UASK 2026
Uluslararası Katılımlı
AKCİĞER SAĞLIĞI KONGRESİ
25-28 MART 2026
Sueno Deluxe Hotel, Belek/Antalya
Sizin Sesiniz, Sizin Kongreniz...
ASYOD
AKCİĞER SAĞLIĞI VE YOĞUN BAKIM DERNEĞİ

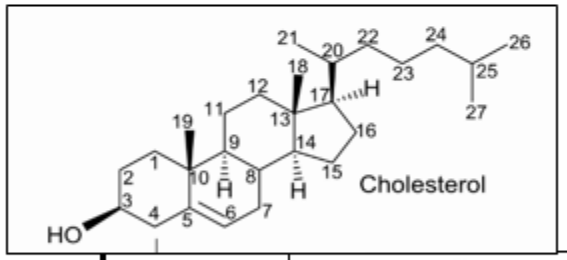
Kortikosteroidler Sepsis ve ARDS'de İşe Yarar: Ama Kimler için?

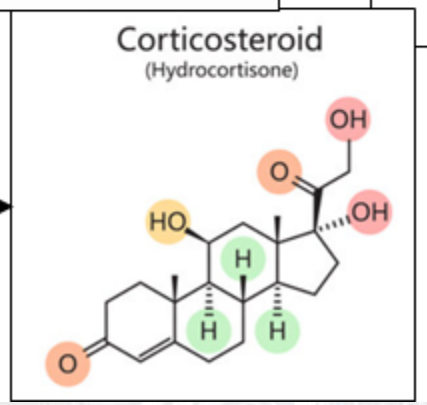
Mustafa Kemal BAYAR

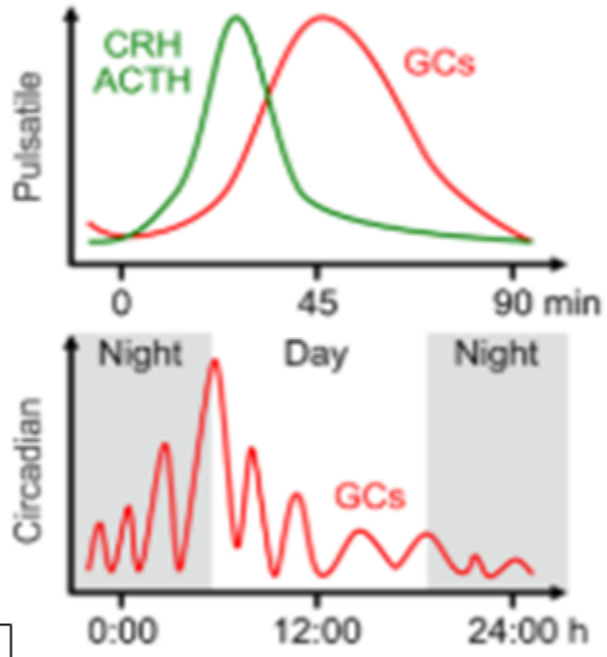
Steroid" ("sterol– στερεός- benzeri")

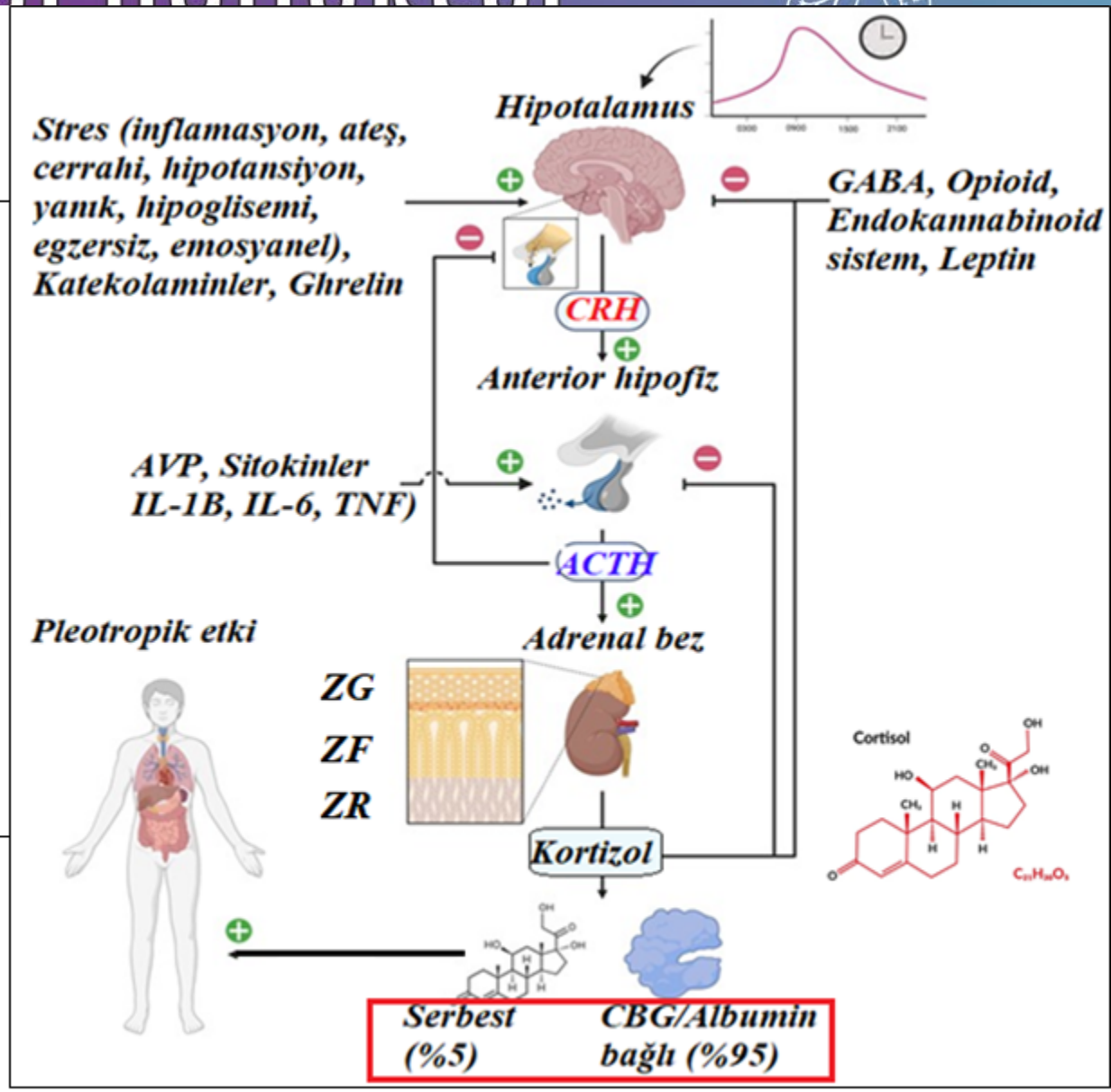
Glukokortikoid:
'Glukoz+ korteks+ steroid'

