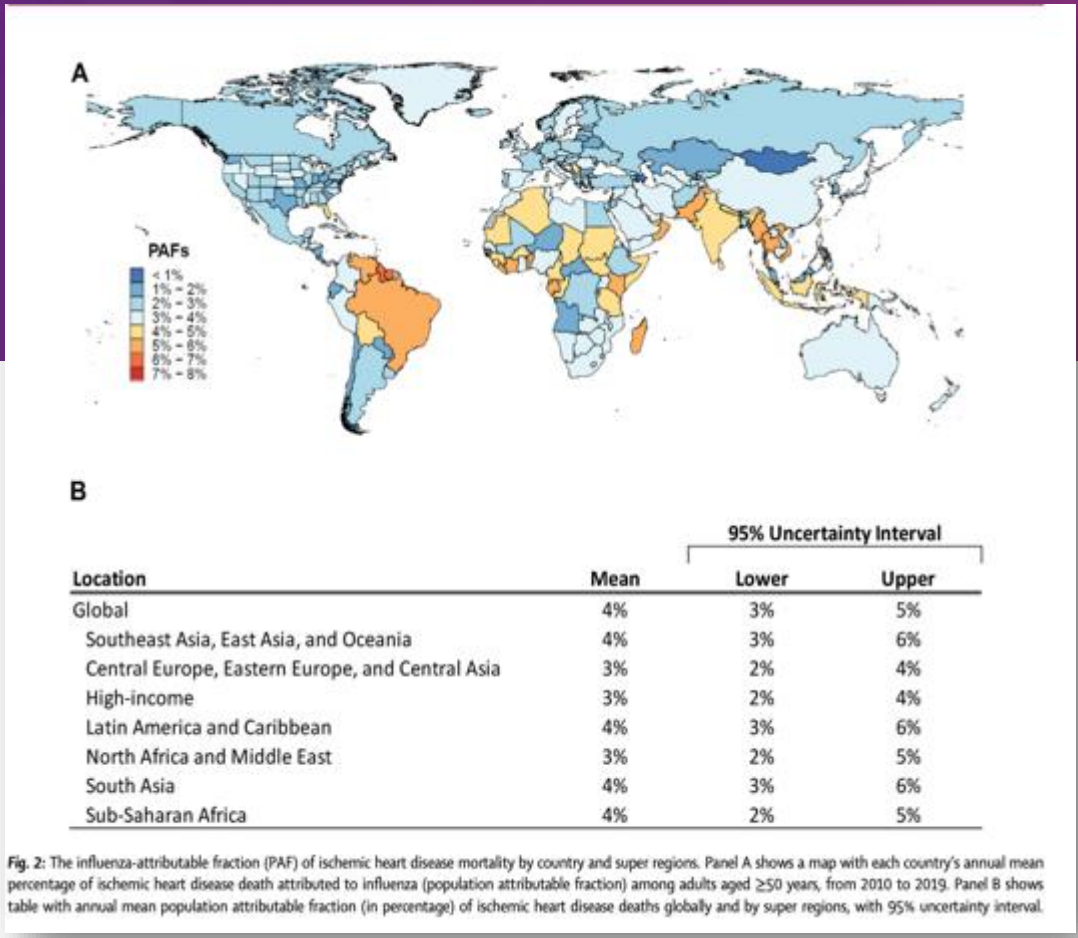
Immune-mediated diseases of the nervous system



Chronic respiratory diseases

Dünyada iskemik kalp hastalıklarına bağlı ölümlerin %4'ünden influenza sorumludur

Influenza has been estimated to be the cause of 4% of IHD deaths globally.



A

B

Location	Mean	95% Uncertainty Interval	
		Lower	Upper
Global	4%	3%	5%
Southeast Asia, East Asia, and Oceania	4%	3%	6%
Central Europe, Eastern Europe, and Central Asia	3%	2%	4%
High-income	3%	2%	4%
Latin America and Caribbean	4%	3%	6%
North Africa and Middle East	3%	2%	5%
South Asia	4%	3%	6%
Sub-Saharan Africa	4%	2%	5%

Fig. 2: The influenza-attributable fraction (PAF) of ischemic heart disease mortality by country and super regions. Panel A shows a map with each country's annual mean percentage of ischemic heart disease death attributed to influenza (population attributable fraction) among adults aged ≥50 years, from 2010 to 2019. Panel B shows table with annual mean population attributable fraction (in percentage) of ischemic heart disease deaths globally and by super regions, with 95% uncertainty interval.

Chaves SS, et al. Global, regional and national estimates of influenza-attributable ischemic heart disease mortality. EClinicalMedicine. 2022 Nov 18;55:101740. doi: 10.1016/j.eclinm.2022.101740.

HIV ile yaşıyan kişiler için yeni öneri-REPRIVE çalışması

2025 Güncelleme- ESC/EAS Kılavuzu;

Tavsiye	A	B
Statin tedavisi, tahmini kardiyovasküler risk ve LDL düzeylerine bakılmaksızın, kardiyovasküler olay riskini azaltmak için ≥40 yaş HIV'li bireylerde birincil korunma amacıyla önerilmektedir; Statin seçimi olası ilaç etkileşimlerine göre yapılmalıdır.	I	B

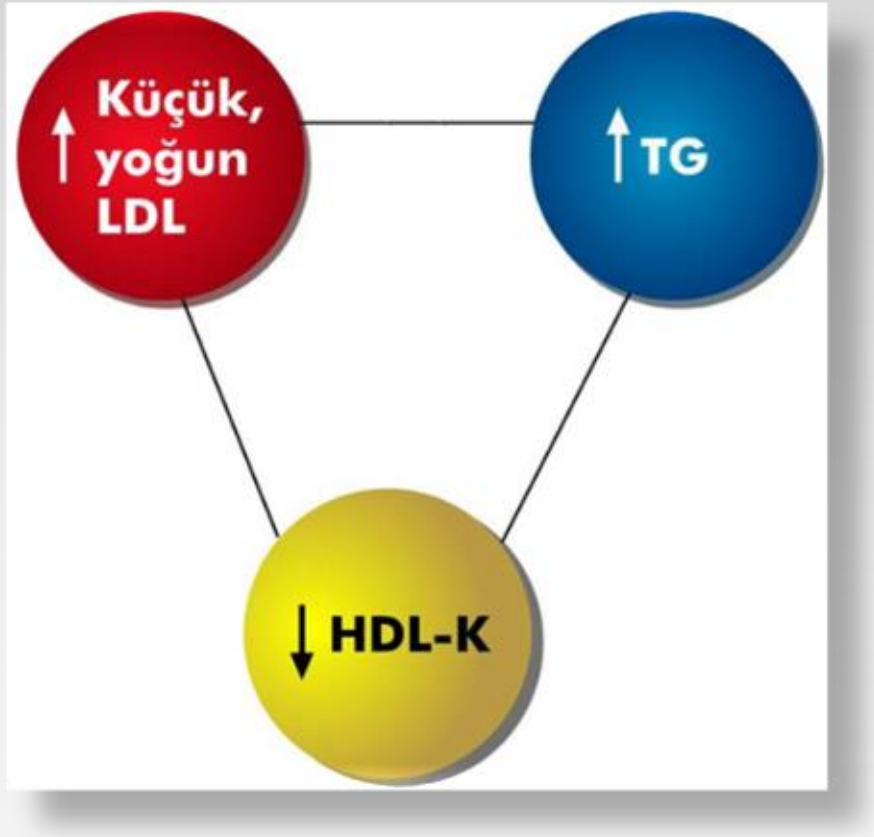
HIV = insan immün yetmezlik virüsü; LDL-C = düşük yoğunluklu lipoprotein kolesterol.
Bir tavsiye sınıfı.
delillerin .

EASL 2025

Kronik HBV enfeksiyonu olan bireylerde HCC riski ile ilişkili olduğu gösterilmiş risk faktörleri

Host factors	
Cirrhosis	Strongest risk factor for HCC[161,167,169] HCC risk remains after viral suppression[170,171]
Low platelets*	Indicator for cirrhosis[195]
Family history of HCC	Independent risk factor in all phases of chronic HBV infection[192,193,216]
Age*	HCC risk increases with age, with most studies focusing on individuals older than 30 years.[161,185] Evidence increases with age ≥35,[166] ≥40,[163] ≥50.[167] HCC risk varies in different age groups for men and women and for different ethnic groups[191]
Sex*	Higher risk among males[161,166,169,185]
ALT*	Elevated (or in the upper normal range)[163,166,167,185]
Type 2 diabetes mellitus (T2D)	**T2D is independently associated with HCC.[183,217,218] Glycaemic burden is associated with HCC.[219] T2D is included in HCC risk scores[168,218] However, one analysis showed that T2D was not independently associated with HCC in chronic HBV infection[179]**
Steatotic liver disease (SLD)	Conflicting data: - Increased risk of HCC and cirrhosis[188] - Lower risk of HCC, cirrhosis, and mortality[180,182,189]
Body mass index (BMI)	**High BMI ≥30,[179] HR stronger in females[178]**
Metabolic syndrome	**Multiple (≥3) metabolic risk factors or increasing burden of metabolic dysfunction are associated with HCC[180–182,190]**
Cigarette smoking	Present[181,184–187]
Alcohol consumption	Heavy alcohol intake ≥60 g/d[161]
Ethnicity	Evidence low or absent: - Birth in Africa/Oceania: linked to very early-onset HCC[194] - Sub-Saharan Africans with HBV in Europe: lower HCC incidence, similar risk factors to general population[195] - Western *vs.* Eastern studies: no significant age-adjusted differences in HCC incidence[161]

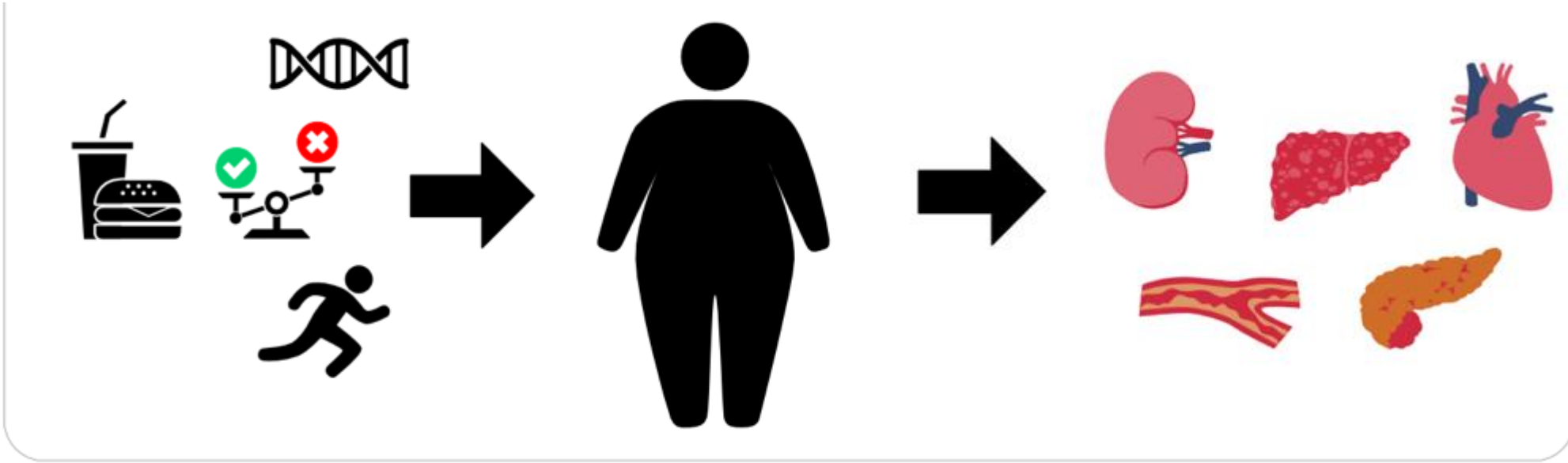
İnsülin direncine bağlı: Aterojenik dislipidemi
Metabolik send, Diyabet ve KBY



Stresse yanıt!