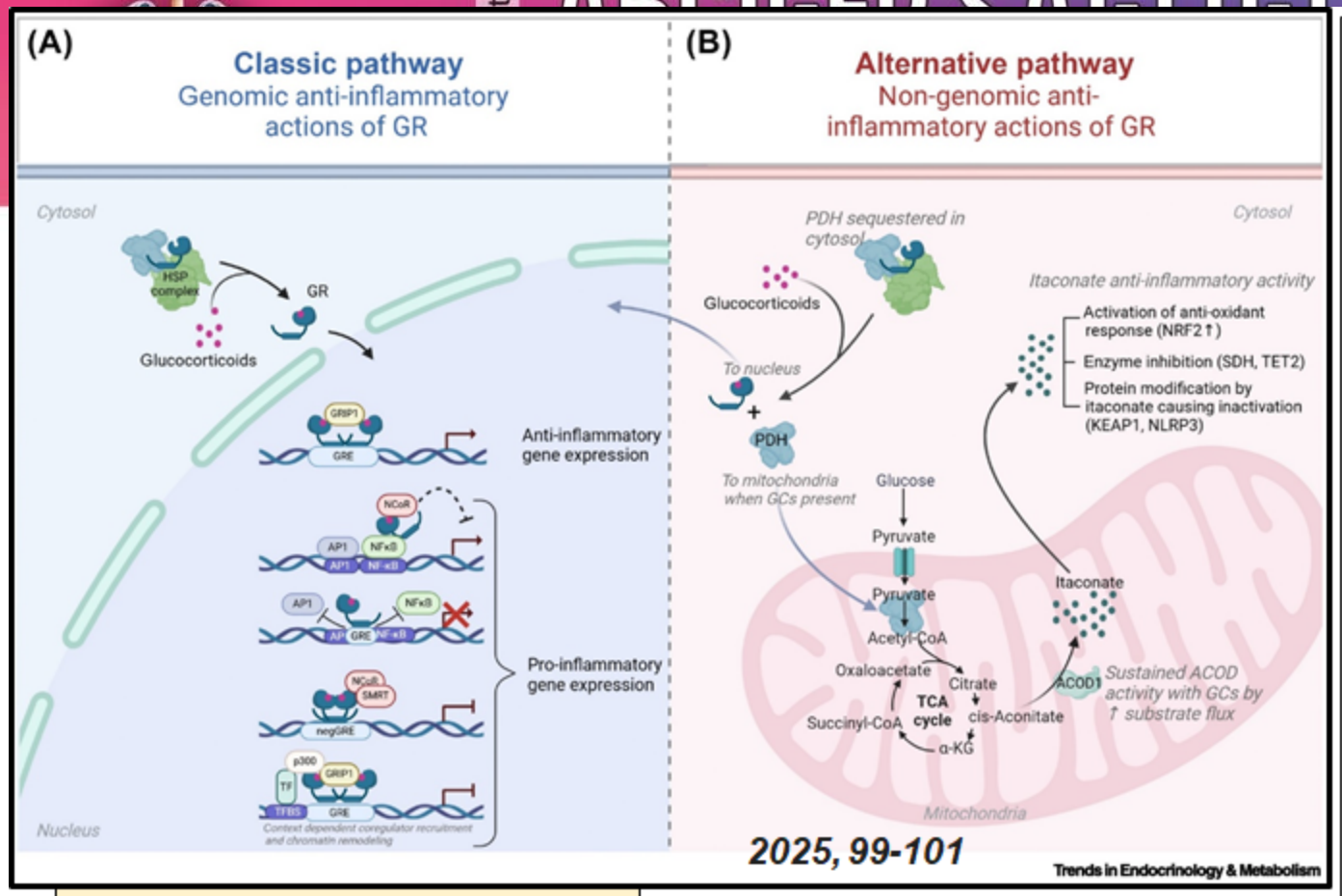
Mineralokortikoid

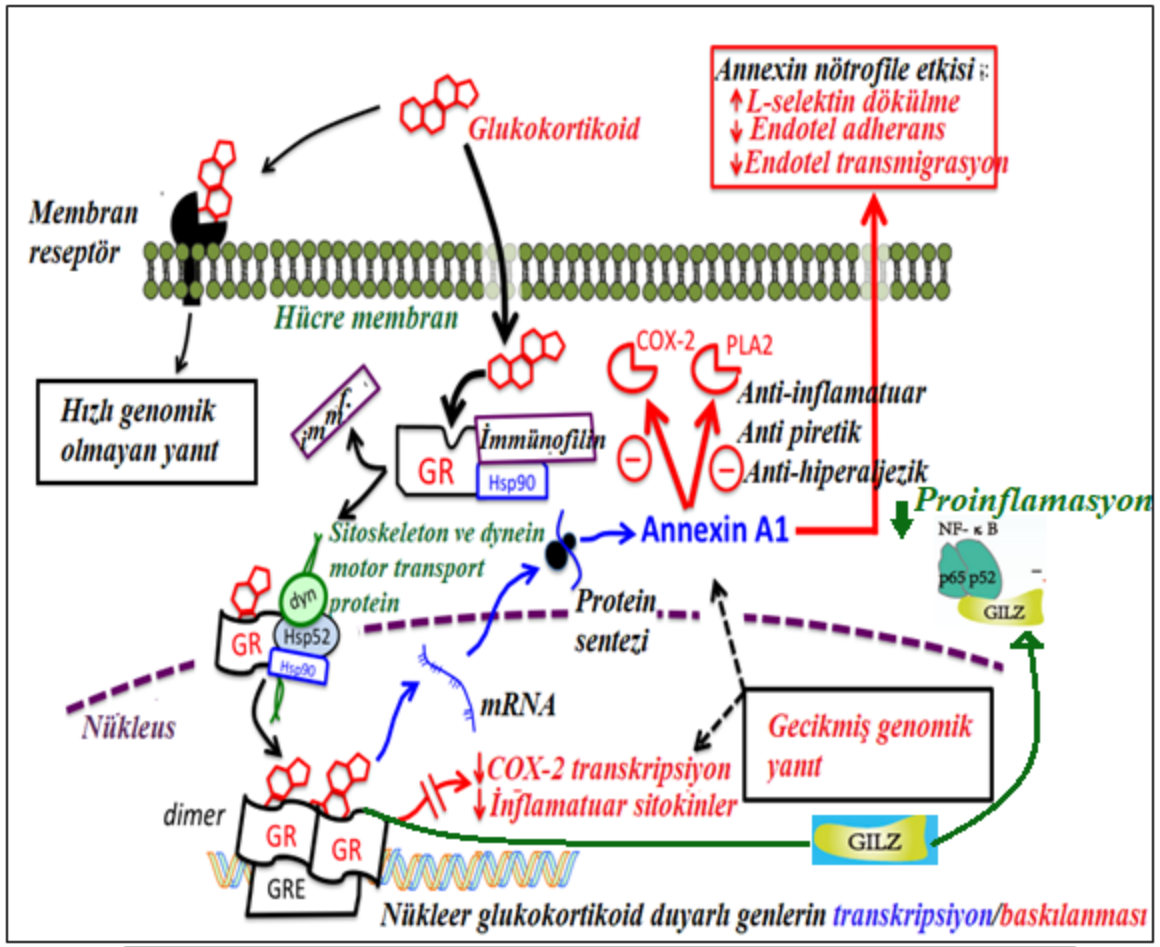








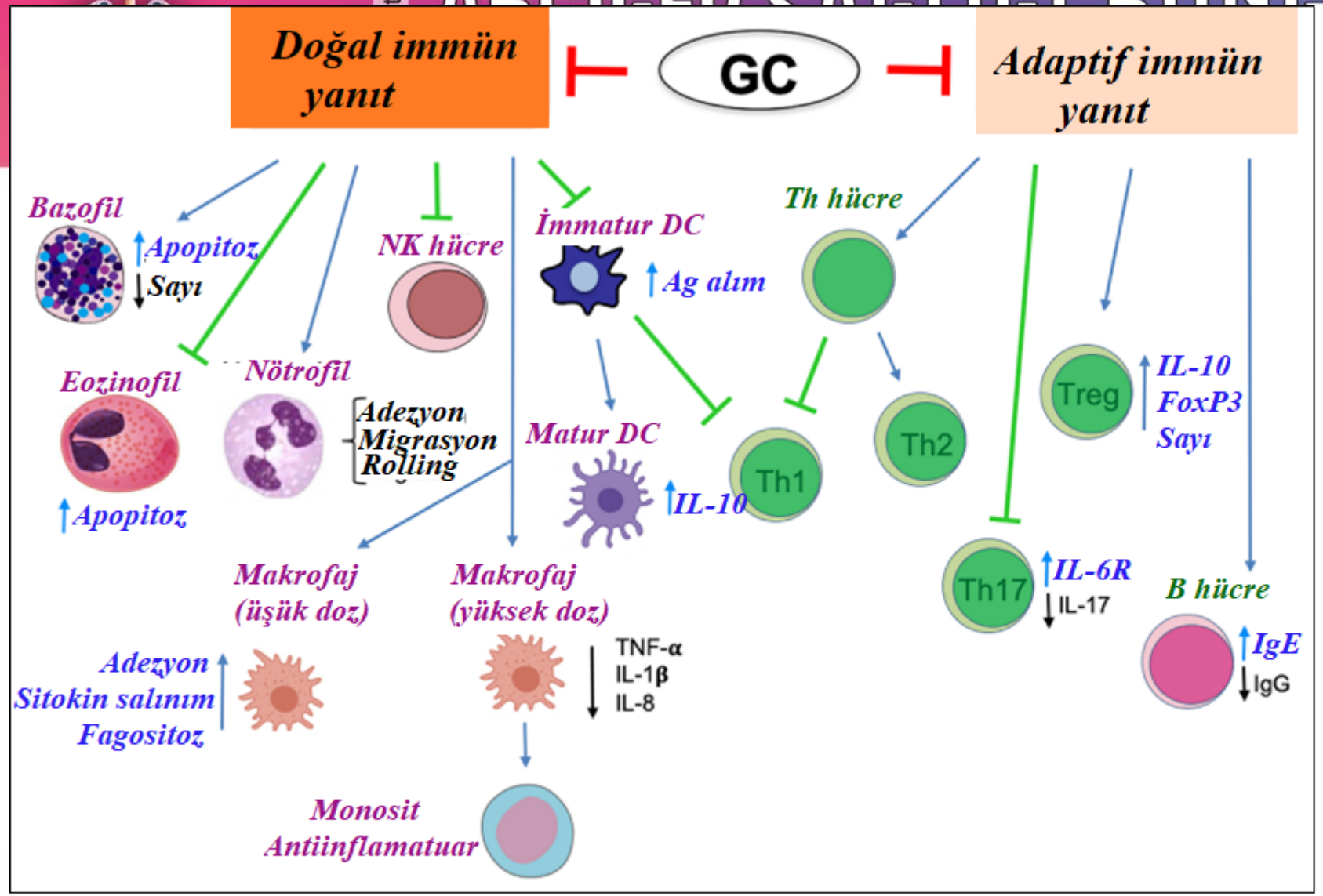




Antiinflamatuar
İmmünmodülatör
Metabolik aktivite
Antiprolifrtatif

GC yanıtın büyüklüğü:
GC-GRα
GR kompleks sayısı
Reseptöre bağlanma afinitesi

AP-1 - NF-κB transkripsiyon inhibisyonu
GILZ/MKP-1/Annexin A1'i yukarı düzenleme

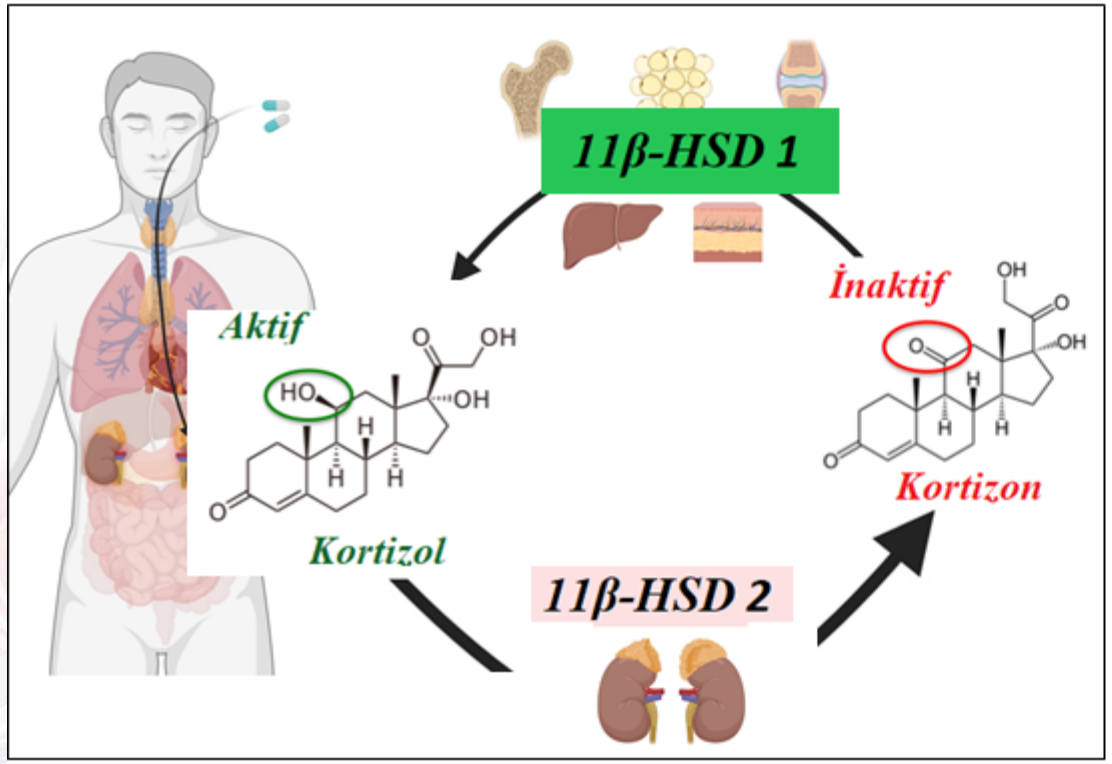


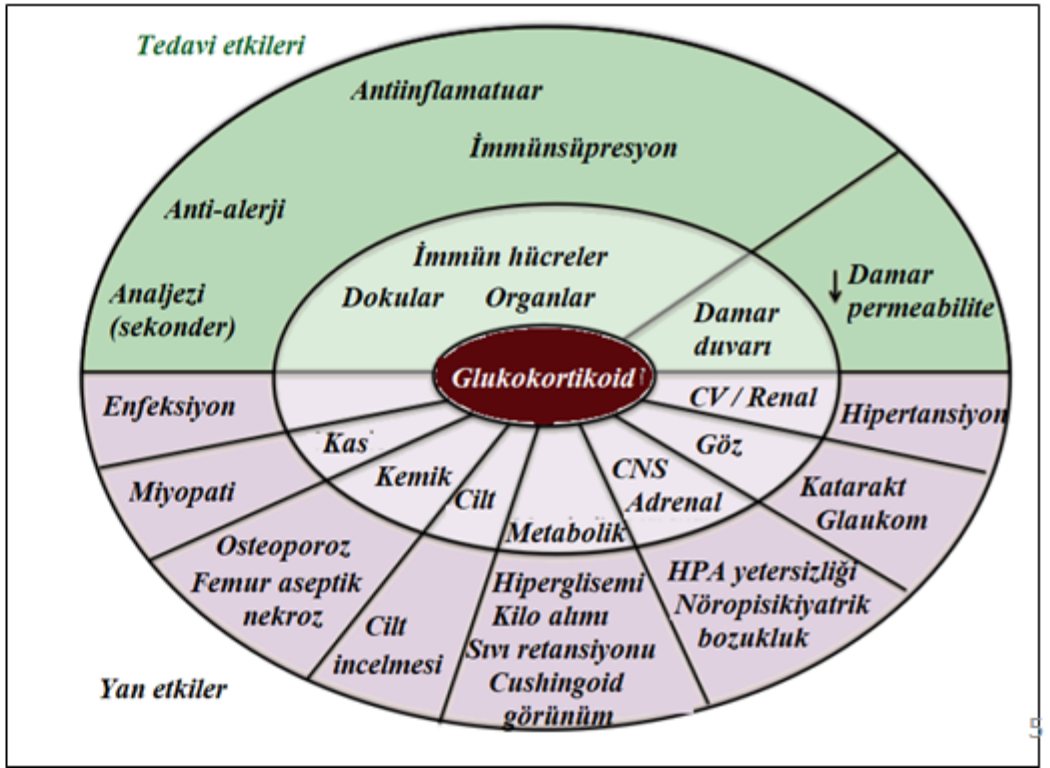
İmmün yanıt düzenleme
İnflamasyon kontrolü
Patojen klirensi

Doku hasarını sınırlama