Esas sorun: KC'de apo-B içeren VLDL yapımının ↑

Systemic Metabolic Disorders (SMD)
Kardiyo renal metabolik sendrom
Metabolik sendrom



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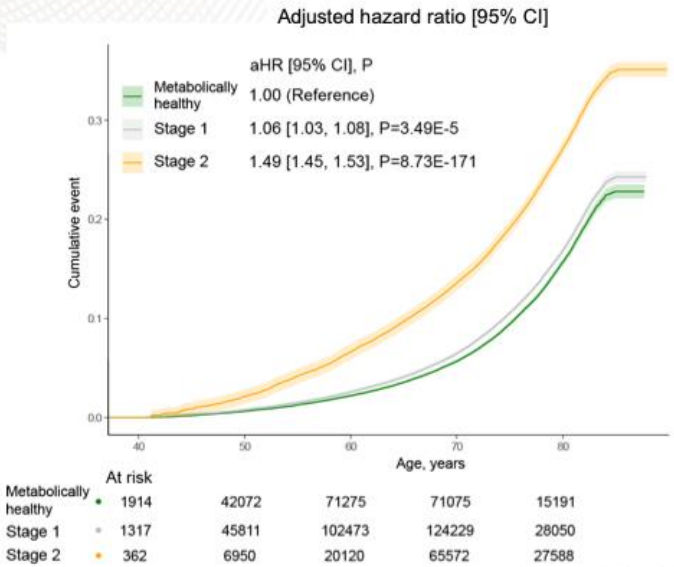
https://doi.org/10.1093/eurheartj/ehaf314

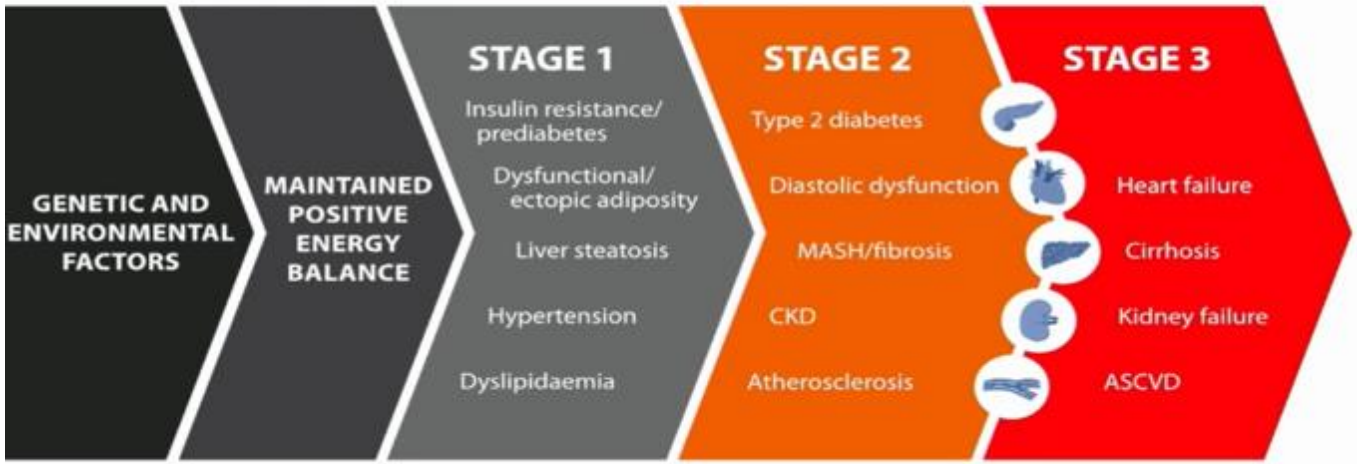
SPECIAL ARTICLE
Diabetes and metabolic disorders

Clinical staging to guide management of metabolic disorders and their sequelae: a European Atherosclerosis Society consensus statement

All-cause mortality in individuals with Stage 1 or 2



Staging SMD



nature mental health

Article

https://doi.org/10.1038/s44220-025-00501-8

Regional adiposity shapes brain and cognition in adults

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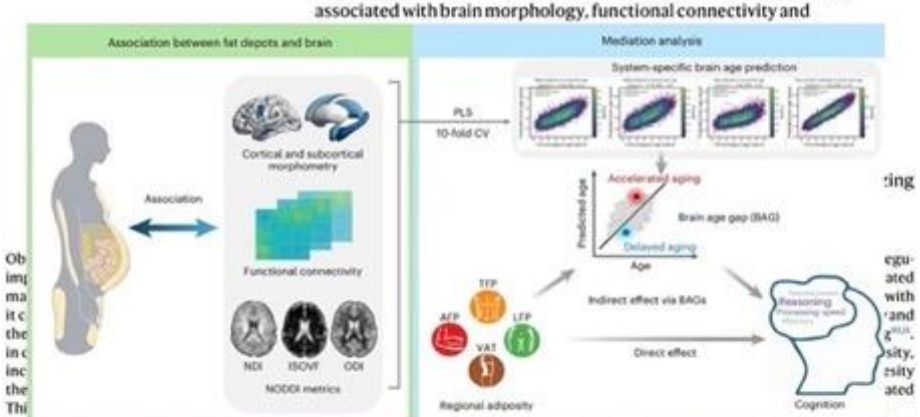
Accepted: 19 August 2025

Published online: 15 September 2025

Check for updates

Die Zhang[1,9], Yingji Fu[1,9], Chenye Shen[2], Chaoqiang Liu[2], Nanguang Chen[2,3], Hua Cao[4], Kui Kai Lau[5,6] & Anqi Qiu[1,7,8]

Body mass index (BMI) is commonly used to assess obesity, but it fails to capture the complexities of regional adiposity, which can have varying effects on brain health. This study analyzed data from over 18,000 UK Biobank participants to investigate the relationship between regional adiposity, measured using dual-energy X-ray absorptiometry, and brain health, evaluated through multimodal brain imaging and cognitive tests. Adiposity in the arm, leg, trunk and visceral regions was differentially associated with brain morphology, functional connectivity and



Ob
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with obesity[4,5].

A growing body of research is highlighting the negative impact of obesity, as measured by BMI, waist circumference and waist-to-hip ratio, on brain health and cognitive function[6–9]. Obesity has been associated with structural and functional brain changes, including reduced

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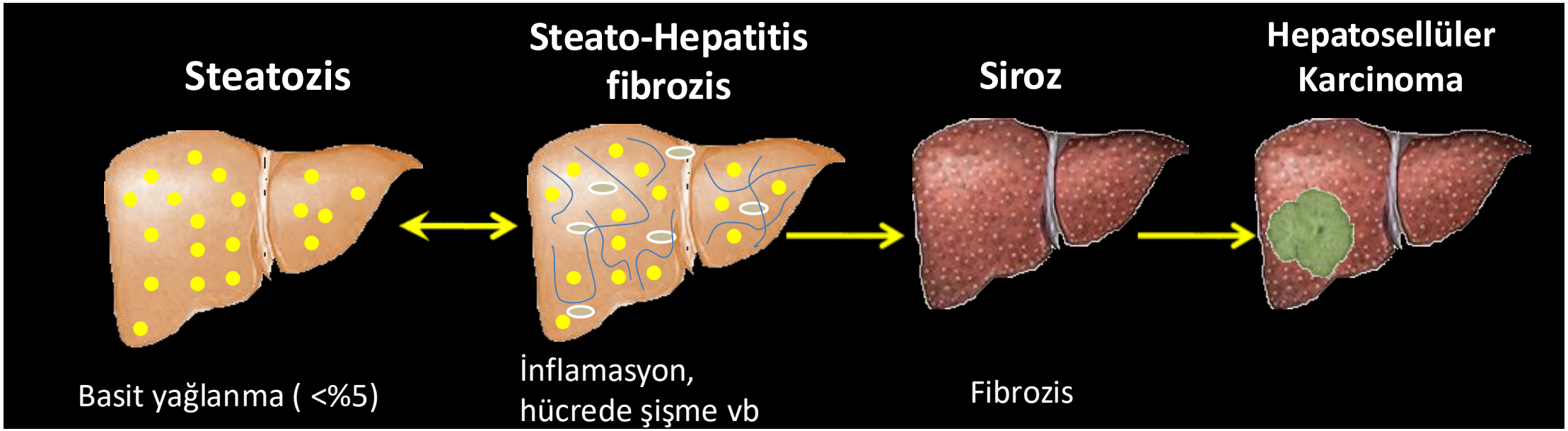
and brain aging has largely relied on BMI, overlooking the potential differential effects of regional adiposity. Adipose tissue plays diverse biological roles that may have critical implications for brain health. For example, visceral adipose tissue (VAT) is strongly associated with metabolic syndromes and cardiovascular disease, and its secretion

[1]Department of Health Technology and Informatics, The Hong Kong Polytechnic University, Hung Hom, Hong Kong. [2]Department of Biomedical Engineering, National University of Singapore, Singapore, Singapore. [3]NUS (Suzhou) Research Institute, Suzhou, China. [4]Fuzhou University Affiliated Provincial Hospital, Fujian, China. [5]School of Clinical Medicine, LKS Faculty of Medicine, The University of Hong Kong, Hong Kong, Hong Kong. [6]State Key Laboratory of Brain and Cognitive Sciences, The University of Hong Kong, Hong Kong, Hong Kong. [7]Mental Health Research Centre, The Hong Kong Polytechnic University, Hung Hom, Hong Kong. [8]Department of Biomedical Engineering, Johns Hopkins University, Baltimore, MD, USA. [9]These authors contributed equally: Die Zhang, Yingji Fu. e-mail: an-qi.qiu@polyu.edu.hk

KC yağlanması neden önemli? Hastalığın evreleri…..

MASLD **MASH**



Prevelans	**25%[1]**	**3%-5%[1]**	**1%-2% at risk***

Eski Tanım

NAFLD

Non-Alkolik" Yağli Karaciğer Hastaliği

"Non-Alkolik"

NASH

Non-Alkolik Steatohepatit'

Yeni Tanım

MASLD

Metabolik Disfonksiyonla İlişkili **Steatotik** Karaciğer Hastaliği

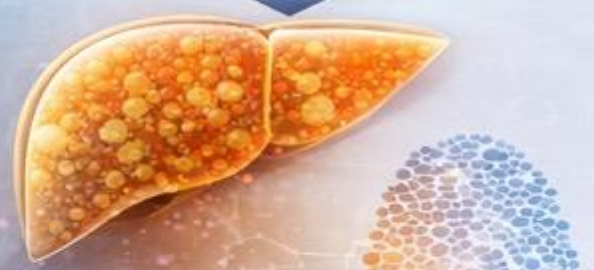
MASLD

Metabolik Disfonksiyonla İlişkili Steatohepatit

Metabolik Kriterler

NAFLD

Non-Alkolik Yağlı Karaciğer Hastaliği



Neden Değişti?

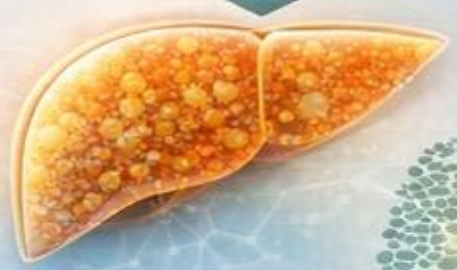
- Hastaliğın altındaki insülin direnci ve kardiyometabolik temeli vurgulamak.
- Orta düzey alkol kullianımı olan ama ayni zamanda metabolik sendromu olan hastalan (MetALD) kapsamak.

Metabolik Kriterler:

- ✓ Vücüt Kitle Indeksi >25 kg/m² (Asyalilarda >23)
- ✓ Prediyabet veya Tip 2 Diyabet
- ✓ Hipertansiyon (≥130/85 mmHg veya ilaç kullanimi)
- ✓ Plazma Trigliserid ≥150 mg/dL veya lipid düsürücü tedavi

MASLD

Metabolik Disfonksiyonla İlişkili Steatohepatit



- ✓ Prediyabet veya Tip 2 Diyabet
- ✓ Hipertansiyon (≥130/85 mmHg veya ilaç kullanimi)
- ✓ Plazma Trigliserid ≥150 mg/dL veya lipid düşürücü tedavi

Hepatik ve Ekstrahepatik Olumsuz Klinik Sonuçlar

Kalp hastalikları, kalp yetmezliği ve ritim bozuklukları (atriyal fibrilasyon)

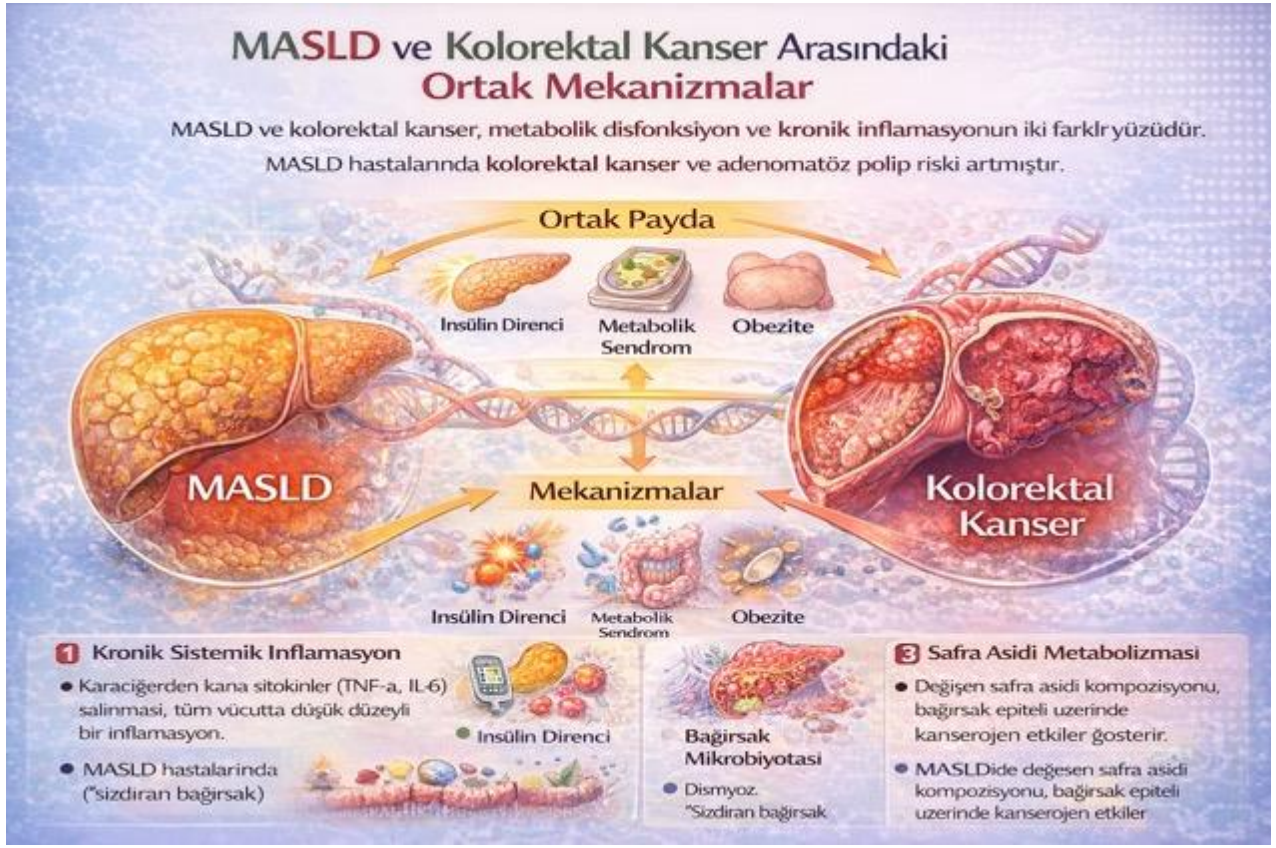
Tip 2 diyabet

Kronik böbrek hastaliği (evre ≥3)

Kolorektal kanser gibi bazı ekstrahepatik kanserler

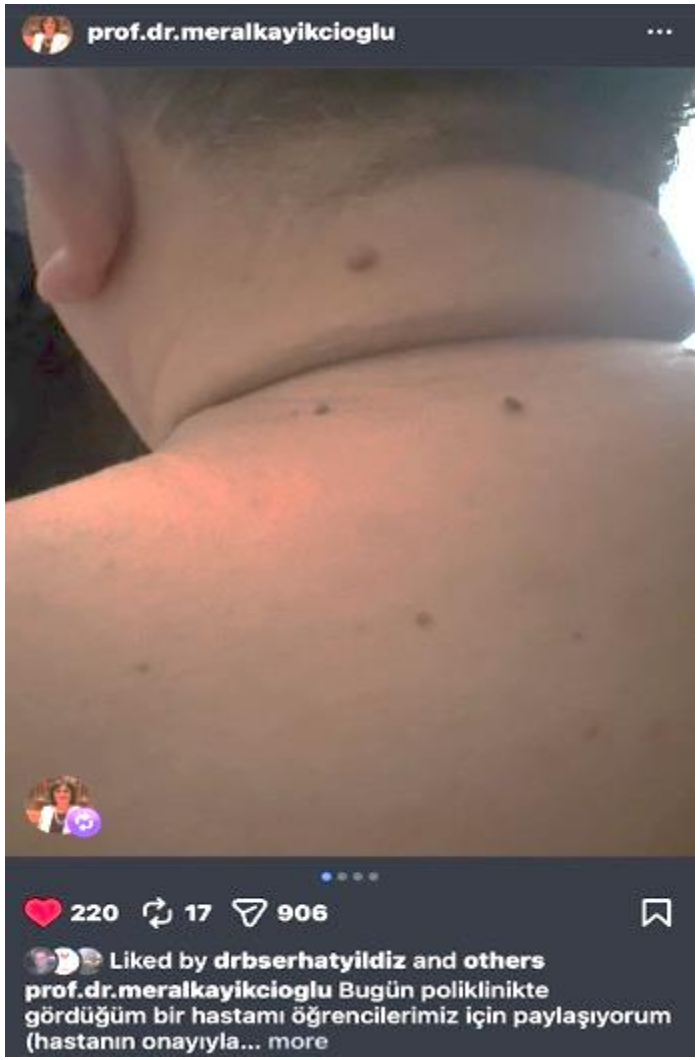
Siroz veya HCC

Kolorektal kanser ile MASLD arasında güçlü ilişki



1. **Kronik Sistemik İnflamasyon:**
2. **Oksidatif Stres:** Yağlı karaciğerde artan oksidatif stres, DNA hasarına yol açarak bağırsak hücrelerinde mutasyon riskini artırabilir.
3. **Bağırsak Mikrobiyotası:** MASLD hastalarında bağırsak mikrobiyotasının kompozisyonu bozulmuştur ("sızdıran bağırsak"). Bu durum, bağırsaktan kana bakteriyel toksinlerin (LPS gibi) geçişini artırır ve hem KC inflamasyonunu hem de bağırsaktaki kanser yapıcı süreçleri besler.
4. **Safra Asidi Metabolizması:** MASLD'de değişen safra asidi kompozisyonu, bağırsak epiteli üzerinde kanserojen etkiler gösterebilir.

İnsulin – Büyüme Faktörü



Epidemiyoloji: **Sessiz Pandemi**

- **Küresel Prevalans:** Erişkin popülasyonun yaklaşık **%30**'u.
- **Tip 2 Diyabetiklerde:** Prevalans **%70**'in üzerine çıkıyor.
- **Obez Bireylerde:** **%90**'lara varan oranlar.
- **Türkiye Verisi:** Türkiye'de her 3-4 erişkinden birinde MASLD mevcut (HEPATURK ve yerel çalışmalar).

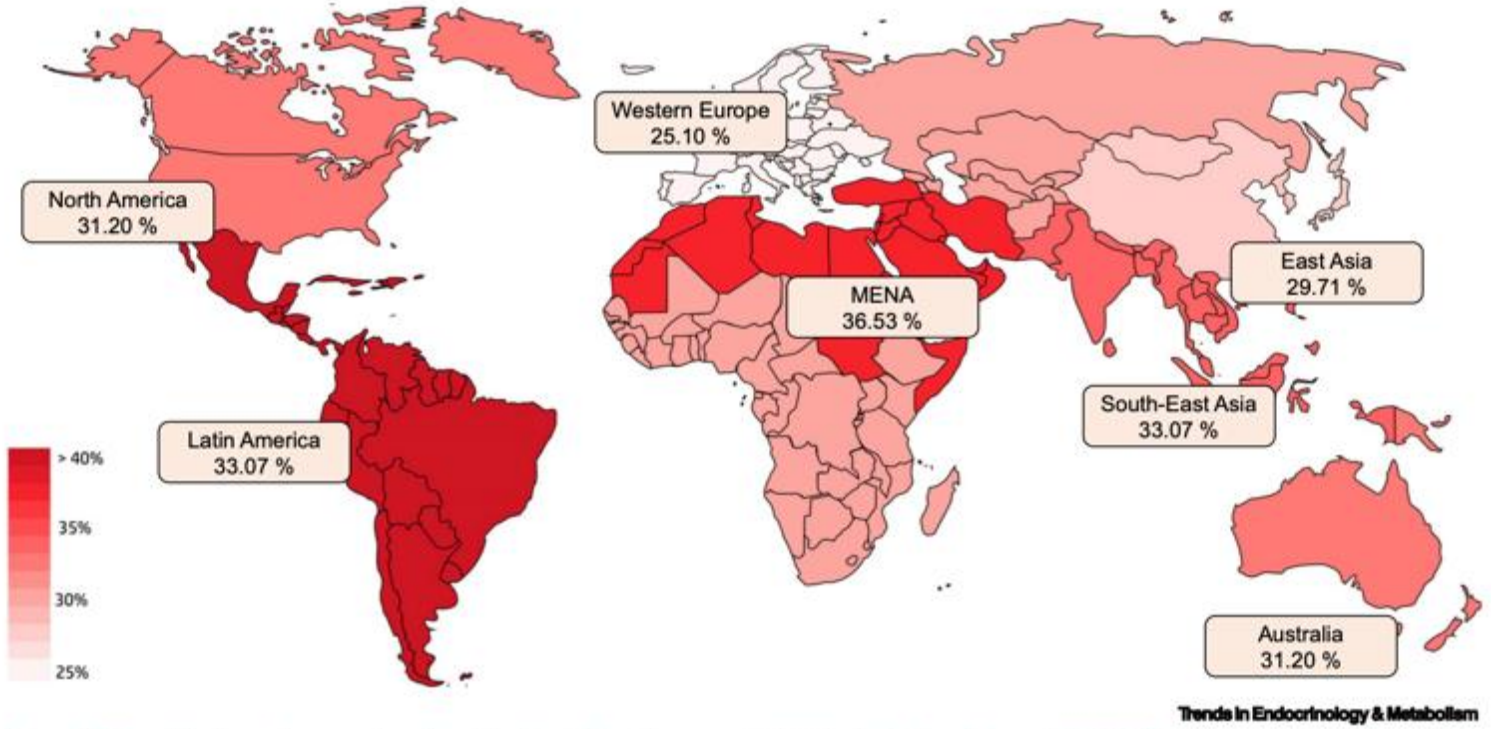
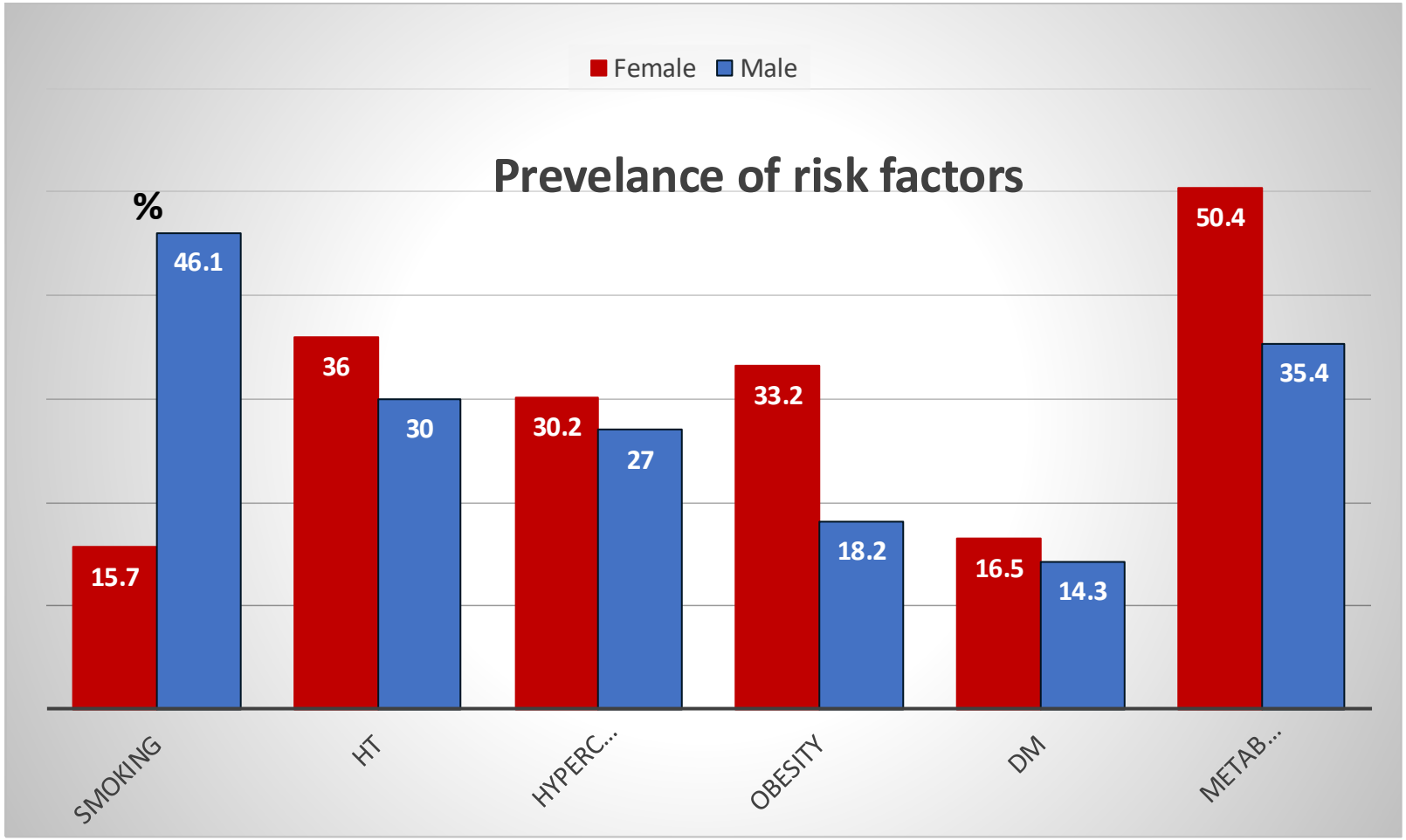