Aşırı inflamatuar yanıtı önleme
Homeostazı geri kazandırma

↑ Antiinflamatuar genler
↑ Hücre kaybı– lökosit - CD4 apopitozu

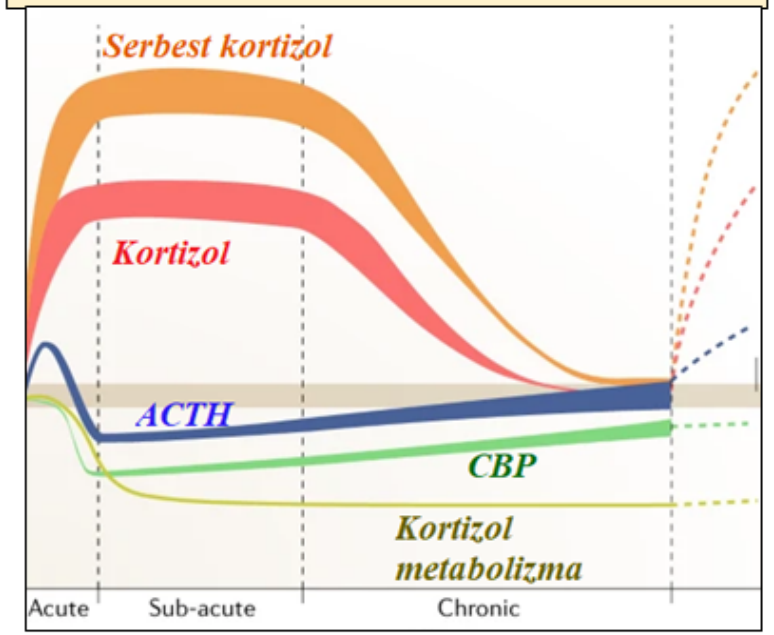
İlaç	Eşdeğer doz (mg)	Antiinflamatuar etki (göreceli)	HPA baskılama gücü (göreceli)	Mineralokortikoid etki (göreceli)	Etki süresi (saat)
Hidrokortizon	20	1	1	1	8-12
Kortizon asetat	25	0.8	0.8	0.8	8-12
Prednis(ol)one	5	3	4	0,75	12-36
Metilprednizolon	4	6.2	4	0,5	12-36
Deksametazon	0,75	26	17	0	36-72
Betametazon	0.6	30	—	0	36-72
Budesonid (inh)	1.3	—	19.5	—	24
Flutikazon (inh)	0.6	—	34	—	24