Figure 1. The global prevalence rates of metabolic dysfunction-associated steatotic liver disease (MASLD) in the general adult population.
Abbreviation: MENA, Middle East and North Africa.

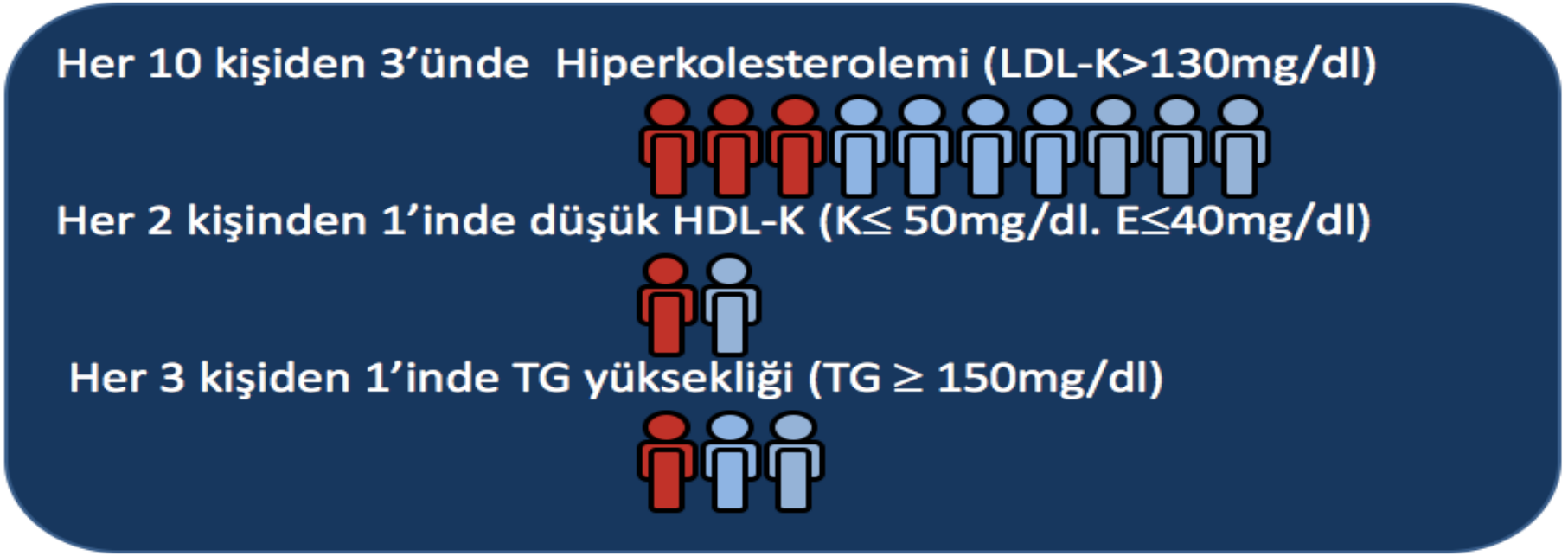
Type 2 Diyabet, Obezite >65%, İkisi >85%

Miao et al Trend End Met 2024

STEPS-II Data- TURKEY 2017

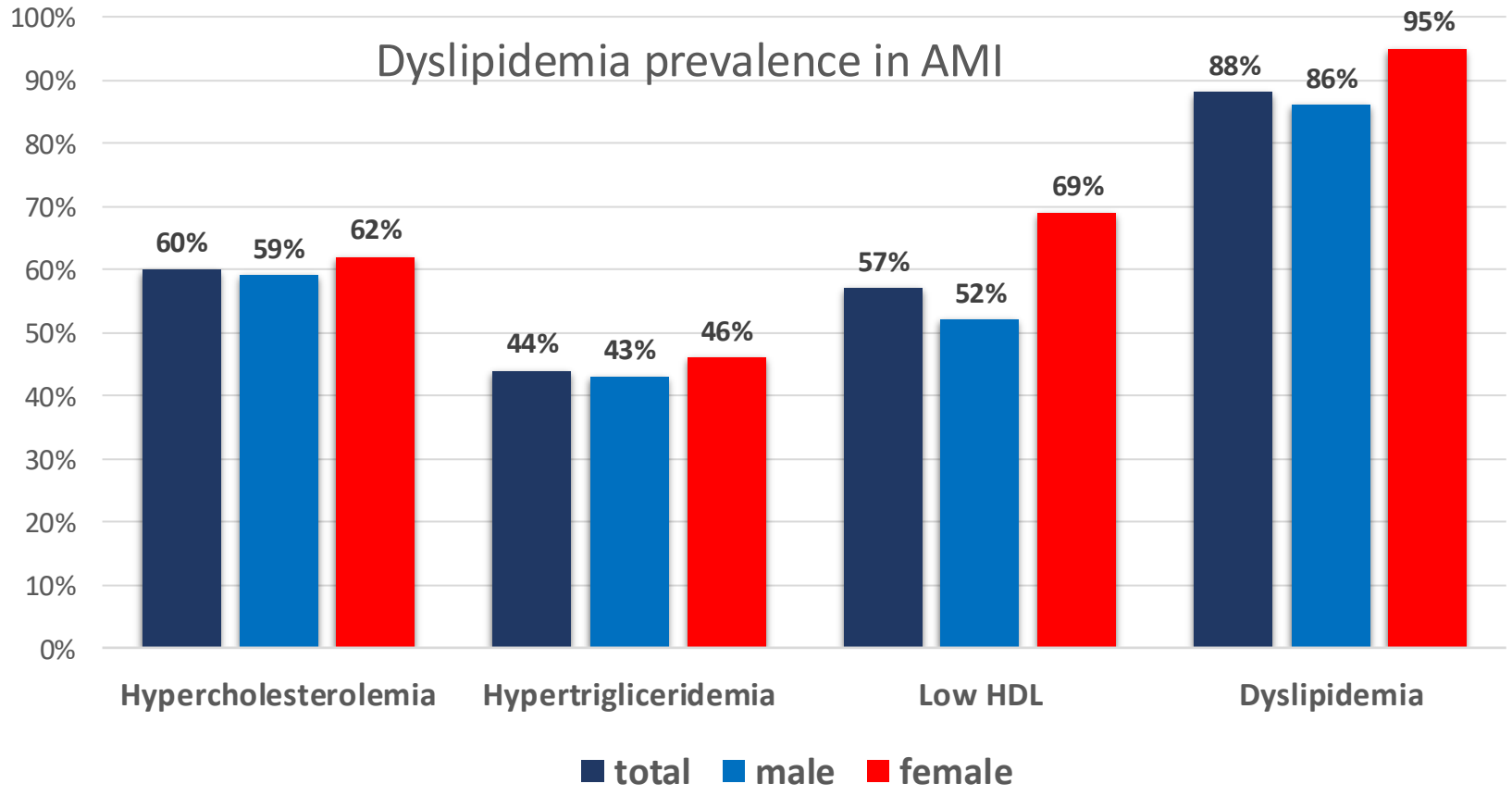


TKD-2010 sonrası epidemyolojik çalışmaların meta-analizine göre



Kayıkçıoğlu M, Tokgözoğlu L, Kılıçkap M ve ark. TKD Arşivi Eylül 2018

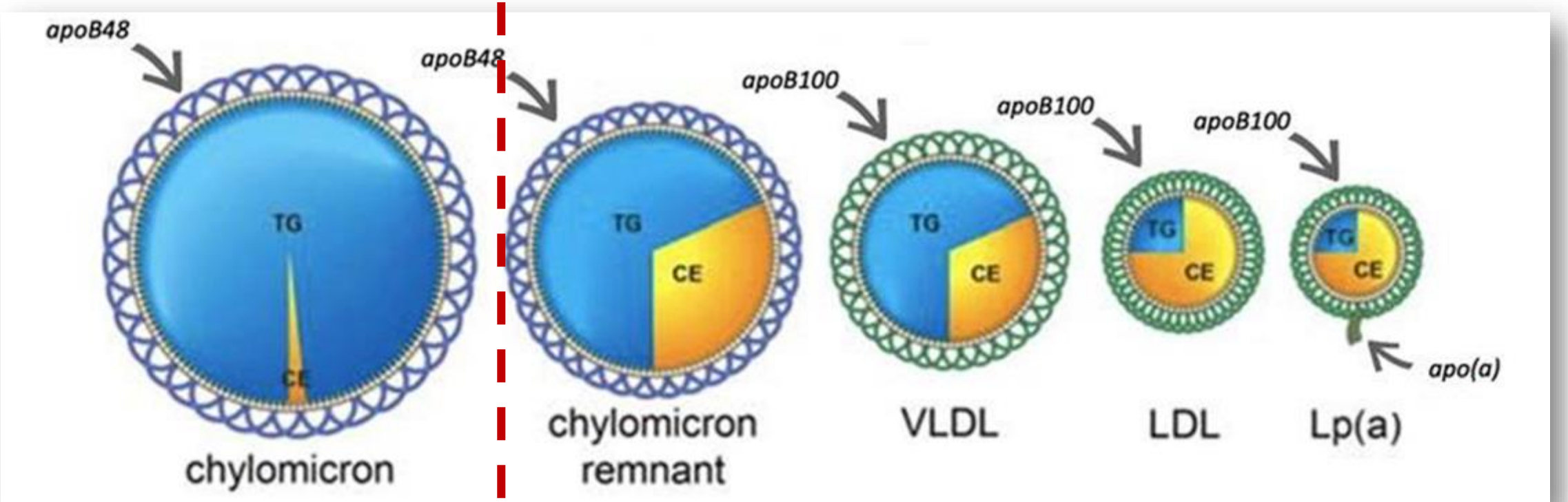
The dyslipidemia prevalence is extremely high in both men and women in TURKMI registry.