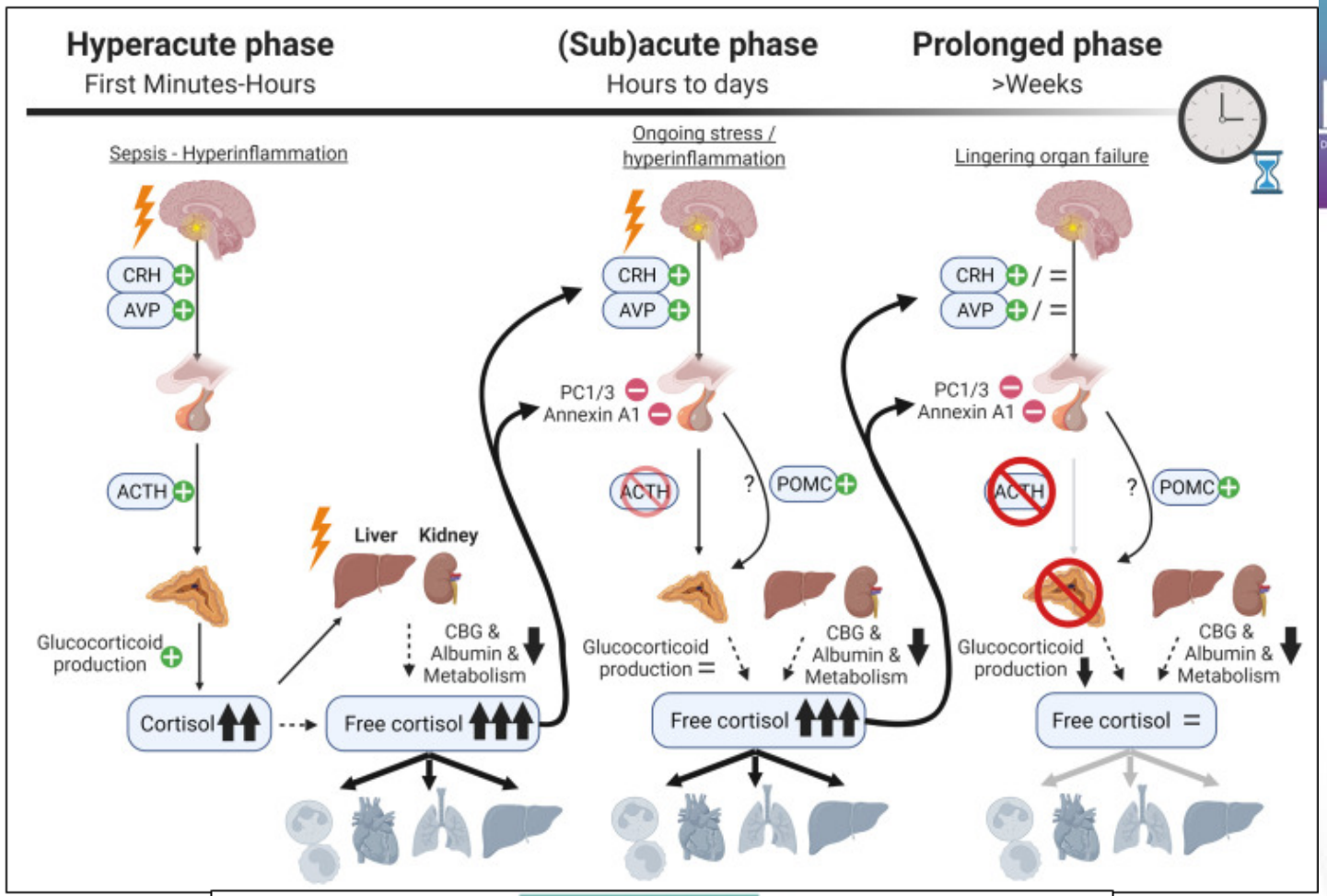


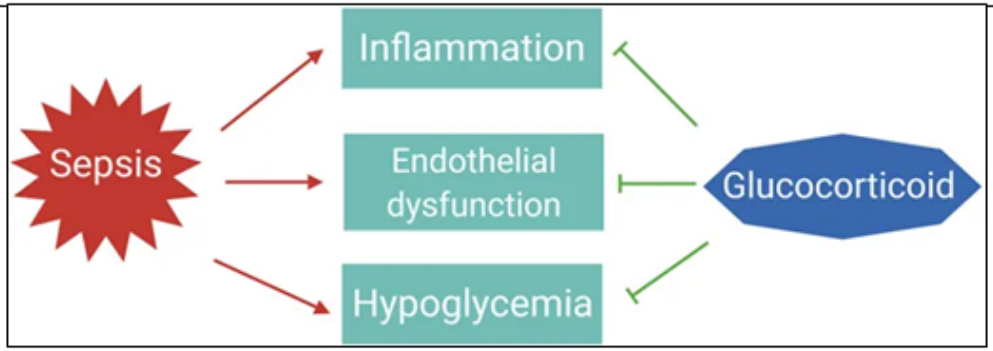


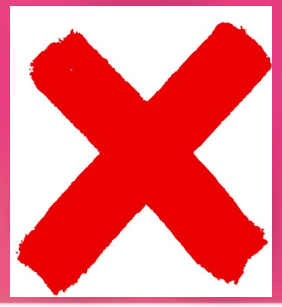
Sepsis

Düzensiz kortizol salgılanması
Anormal kortizol seviyeleri
GR-α azalması
GC direnci









SHOCK, Vol. 59, No. 5, pp. 697–701, 2023

OPEN

EVALUATION OF HYDROCORTISONE, VITAMIN C, AND THIAMINE FOR THE TREATMENT OF SEPTIC SHOCK: A RANDOMIZED CONTROLLED TRIAL (THE HYVITS TRIAL)

Adham Mohamed,* Mohamed Abdelaty,†‡ Mohamed O. Saad,§ Ahmed Shible,‖

Effect of Vitamin C, Thiamine, and Hydrocortisone on Ventilator- and Vasopressor-Free Days in Patients With Sepsis

The VICTAS Randomized Clinical Trial

JAMA, 2021

Jonathan E. Sevransky, MD, MHS[1,2]; Richard E. Rothman, MD, PhD[3]; David N. Hager, MD, PhD[4]; et al

Lyu et al. Critical Care (2022) 26:295
https://doi.org/10.1186/s13054-022-04175-x

Critical Care

RESEARCH Open Access

Early administration of hydrocortisone, vitamin C, and thiamine in adult patients with septic shock: a randomized controlled clinical trial

Qing-Quan Lyu[1†], Rui-Qiang Zheng[1†], Qi-Hong Chen[2], Jiang-Quan Yu[1], Jun Shao[1] and Xiao-Hua Gu[1*]

Association of Vitamin C, Thiamine, and Hydrocortisone Infusion With Long-term Cognitive, Psychological, and Functional Outcomes in Sepsis Survivors

A Secondary Analysis of the Vitamin C, Thiamine, and Steroids in Sepsis Randomized Clinical Trial

JAMA, 2023

Shawniqua Williams Roberson, MEng, MD[1,2,3]; Samuel Nwosu, MS[4]; Erin M. Collar, MPH[1,5]; et al

HYPRESS Trial

Effect of Hydrocortisone on Development of Shock Among Patients With Severe Sepsis

Keh D, Trips E, Marx G, et al. Effect of Hydrocortisone on Development of Shock Among Patients With Severe Sepsis: The HYPRESS Randomized Clinical Trial. *JAMA*. 2016;316(17):1775-1785.

Methods
- Multicenter; 34 ICUs in German Community and University Hospitals
- Placebo-controlled
- Double-blind, randomized controlled trial

Intervention
IV hydrocortisone 200 mg/day for 5 days **THEN** sequentially tapered for 5 days **OR** placebo

RESULTS
No significant difference in development of septic shock within 14 days of treatment initiation was identified.
Hydrocortisone: 36 of 170 developed septic shock (21.2%)
Placebo: 39 of 170 developed septic shock (22.9%)

ADVERSE EVENTS
Hyperglycemia (Insulin administration was not significantly different between two groups)
***Secondary infections, weaning failure, muscle weakness, hypernatremia, or other adverse events were not significantly different between treatment groups*


N=380

by tapering of hydrocortisone
14 days of treatment initiation

ADRENAL Trial

Adjunctive Glucocorticoid Treatment in Critically Ill Patients with Septic Shock

Venkatesh B, Finfer S, Cohen J, et al. Adjunctive Glucocorticoid Therapy in Patients with Septic Shock. *N Engl J Med*. 2018;378(9):797-808.

Methods
- International, pragmatic, double-blind, parallel-group RCT
- Intention to treat, subgroup, and sensitivity analysis

Intervention
Continuous IV hydrocortisone 200 mg/ day **OR** placebo

RESULTS
No significant difference in 90-day mortality was identified in the 6 prespecified subgroup analyses (sex, admission type—medical/surgical, catecholamine dose, site of sepsis, APACHE II score, and time from shock onset to randomization)
Hydrocortisone: 511 of 1832 died (27.9%)
Placebo: 526 of 1826 died (28.8%)

Secondary Outcomes	Steroid	Placebo
Time to Resolution of Shock	3 days	4 days
Time to Discharge from ICU	10 days	12 days
Duration of Mechanical Ventilation	6 days	7 days
Blood Transfusion	37%	41.7%


N=3658


N=1832
Steroid


N=1826
Placebo

THE BOTTOM LINE
Continuous infusion of hydrocortisone did NOT result in lower 90-day mortality. Steroid use led to more rapid resolution of shock, shorter inpatient ICU time, and lower incidence of blood transfusion.