TG taşıyan partiküller (TGZ lipoproteinler)

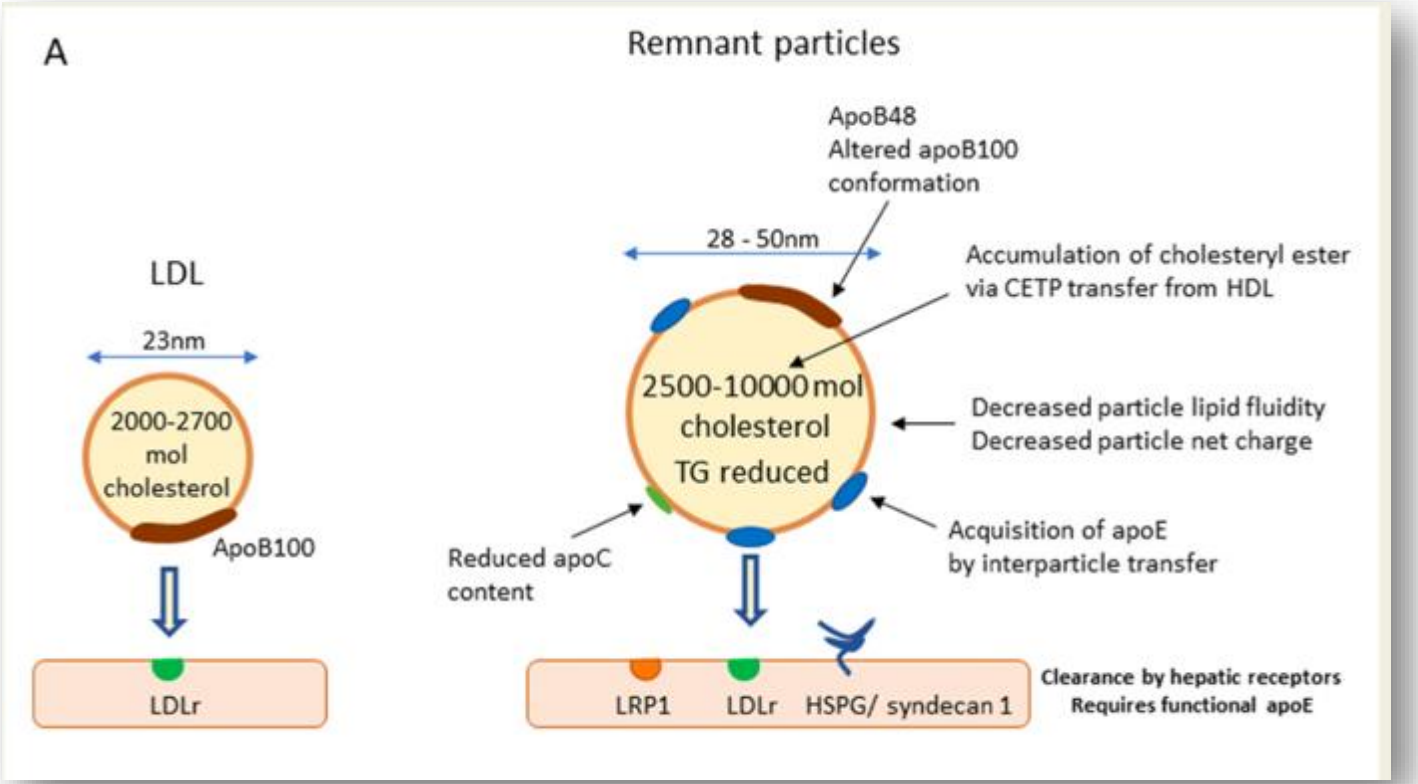
> 70 ngr ateroskleroz yapamıyor

Toplam Kolesterol- HDL= Non-HDL-K
Hedef değer LDL hedefinin 30 fazlası



TGZ lipoproteinler, remnants

LDL'ye göre 4x kolesterol içeriği var



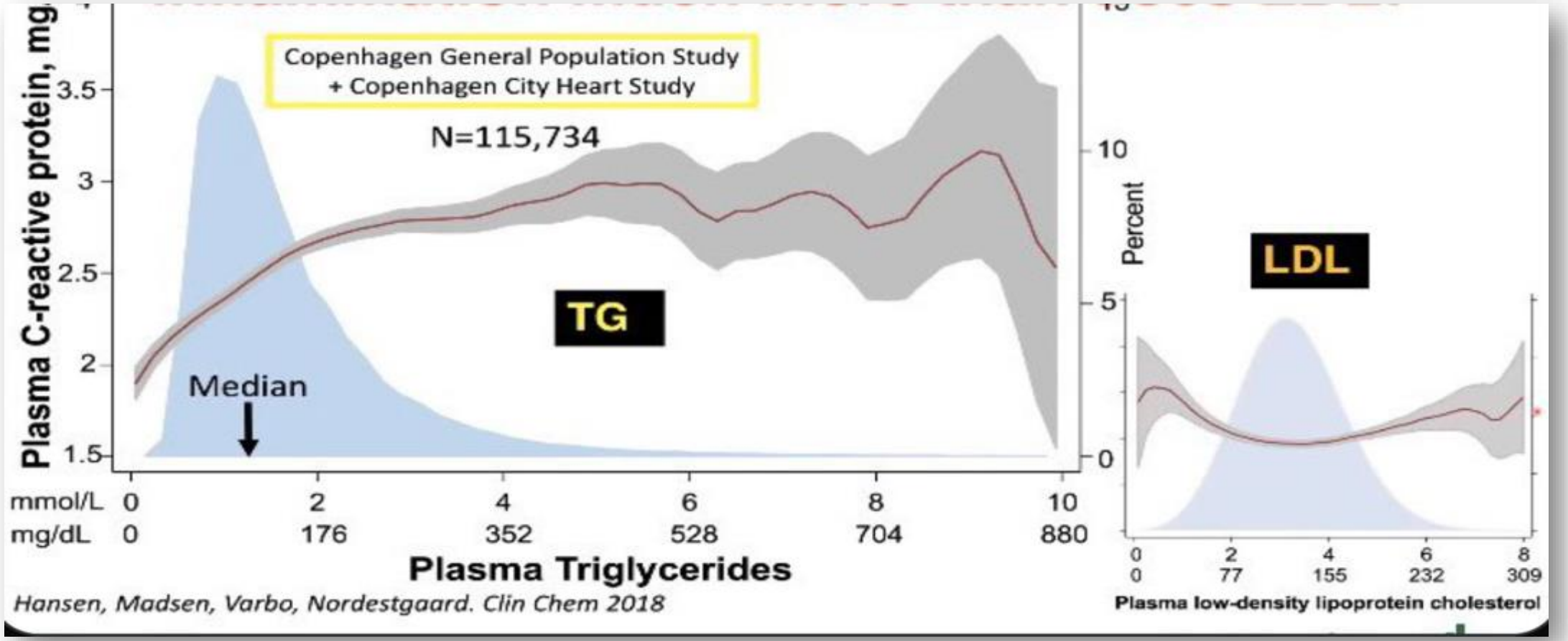
ESC European Society of Cardiology

SPECIAL ARTICLE

Triglyceride-rich lipoproteins and their remnants: metabolic insights, role in atherosclerotic cardiovascular disease, and emerging therapeutic strategies—a consensus statement from the European Atherosclerosis Society

Henry N. Ginsberg[1*†], Chris J. Packard[2†], M. John Chapman[3], Jan Borén[4], Carlos A. Aguilar-Salinas[5,6], Maurizio Averna[7], Brian A. Ference[8], Daniel Gaudet[9], Robert A. Hegele[10], Sander Kersten[11], Gary F. Lewis[12], Alice H. Lichtenstein[13], Philippe Moulin[14], Børge G. Nordestgaard[15,16], Alan T. Remaley[17], Bart Staels[18], Erik S.G. Stroes[19], Marja-Riitta Taskinen[20], Lale S. Tokgözoğlu[21], Anne Tybjaerg-Hansen[22,23,24,25], Jane K. Stock[26], and Alberico L. Catapano[27]

TGZL artışı inflamasyonu LDL'den daha fazla tetikliyor



Key Question

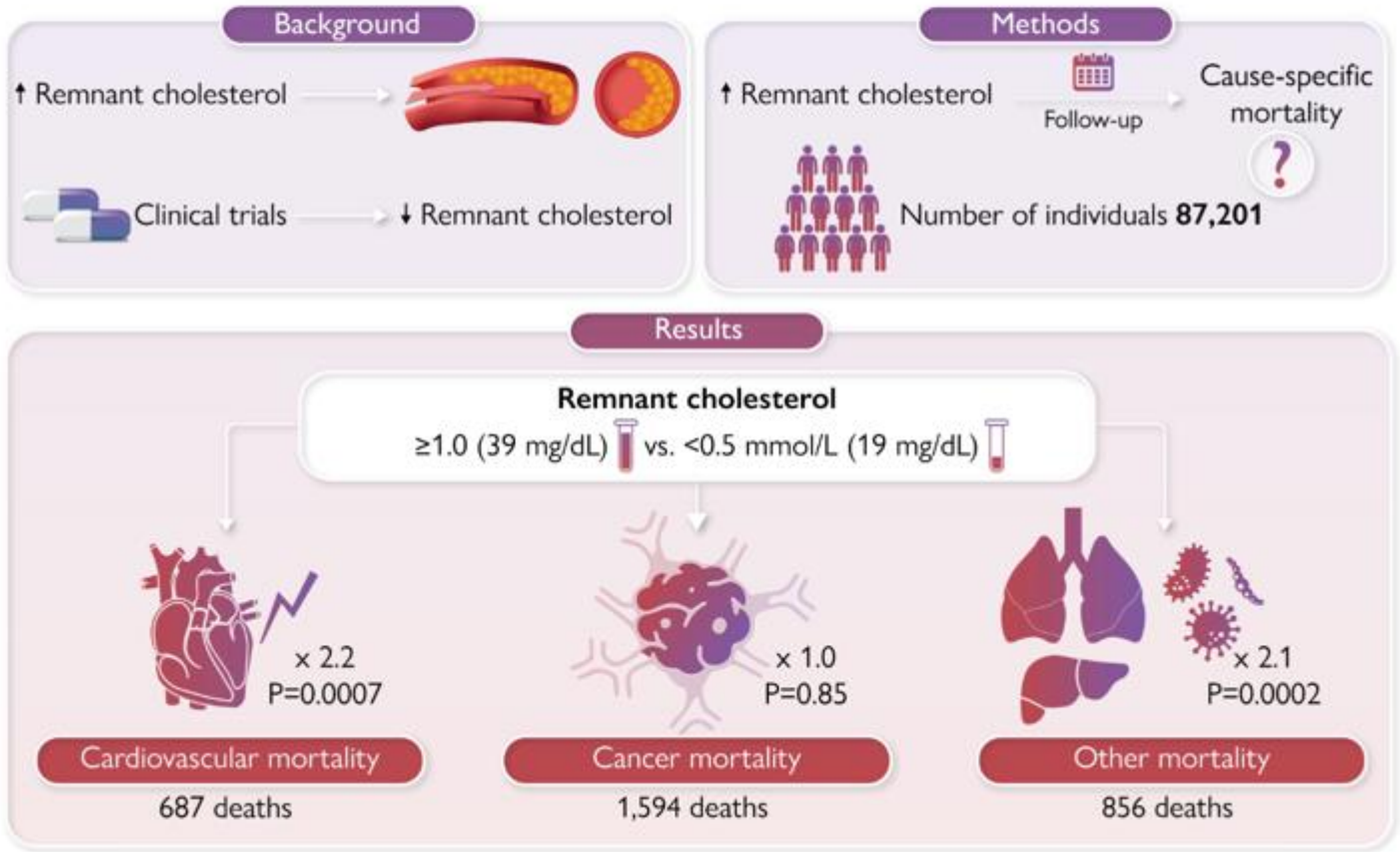
Is cholesterol carried in triglyceride-rich lipoproteins, also called remnant cholesterol, associated with increased mortality from cardiovascular disease, cancer, and other causes?

Key Finding

Remnant cholesterol above 1 mmol/L (39 mg/dL), observed in 22% of the population, was associated with 2-fold mortality from cardiovascular and other causes, but not from cancer.