CORTICUS Trial

Hydrocortisone Therapy for Patients with Septic Shock

Sprung CL, Annane D, Keh D, et al. Hydrocortisone therapy for patients with septic shock. *N Engl J Med*. 2008;358(2):111-124

Methods
- 52 medical and surgical ICUs in 9 countries
- Randomized, Double-blind, Placebo controlled
- Intention to treat, interim, and post hoc subgroup analyses

Intervention
50 mg of IV hydrocortisone q6hrs **THEN** tapered **OR** placebo

RESULTS
No significant difference in 28-day mortality in patients who did not have a response to corticotropin was identified.
Hydrocortisone: 49 of 125 died (39.2%)
Placebo: 39 of 108 died (36.1%)

Secondary Outcome	Steroid	Placebo
Time to Reversal of Shock (all patients)	3.3 days	5.8 days
Time to Reversal of Shock (response to corticotropin)	2.8 days	5.8 days
Time to Reversal of Shock (no response to corticotropin)	3.9 days	6.0 days


N=500


N=252
Steroid


N=248
Placebo

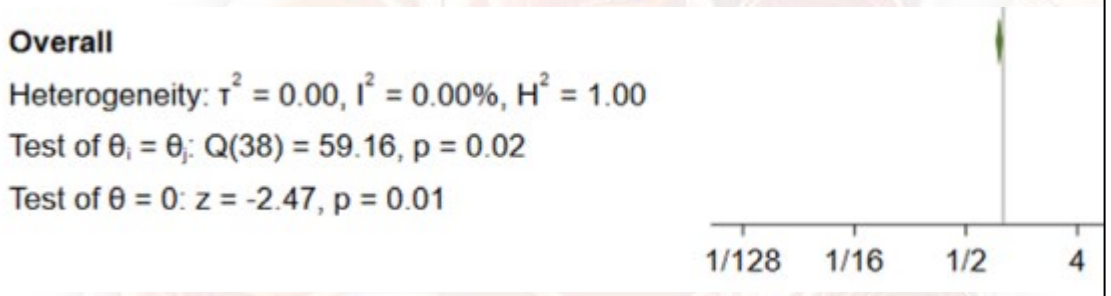
THE BOTTOM LINE
Hydrocortisone did not improve survival or reversal of shock in patients with septic shock, although reversal of shock was faster in those who received hydrocortisone. There was a non-statistically significant increase in the number of episodes of superinfection and hyperglycemia in the hydrocortisone group as compared to placebo.

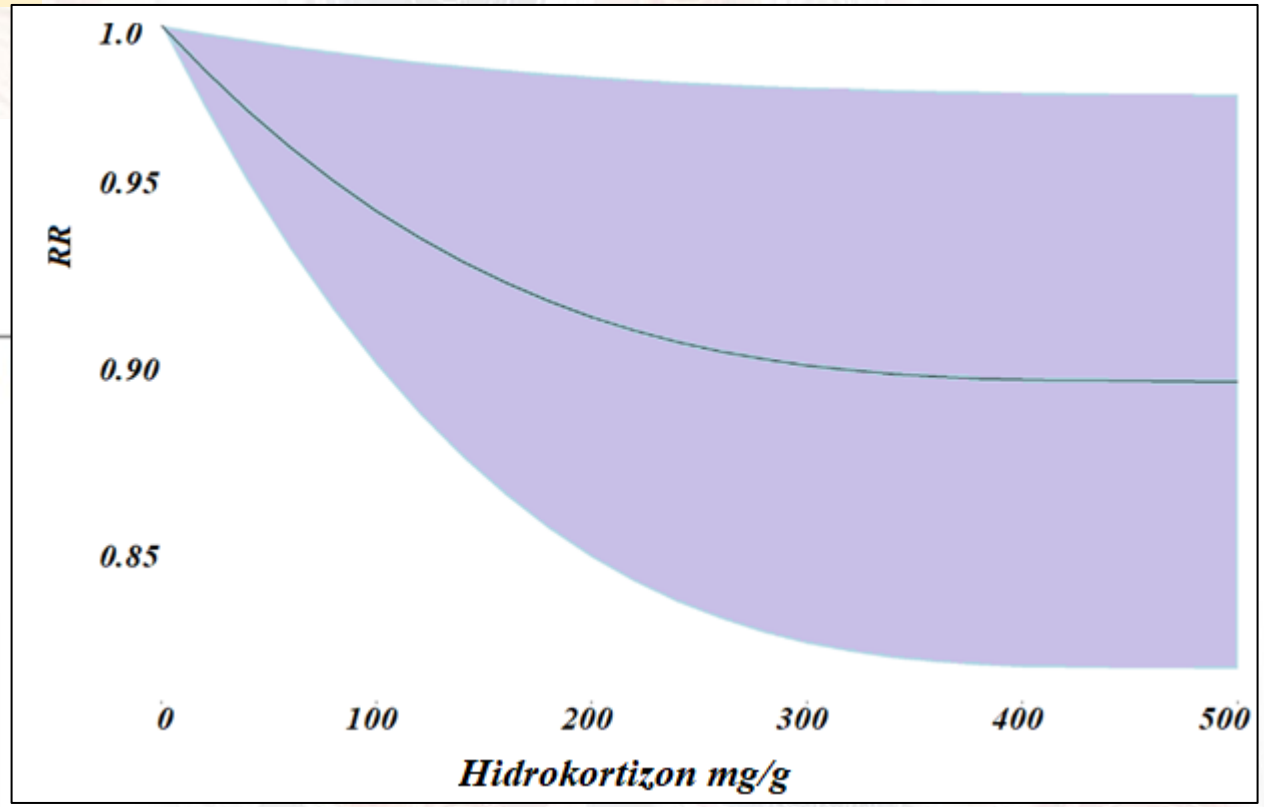
Corticosteroids in Sepsis and Septic Shock: A Systematic Review, Pairwise, and Dose-Response Meta-Analysis

Tyler Pitre, MD, MA[1]

Critical Care Explorations 2024

9563 hasta- 45 RCT





Kortikosteroidler
Kısa süre mortalite azaltır
Şoku geri çevirir
Uzun süre mortalite azaltabilir
Hipernatremi, Hiperglisemiyi ve nöromüsküler zayıflığı arttırır

Doz-yanıt meta-analizi, hidrokortizon veya eşdeğeri:
Optimal doz 260 mg/gün

Ruyuan et al. BMC Anesthesiology (2025) 25:511
https://doi.org/10.1186/s12871-025-03388-1
BMC Anesthesiology
SYSTEMATIC REVIEW Open Access

Corticosteroids for sepsis and septic shock: a meta-analysis of 18 RCTs with dose-stratified and fludrocortisone subgroup evaluation

Lv Ruyuan[1], Shen Zhangshun[1], Li Hongling[1] and Su Jianling[2*]

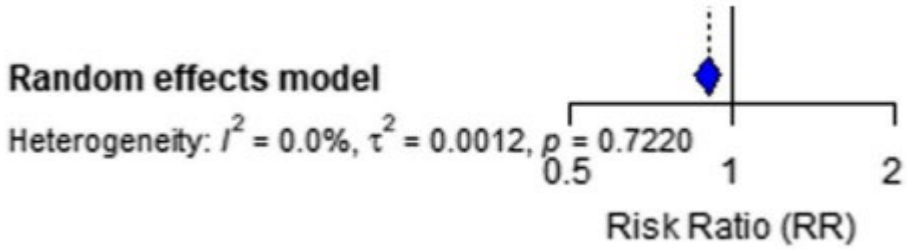
ONGRESİ

Sizin Sesiniz, Sizin Kongreniz...

ASYOD
AKCİĞER SAĞLIĞI VE YOĞUN BAKIM DERNEĞİ

Gün-Hidrokortizon (≤ 200 mg, 201–300 mg, > 300 mg),
(Hidrokortizon vs. Hidrokortizon + Fludrokortizon)

7982 hasta- 18 RCT



Kortikosteroidler vs plasebo veya olağan bakım

28 gün mortaliteyi azaltır

Kortikosteroid %31,0 - kontrol %35,5

90 gün fark yok

En belirgin yarar:

Orta doz kortikosteroid (201–300 mg/gün)

Hidrokortizon + fludrokortizon kombinasyon

APROCCHSS Trial

Hydrocortisone Plus Fludrocortisone for Adults with Septic Shock

Annane D, Renault A, Brun-Buisson C, et al. Hydrocortisone Plus Fludrocortisone for Adults with Septic Shock. *N Engl J Med.* 2018;378:809-818.

Methods

- Multi-centered, pragmatic, double-blind, parallel study in France.
- Intention to treat, subgroup, and sensitivity analysis.
- 1241 patients in 69 medical and surgical ICUs in 69 countries

Intervention

IV hydrocortisone 50 mg q6hrs **AND** PO fludrocortisone 50 µg **OR** placebo

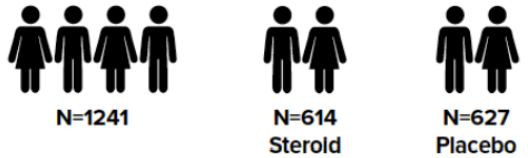
RESULTS

A significant difference in 90-day mortality was identified with an absolute risk reduction of 6.1%, P=.03, NNT of 17.

Steroid: 264 of 614 died (43%)

Placebo: 308 of 627 died (49.1%)

Secondary Outcomes	Steroid	Placebo
Vasopressor Free Days	15 days	17 days
Vasopressor Free Days	10 days	11 days
Organ Failure Free Days	12 days	14 days
Hyperglycemic Days	3.4 days	4.3 days



THE BOTTOM LINE

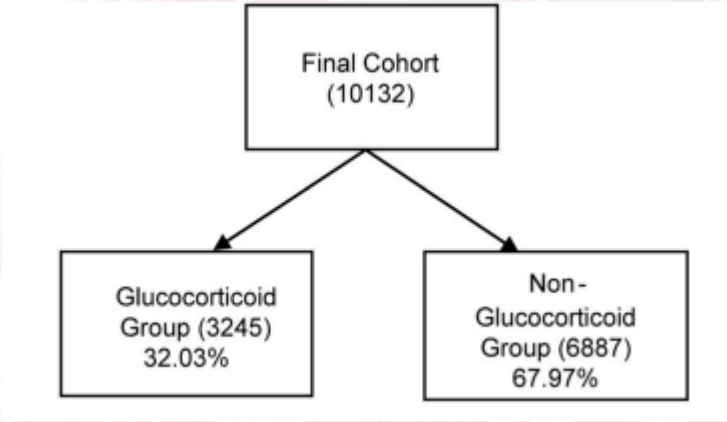
Hydrocortisone and fludrocortisone combination showed both a mortality and resolution to shock benefit. The steroid regimen was shown to be safe, with hyperglycemia noted as the most common adverse reaction.

Glucocorticoid use and 28-day mortality in sepsis: A retrospective analysis of the MIMIC-III database

Dongsheng Yang [a,*], Chunfa Jiang [a,1], Zhangzhang Xiao [b,1]

Respiratory Medicine
Volume 248, November 2025, 108425

MIMIC-III - yetişkin YBÜ 17.420 hasta



Doz-yanıt analizi: Hidrokortizon eşdeğer dozuna göre :
≤60 mg, 61–120 mg , >120 mg.

28 gün Mortalite:
Düşük doz: hafif artışla ilişkili
Orta ve yüksek doz: anlamlı ilişki yok.
Ayarlanmamış analiz: Mortalite artması
Ayarlanmış analiz: Daha düşük mortalite

Uygun istatistiksel yöntemlerin önemi !!!!

Glukokortikoidlerin sepsis tedavisindeki rolü: prospektif randomize çalışmalara ihtiyaç.

Corticosteroids for Treating Sepsis: A Systematic Review and Network Meta-analysis

Respiratory Medicine
Available online 20 March 2026, 108786

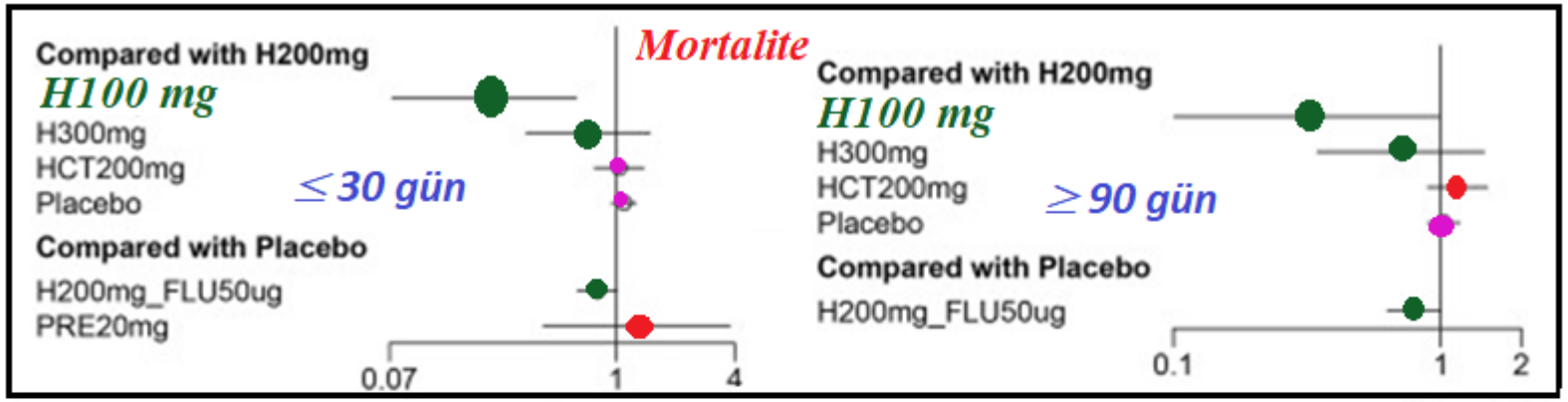
Xiaoyan Luo [1 2 †], Jie Yang [1 2 †], Zhihui Zhang [1 2], Han Sun [1 2], Mingxin Gao [1 2], Shuhua Wu [1]

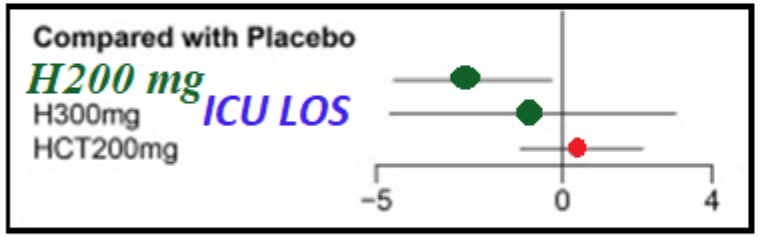
Studies included in quantitative synthesis (Meta-analysis) (n =18)

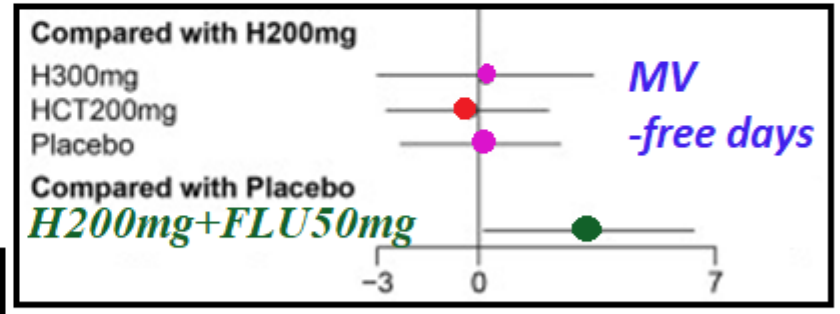
7.591 hasta

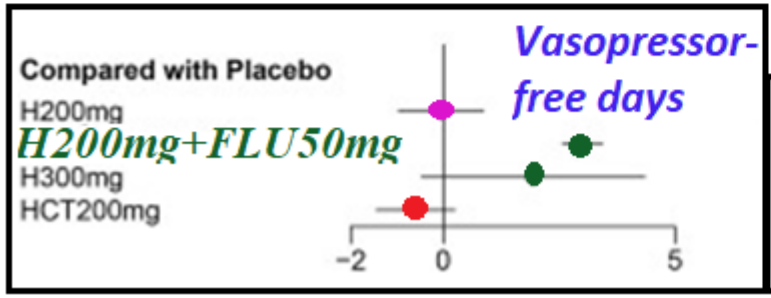
H 100 - 200 - 300 mg/gün
HCT 200 mg/gün
H 200 mg + 50 ug Fludrokortizon/gün
PRE 20 mg/gün

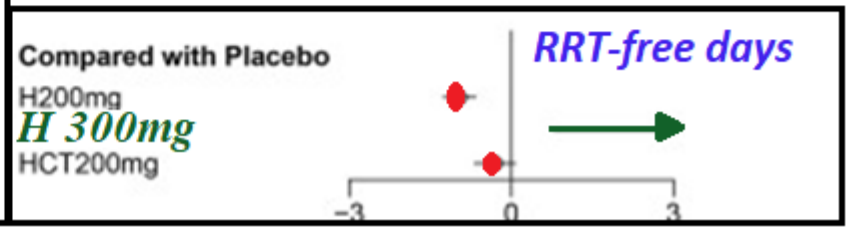
Düşük doz kortikosteroidler (≤300 mg/g hidrokortizon veya eşdeğeri) mortalite ve organ destek süresini azaltır.
Optimal doz ve rejim hedeflenen sonuca bağlı olarak değişebilir
Mortalite için etkili doz belirsizliğini korumaktadır
Prednizolon 20 mg/gün, plaseboya göre mortalite açısından faydasız.
HCT, monoterapiye göre önerilmez.