Take Home Message

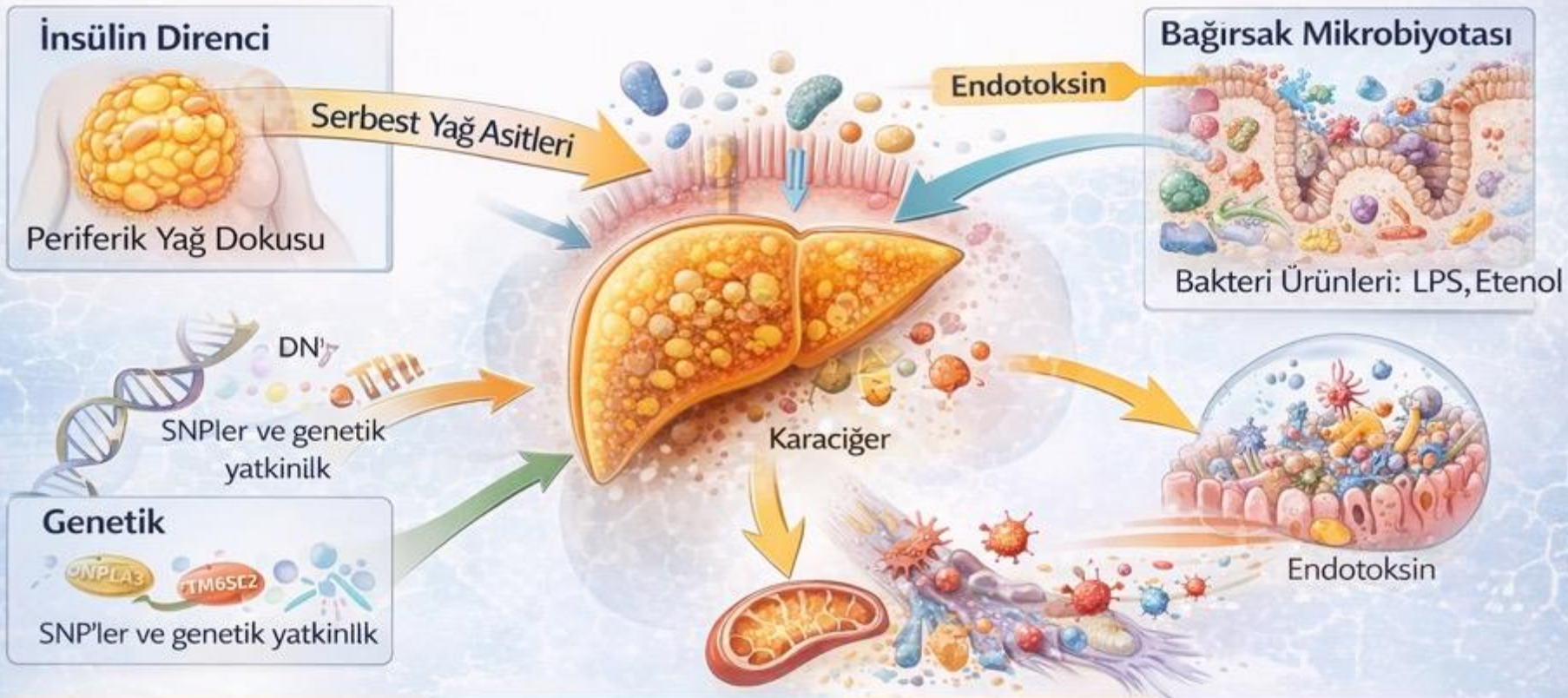
Large randomized trials should investigate if remnant cholesterol-lowering therapy without increases in LDL cholesterol or apolipoprotein B reduces all-cause and cause-specific mortality in addition to atherosclerotic cardiovascular disease.



Remnantlar Mortalite ile ilişkili

Wadström et al. Elevated remnant cholesterol, plasma triglycerides, and cardiovascular and non-cardiovascular mortality. Eur Heart J. 2023;44(16):1432-1445. doi:10.1093/eurheartj/ehac822

Patofizyoloji: “Multiple Hit” (Çoklu Darbe) Teorisi



1. Birinci Darbe

- Periferik yağ dokusundan karaciğere serbest yağ asidi akişı (Lipotoksisite).

2. Oksidatif Stres

- Mitokondriyal disfonksiyon ve ROS oluşumu.

3. İnflamasyon

- Kupffer hücre aktivasyonu ve sitokin salınımı (TNF-α, IL-6).

4. Fibrozis

- Stellat hücrelerin aktivasyonu ve kollajen birikimi.

MASLD için Kim Taranmalı?

Fazla Kilolu veya Obez

- BKİ ≥ 25 (Aşri Kilolu)
- BKİ ≥ 30 (Obez)

Tip 2 Diyabet veya Prediyabet

- Açlik Glukozu ↑ / HbA1c ≥5.7%

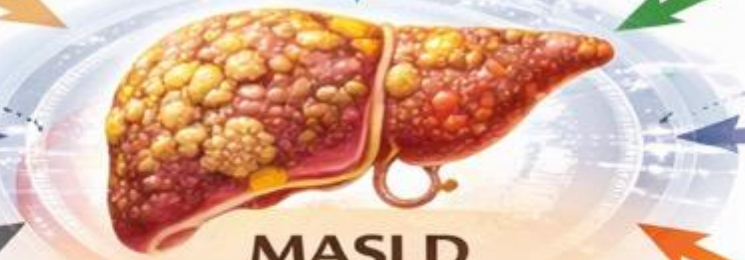
Metabolik Sendrom

Hipertansiyon

- ≥130/80mmHg

Dislipidemi

↑LDL, ↓HDL, ↑TG



MASLD

(Metabolik Disfonksiyonla İlişkili Steatoz)

Metabolik Olmayan Karaciğer Hastalikları

- Viral Hepalit,
- Otoimmün KC,
  - PSC, PBC

Obstrüktif Uyku Apne (OSA)

Kardiyovaşküler (KV) Risk Faktörleri

- Alie Öyküsu, Sigara,
- Sedanter Yaşam

Sonuçları:

Hipertansiyom

Dislipidemi

KV Olaylar
(Mi, Inme)

Karaciğer Fibrozisi

Sleep Medicine 88 (2021) 29–35

Contents lists available at ScienceDirect

Sleep Medicine

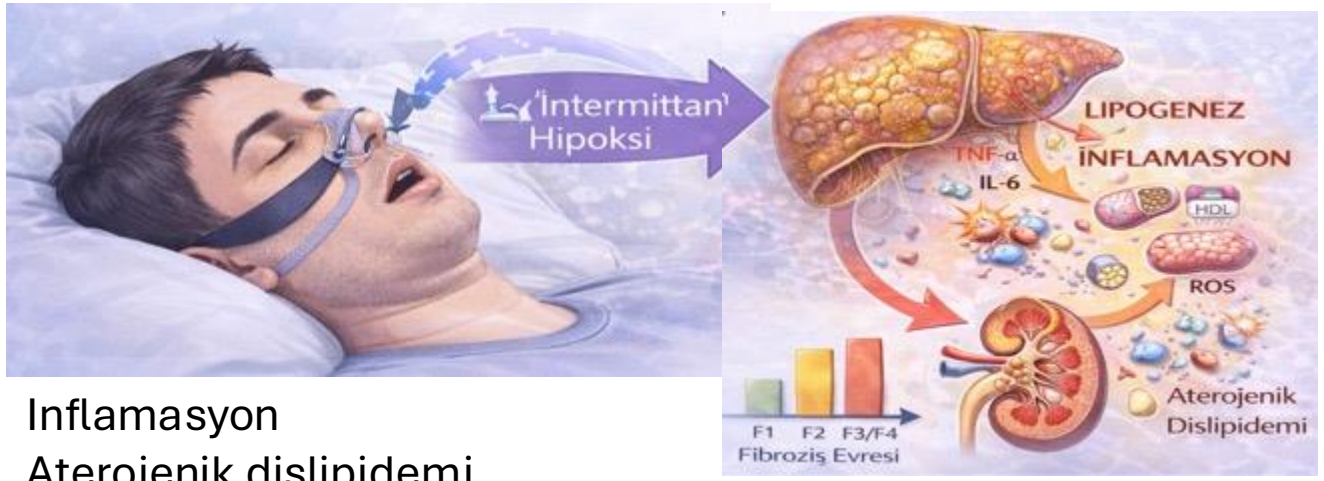
journal homepage: www.elsevier.com/locate/sleep

Original Article

Could non-HDL-cholesterol be a better marker of atherogenic dyslipidemia in obstructive sleep apnea?

Ozen K. Basoglu [a,*], Mehmet S. Tasbakan [a], Meral Kayikcioglu [b]

[a] Department of Chest Diseases, Ege University Faculty of Medicine, Izmir, Turkey
[b] Department of Cardiology, Ege University Faculty of Medicine, Izmir, Turkey



Inflamasyon
Aterojenik dislipidemi
Dirençli hipertansiyon

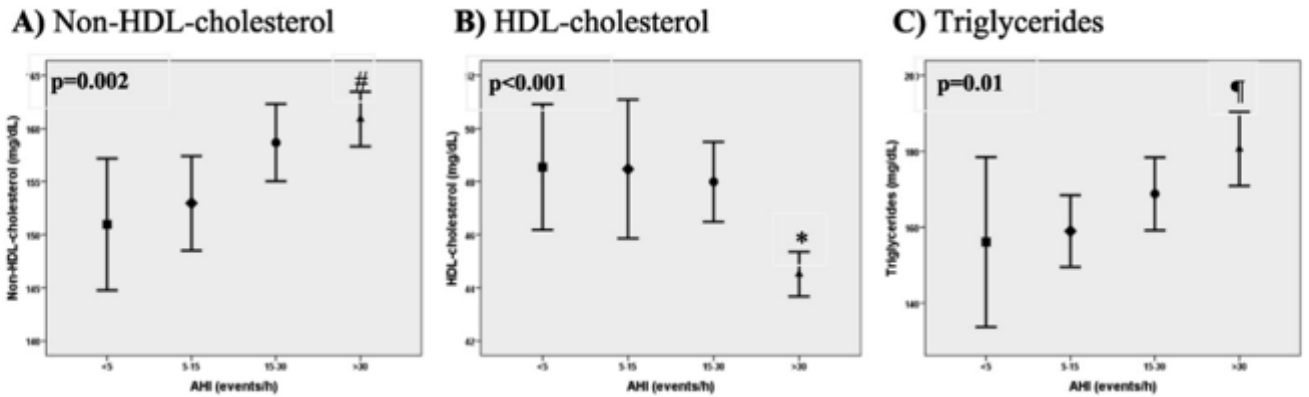


Fig. 2. Levels of A) Non-HDL-cholesterol, B) HDL-cholesterol, and C) Triglycerides in relation to OSA severity. p values in the figure represent the significance between groups. Abbreviations: AHI, apnea-hypopnea index; HDL, high-density lipoprotein. #p = 0.022 for AHI>30 vs AHI<5 events/h and p = 0.023 for AHI>30 vs AHI = 5–15 events/h. *p = 0.037 for AHI>30 vs AHI<5 events/h, p = 0.001 for AHI>30 vs AHI = 5–15 events/h, and p = 0.002 for AHI>30 vs AHI = 15–30 events/h. ¶p = 0.035 for AHI>30 vs AHI = 5–15 events/h.

SCORE2 risk analizi
Risk artırıcı faktörler

Demografik/Klinik Koşullar

- Erken CVD aile öyküsü (erkek: <55 yaş; kadın: <60 yaş)
- Yüksek riskli (örn. Güney Asya) ırk
- Stress belirtileri ve psikososyal stres etkenleri
- Sosyal yoksunluk
- Obezite
- Fiziksel inaktivite
- Kronik immüm-ile ilişkili/inflamatuar hastalık
- Ciddi psikiyatrik bozukluklar
- Erken menopoz öyküsü
- Preeklampsi veya gebeliğin diğer hipertansif bozuklukları
- İnsan immün yetmezlik virüsü enfeksiyonu (HIV)
- Obstrüktif uyku apne sendromu

Bîyobelirteçler

- İnatçı şekilde yüksek hs-CRP (>2 mg/L)
- Lp(a) yüksekliği (>50 mg/dL veya yaklaşık >105 nmol/L)

Metabolik komorbidite?

Kilo	• Beden kitle indeksi (BKİ) ≥ 25 kg/m^2 [Asya için ≥ 23] VEYA • Bel çevresi (M) > 94 cm, (F) > 80 cm VEYA • Etnisiteye göre ayarlanmış eşdeğer değerler
Şeker	• Açlık kan şekeri ≥ 100 mg/dL VEYA • 2 saatlik yükleme sonrası kan şekeri ≥140 mg/dL VEYA • HbA1c ≥ %5.7 VEYA • Tip 2 diyabet varlığı VEYA • Tip 2 diyabet tedavisi alıyor olmak
HT	• Kan basıncı ≥ 130/85 mmHg VEYA • Spesifik antihipertansif ilaç tedavisi almak
TG↑	• Plazma trigliserit düzeyi ≥ 150 mg/dL VEYA • TG düşürücü tedavi almak
HDL↓	• Plazma HDL-kolesterol düzeyi (E) ≤ 40 mg/dL, (K) ≤ 50 mg/dL VEYA • Kolesterol düşürücü tedavi almak


Research Article

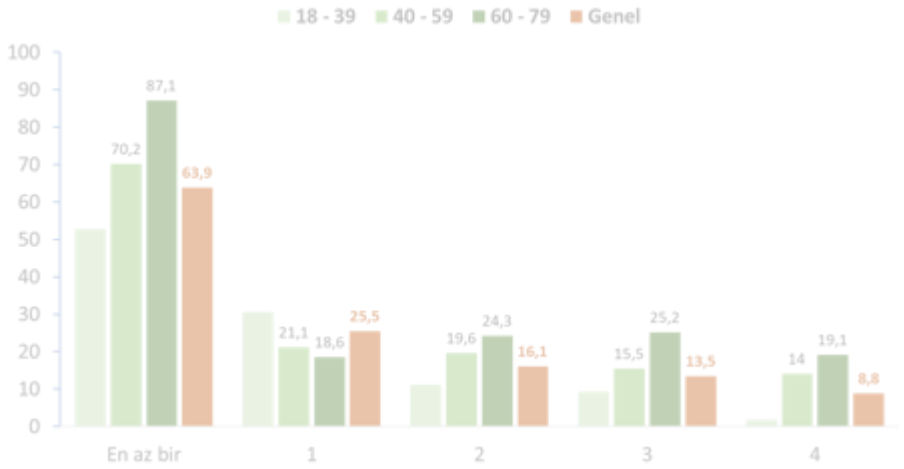
Metabolic syndrome in Canadian adults, 2007 to 2019

Metabolic syndrome in Canadian adults, 2007 to 2019

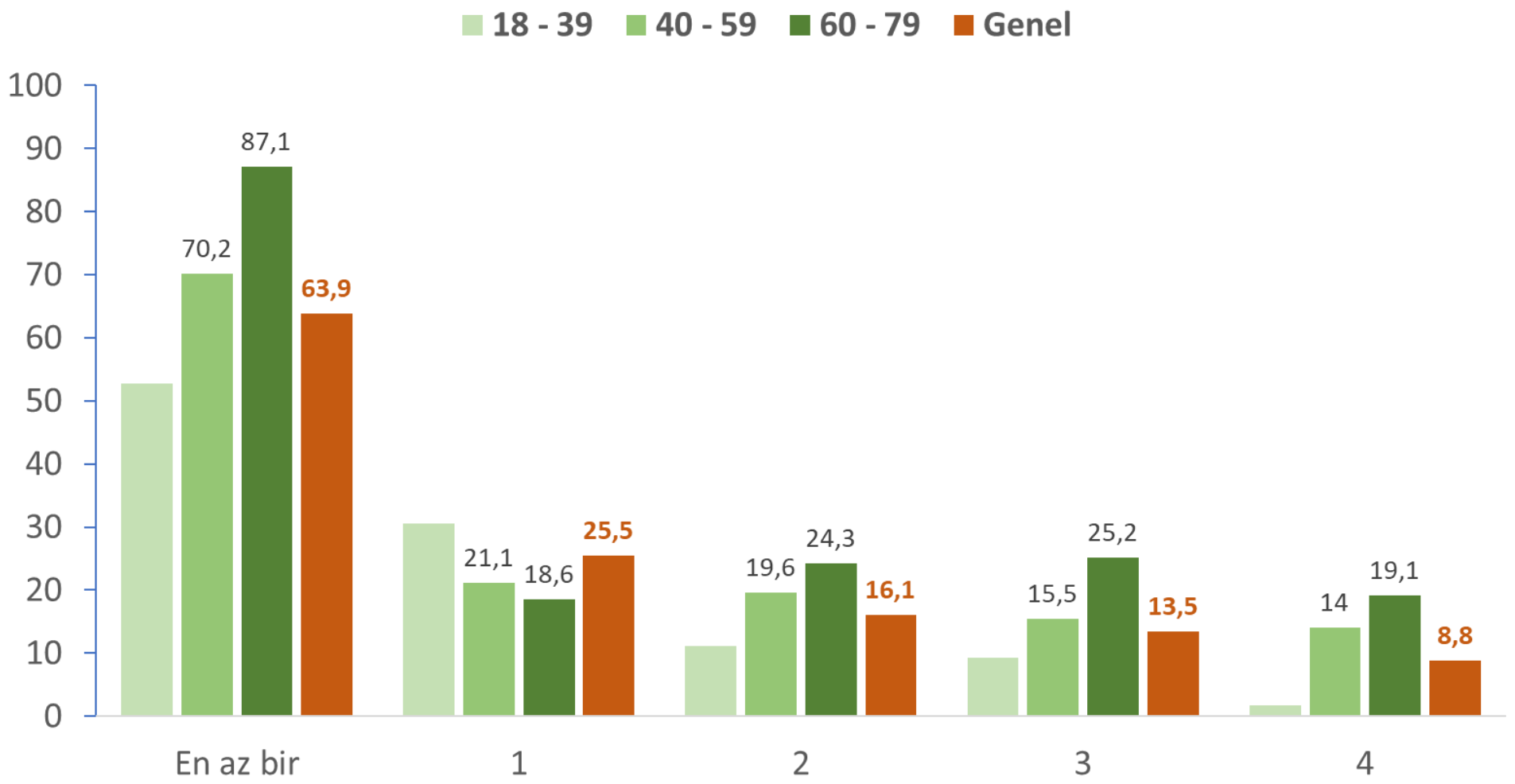
by Hugues Sampasa-Kanyinga and Thomas Ferrao

DOI: https://www.doi.org/10.25318/82-003-x202500900001-eng

2007 – 2011 → 3694 kişi
2012 – 2015 → 3366 kişi
2016 – 2019 → 3296 kişi



Toplumda metabolik sendrom bileşenlerinin oranları



Journal of Clinical Medicine

MDPI

Article

Prevalence of MASLD and Fibrosis Risk in Turkish Adults with Cardiometabolic Risk Factors: A Nationwide Multicenter Study (DAHUDER MASLD Study)

Ali Kirik [1], Hilmi Erdem Sumbul [2], Nizameddin Koca [3], Türkan Paşalı Kilit [4], Sibel Demiral Sezer [5], Emine Binnetoglu [6], Eşref Araç [7], İhsan Solmaz [8], Hacer Şen [1], İbrahim Demirci [9], Bahri Abaylı [10], Hale Akan [11], Canan Akkuş [12], Berrin Aksakal [13], Gulali Aktas [14], Ömer Faruk Alakuş [8], Burçin Meryem Atak Tel [14], Ahmet Aydın [15], Sami Bahçebaşı [16], Orhan Balıkçı [5], Lale Saka Baraz [11], Bilgin Bahadır Başgöz [8], Muharrem Bayrak [17], Hilal Bektaş Uysal [18], Hatice Beyazal Polat [19], İfakat İrem Biçer [16], Rıfat Bozkuş [12], Fatih Coşkun [20], Cüneyt Çağatay [3], Feride Çağlar [12], Erkan Çakmak [21], Deniz Cekiç [22], Ülfet Değer [23], Ayse Kevser Demir [24], İsmail Demir [25], Oğuzhan Sıtkı Dizdar [16], Erkan Dulkadiroğlu [26], Nur Düzen Oflas [27], Betül Erişmiş [28], Ali Erol [20], Ayşegül Ertınmaz [3], Müzeyyen Eryılmaz [29], Emin Gemcioğlu [12], Ahmed Bilal Genç [22], Melis Gökgöz [12], Nevzat Gözel [21], Fatih İleri [3], Kubilay İşsever [30], Uğur Can İzlimek [31], Özge Kama Başcı [1], Aynur Kamburoğlu [3], Fatih Kamış [32], Sanem Kayhan [12], İsmail Kırlı [33], Yusuf Kimyon [23], Şeref Enes Kocaman [20], Kamil Konur [19,*], Özge Kurtkulağı [32], Celalettin Küçük [34], Mehmet Selim Mamiş [35], Hatice Metin [3], Necip Nas [35], Sibel Ocak Serin [13], Oktay Olmuşçelik [15], Alihan Oral [36], Muhammet Özbilen [37], Erkan Özdemir [38], Ensar Özmen [39], Hikmet Öztop [40], Huseyin Ali Ozturk [2], Osman Özüdoğru [41], Emel Sağlam [42], Hatice Özge Serin [23], Hasan Sözel [43], Cem Şahin [33], Melisa Şahin Tekin [44], Enes Seyda Şahiner [28], Ahmet Veli Şanibaş [24], Yasin Şahintürk [45], Hakan Şıvgın [46], Abdullah Tanrıkulu [35], Tuba Taslamacıoğlu Duman [14], Gokhan Tazegul [23], Elif Duygu Topan [18], Hasan Tunca [33], Seyit Uyar [45], Ece Ünal Çetin [32], Nazif Yalçın [3], Demet Yalçın Kehribar [47], Selçuk Yaylacı [22], Mehmet Serdar Yıldırım [8], Hasan Esat Yıldırım [20], Hüseyin Yıldız [38], Pınar Yıldız [44], Hasan Esat Yücel [26], Oğuzhan Zengin [28], Ali Zeynettin [25], Fatih Atik [1], Selin Müge Aslan [1], Mert Akyıldız [2], Nurcan Aslan [28], Sare Babacan Çelikel [21], Suat Baran Bakan [29], Merve Durmuş [2], Mert Karacay [2], Çağatay Koçyiğitoğlu [2], Gökçe Paşa [2], Selvinaz Sivri [2], Tutku Naz Şahin [2], Yağmur Sena Tosun [28], Zeynep Gizem Totik [2], Rabia Ulutaş [47], Tuğçe Nur Yazıcı [37], Emrah Yılmaz [41], Hamit Yıldız [48], Alper Sönmez [9] and Teoman Doğru [49]

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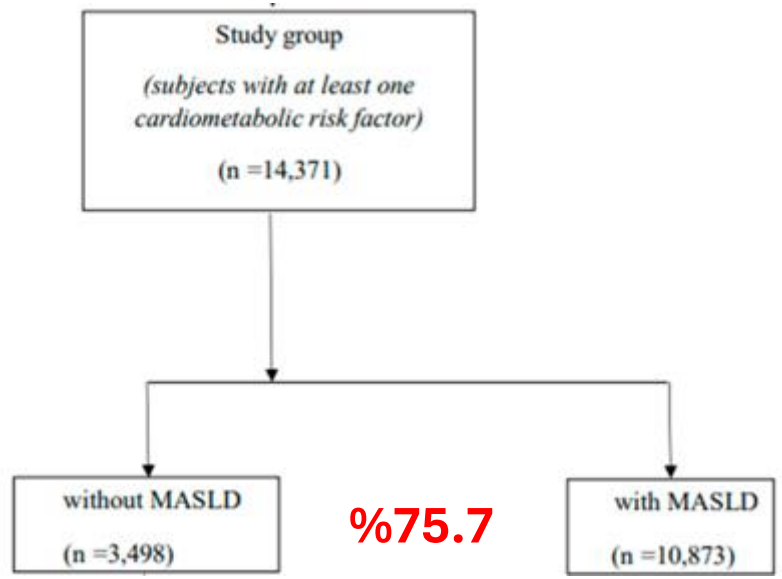
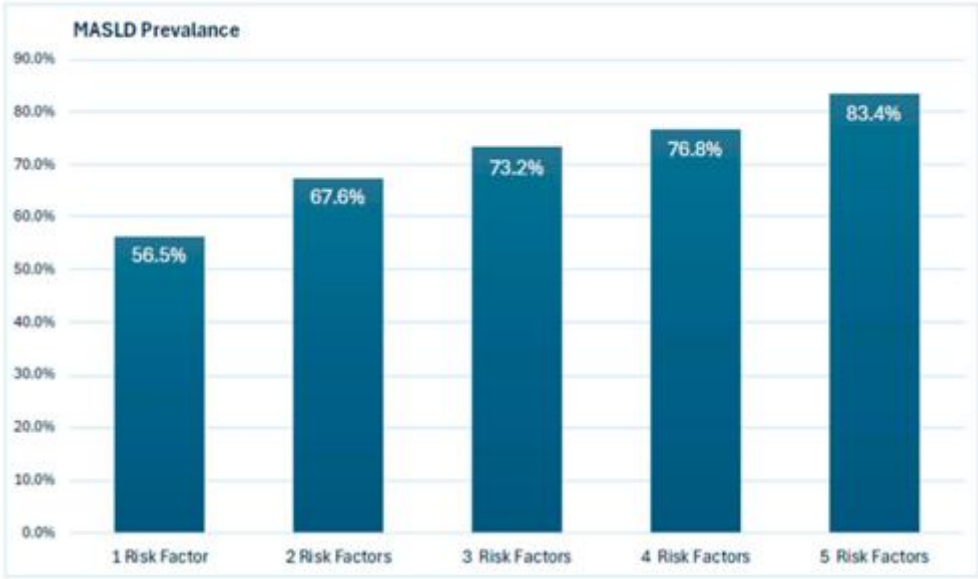




KC yağlanması Ateroskleroz için bağımsız bir prediktör

	C-IMT		CAC	
	Beta	*P*	Beta	*P*
Age	0.445	< 0.001	0.226	< 0.001
Type 2 diabetes	0.034	0.066	0.039	0.053
High blood pressure	0.105	< 0.001	0.048	0.023
Tobacco	0.052	0.004	0.008	0.690
hsCRP	–0.018	0.329	–0.045	0.023
Steatosis*	0.065	0.001	0.091	< 0.001

Case (n=930) vs. control (n=1,624) study from high risk individuals for CAD from Paris, France

*steatosis measured by fatty liver index and included as a continuous variable in the model

C-IMT=carotid intima-media thickness; CAC=coronary artery calcification; hsCRP=hultra sensitive c reactive protein

Pais Hepatology 2019

Yüksek TG düzeylerini neden tedavi etmeliyiz?