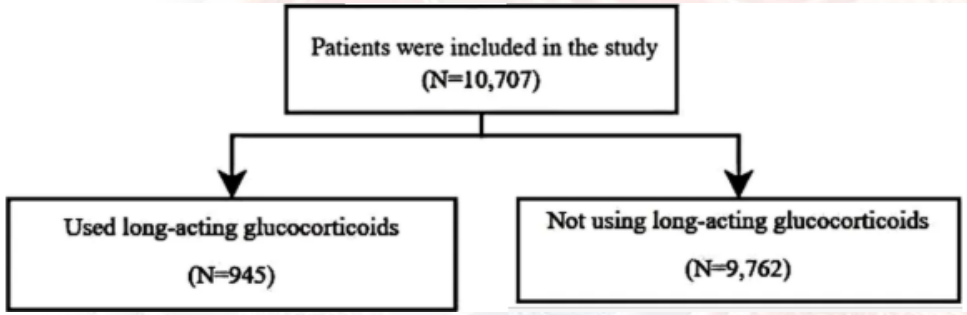


Impact of long-acting glucocorticoids on ICU mortality in septic patients with acute respiratory failure: a MIMIC-IV based cohort study

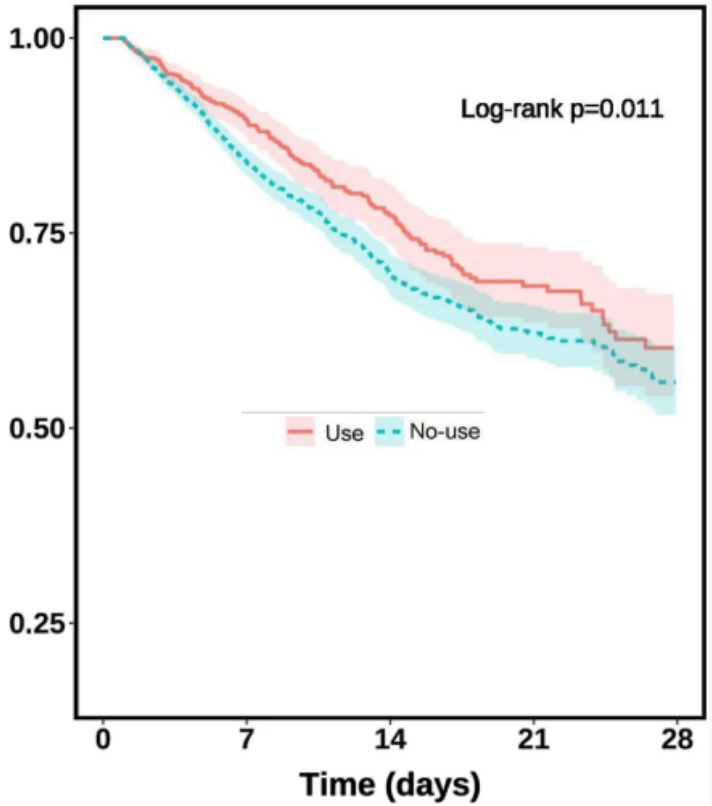
Yanhui Deng[1,2], Shaoxiang Wang[1,2], Shaohua Zhou[1,2],

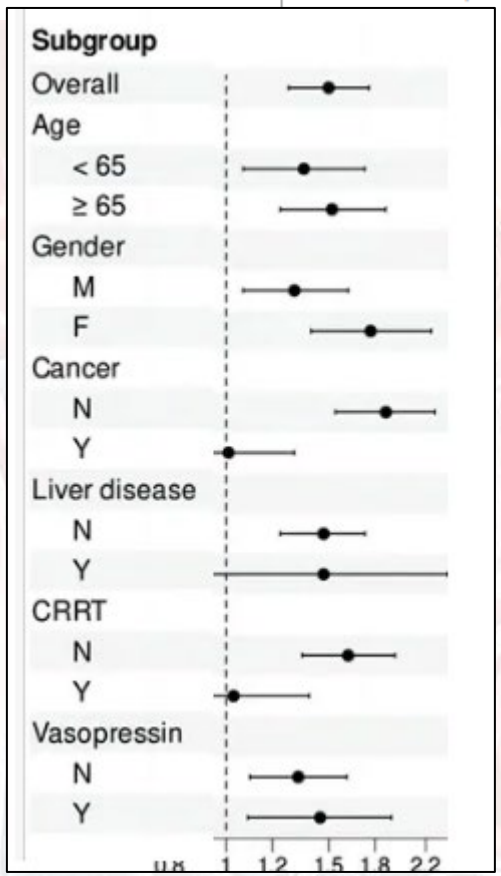
frontiers | Frontiers in Pharmacology
TYPE Original Research
PUBLISHED 29 August 2025
DOI 10.3389/fphar.2025.1663974

Sepsis 3.0 kriterleri



Uzun etkili glukokortikoid uygulaması:
ARF + Sepsis; ICU Mortalite ↓





Comparative efficacy and prognostic impact of continuous versus intermittent hydrocortisone administration in septic shock patients

Scientific Reports | (2025) 15:143

Li Jin[1,2,5], Zhenglei Li[3,5], Jun Qian[2,5], Wenjie Liao[3,4] & Feng Xu[1]✉

Outcome	Treatment Group	Control Group	*P*-value
7-day Shock Reversal Rate	15 (50.00%)	7 (23.33%)	0.032
28-day Mortality Rate	5 (16.67%)	14 (46.67%)	0.012
Safety	1 (3.33%)	1 (3.33%)	/
Hypokalemia	0 (0.00%)	1 (3.33%)	/
Hypernatremia	1 (3.33%)	1 (3.33%)	/

Septik şok: 60 hasta
Hidrokortizon:
Kontrol: 50 mg 6 saatte bir
Tedavi: 200 mg/gün infüzyon 7 gün

Outcome	Treatment Group	Control Group	t-value	*P*-value
Duration of Shock	3.41 ± 0.38	3.43 ± 0.40	0.793	0.327
Hospital Stay	19.21 ± 3.26	19.25 ± 3.54	1.214	0.323
ICU Stay	7.56 ± 1.21	7.61 ± 1.23	0.848	0.613
Mechanical Ventilation Time	6.87 ± 0.79	9.68 ± 0.93	5.671	< 0.001
Vasopressor Usage Time	4.61 ± 0.53	8.32 ± 0.61	7.391	< 0.001

Septik şok yönetimi:
Hidrokortizon infüzyonu daha etkili
Daha iyi hasta sonuçları

Outcome	Treatment Group	Control Group	*P*-value
Mean Arterial Pressure (mmHg)	53.69 ± 6.71	53.71 ± 6.72	/
Heart Rate (beats/min)	67.52 ± 7.56	67.83 ± 7.58	/
Catecholamine Index	2.1 ± 0.4	2.3 ± 0.5	0.312
Shock Withdrawal	14 (46.67%)	7 (23.33%)	0.018
Duration of Elevated Pressure Medication Use(days)	4.5 ± 0.7	8.2 ± 1.1	0.000

Cochrane Database of Systematic Reviews 2025, Issue 6. Art. No.: CD002243.

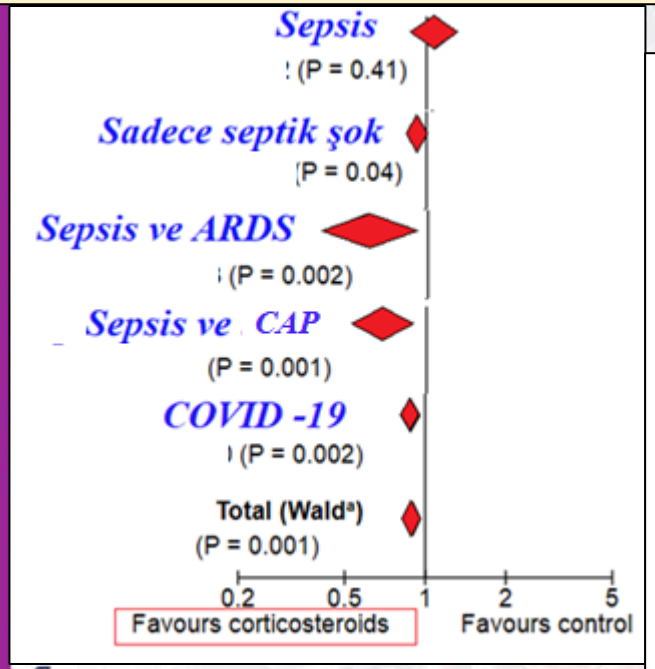
Cochrane Database of Systematic Reviews

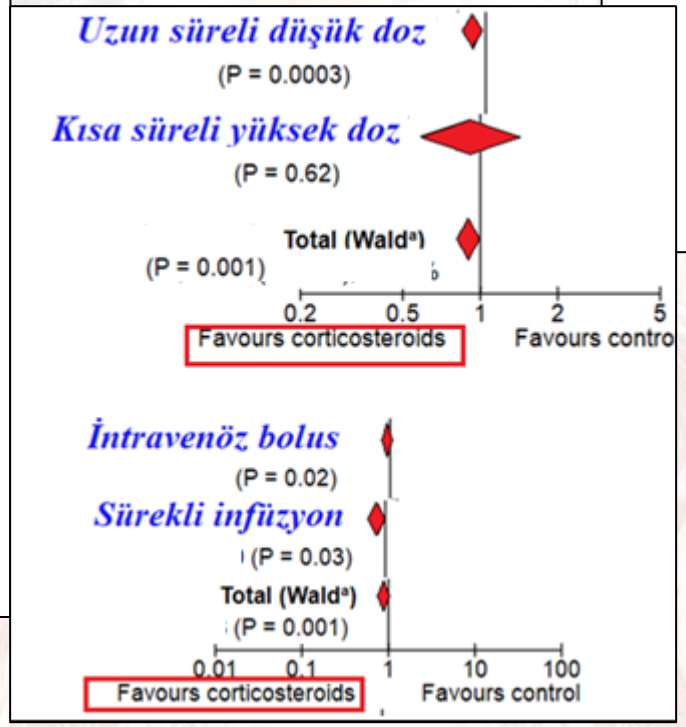
Corticosteroids for treating sepsis in children and adults (Review)