1. Vasküler hastalıkları

2. Akut pankreatit

3. Yağın depo formu ve dokuda fibrozis yapıyor!

DM-Metabolik S- KC yağlanması-KY-AF… önlemek için

17 çalışmalık bir meta-analizde
(46.413 erkek – 10.864 kadın)

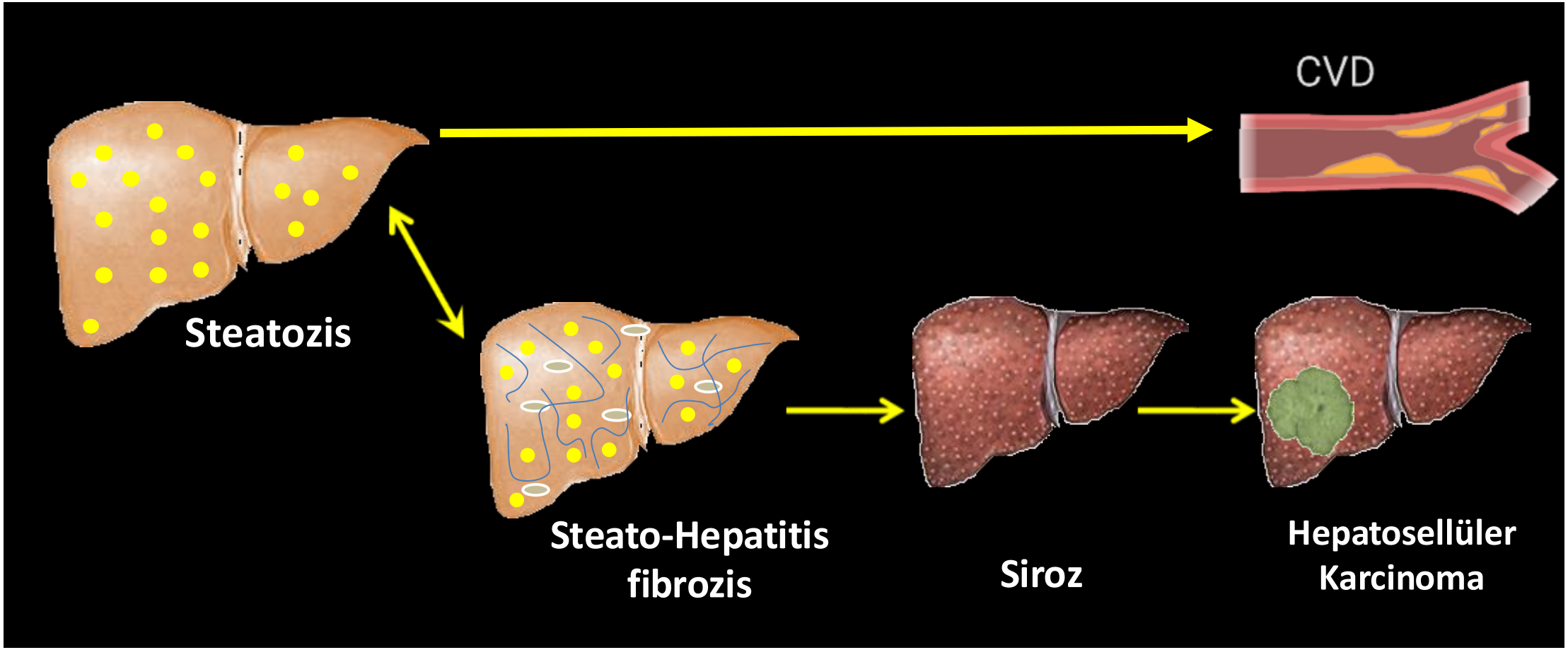
TG'de her 1 mmol/L (88,5 mg/dl) ↑

KKH riskini

Erkekde %32, Kadında % 76 ↑

J Cardiovasc Risk 1996;3: 213-219

Tarama yapıyor musunuz?



Non-İnvazif Fibrozis Değerlendirmesi: FIB-4 Skoru

Fibrosis-4 (FIB-4) Index for Liver Fibrosis

Noninvasive estimate of liver scarring in HCV and HBV patients, to assess need for biopsy.

When to Use | Pearls/Pitfalls | Why Use

Age Use with caution in patients <35 or >65 years old, as the score has been shown to be less reliable in these patients	54	years
AST Aspartate aminotransferase	34	U/L
ALT Alanine aminotransferase	35	U/L
Platelet count	260	× 10^3/μL

1.19 points

Advanced fibrosis excluded
Approximate fibrosis stage: Ishak 0-1 (Sterling et al 2006)

Copy Results | Next Steps

- Yaş (Yil)
- AST (U/L)
- ALT (U/L)
- Trombosit Sayısı (10^9/L)

$$\text{FIB-4} = \frac{\text{Yaş} \times \text{AST}}{\text{Trombosit Sayısı} \times \sqrt{\text{ALT}}}$$

Non-İnvazif Fibrozis Değerlendirmesi: FIB-4 Skoru

Önemli:

• 65 yaş ve üzerindeki hastalarda yanlış pozitifliği azaltmak için "Düşük Risk" sınırı **2.0** olarak kabul edilmeli

• Statine başlamadan önce veya rutin kontrollerde alınan basit bir hemogram ve biyokimya paneli ile hastanın KC kaderini tayin edebilir

• Akut hepatit durumlarında veya yoğun alkol alımı sırasında yanıltıcı olabilir; sadece kronik MASLD şüphesinde kullanılmalı

MASLD Klinik Yönetim Algoritması

1. RİSK BELİRLEME

- Hipertansiyon
- Diyabet (Tip 2)
- Obezite
- Obstrüktif Uyku Apne Sendromu (OSA)
- İmmün Hastalık Var mı?

2. LABORATUVAR TESTLERİ

- Tam Kan (Trombosit)
- ALT, AST
- Lipid Paneli

3. SKORLAMA VE RİSK TAYİNİ

- FIB-4 Hesabı

ORTA/ YÜKSEK RİSKLİ HASTALAR

4. YÖNLENDİRME (RİSKLİ HASTA)

GASTROENTEROLOJİ / HEPATOLOJİYE SEVK

FIB-4 HESABI

DÜŞÜK RİSK

HERKES İÇİN TEMEL YÖNETİM

Diyet ve Egzersiz | Kilo Kontrolü | Sürekli Takip

Klinik İpucu: Horlama, Gündüz Uykululuğu + Metabolik Risk Faktörleri → MASLD Taraması Yap!

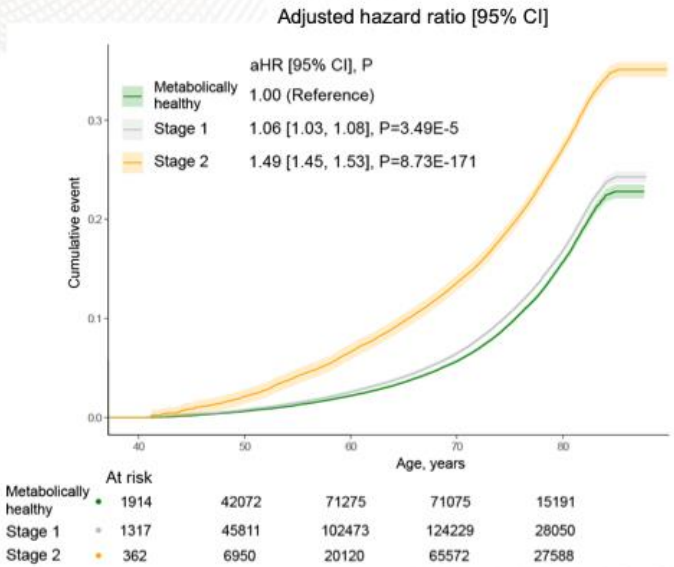
Tarama Yöntemleri: Karaciğer USG (İlk Adım) → **FIB-4 Skoru**

ESC European Society of Cardiology
European Heart Journal (2025) 00, 1–29
https://doi.org/10.1093/eurheartj/ehaf314

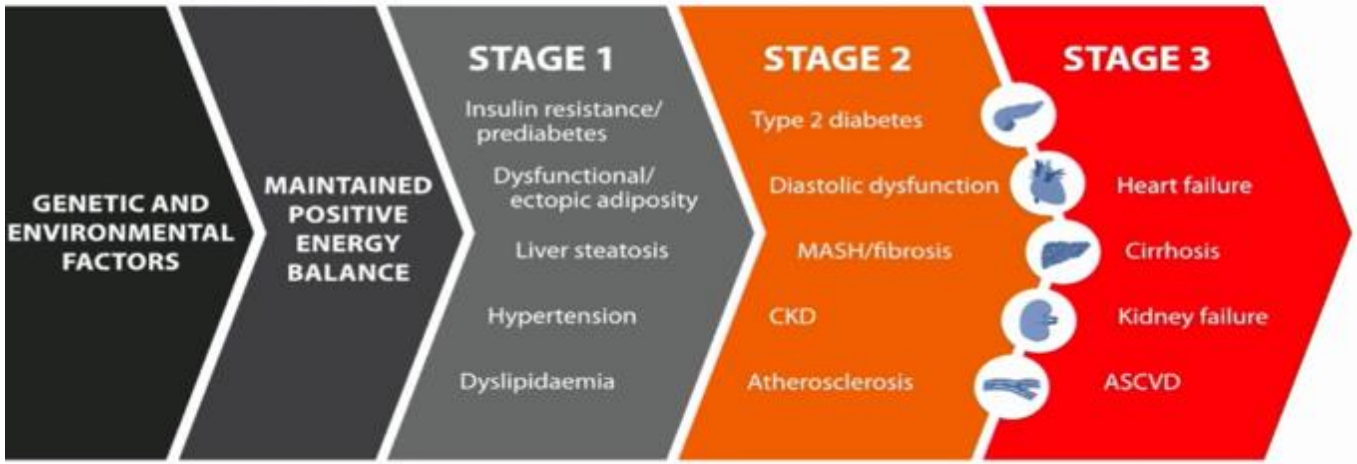
SPECIAL ARTICLE
Diabetes and metabolic disorders

Clinical staging to guide management of metabolic disorders and their sequelae: a European Atherosclerosis Society consensus statement

All-cause mortality in individuals with Stage 1 or 2



Staging SMD



Lipidolog Kardiyolog olarak Endişemiz

Aterojenik dislipidemi

MASLD'de Lipid Profili:

- **Hipertrigliseridemi:** Karaciğerde artan De Novo Lipogenez .
- **Düşük HDL-C:** HDL'nin hızlanmış katabolizması.
- **Küçük Yoğun LDL (sdLDL):** En aterojenik LDL alt grubu
- **ApoB100 Artışı:** VLDL ve remnant lipoproteinlerin aşırı üretimi.

TG yüksek
HDL düşük
LDL normal ama daha aterojenik !

Systemic Metabolic Disorders (SMD)