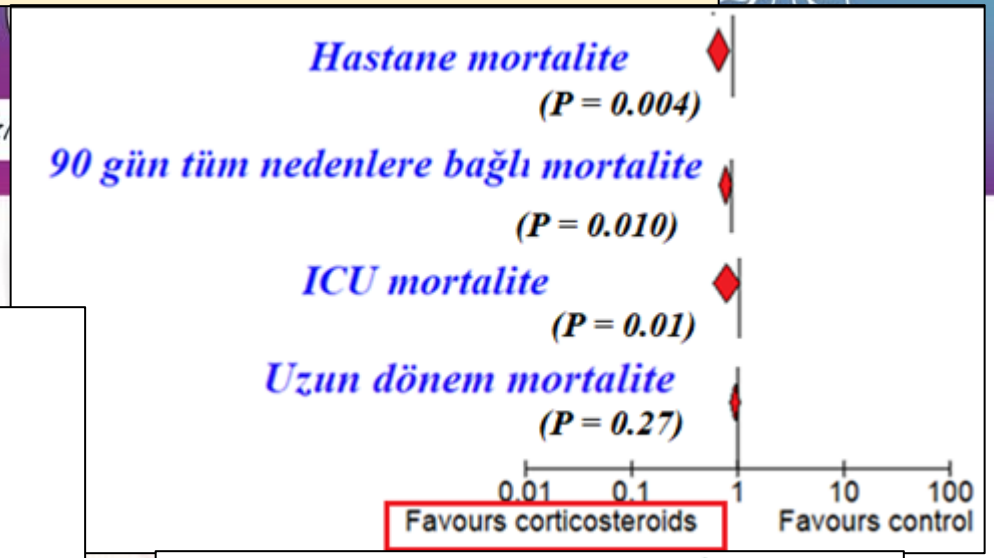
Annane D, Briegel J, Gra

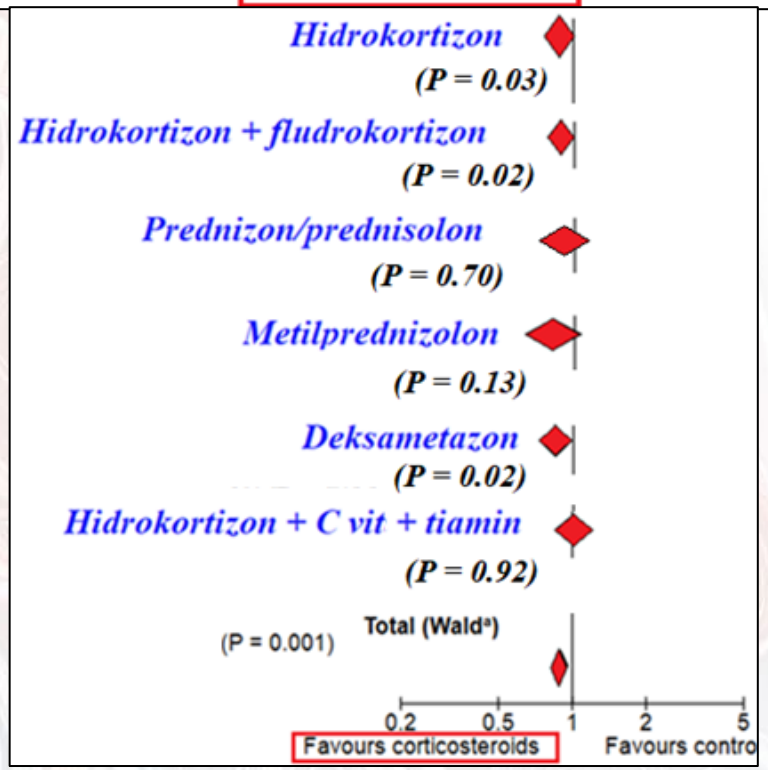
Cochrane Library

87 RCT çalışma (24.336)
Kortikosteroid vs Plasebo veya olağan bakım
Sürekli infüzyon vs aralıklı bolus

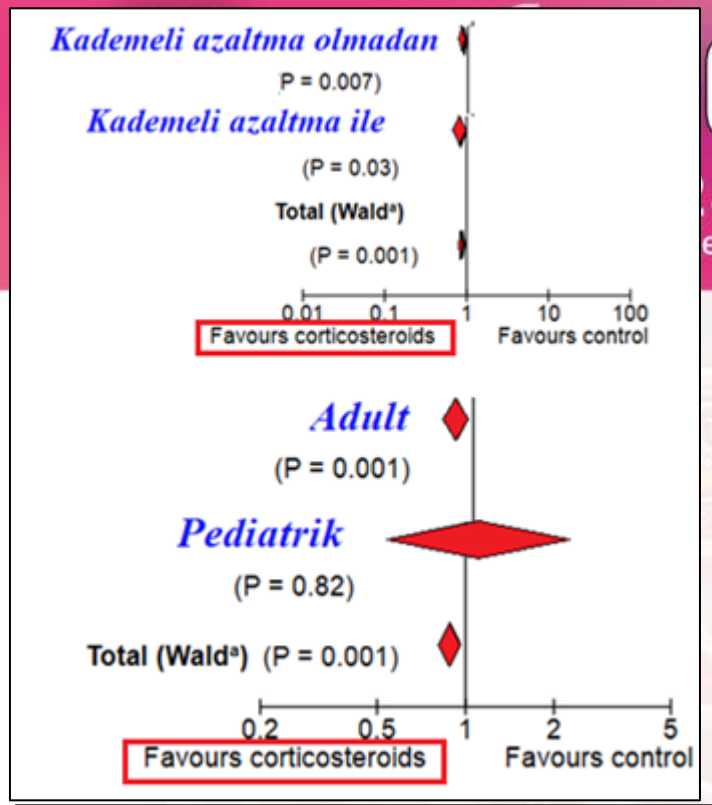


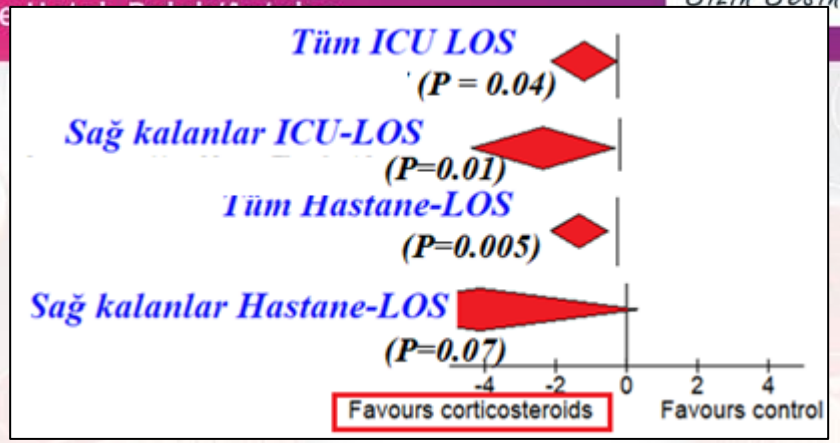




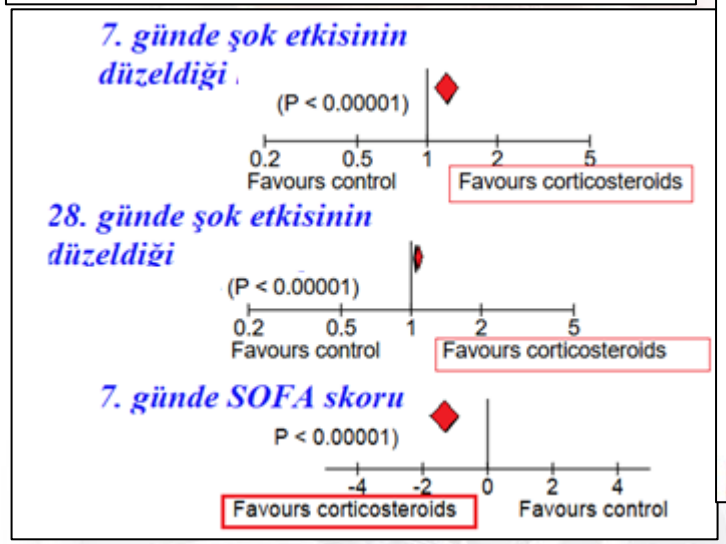


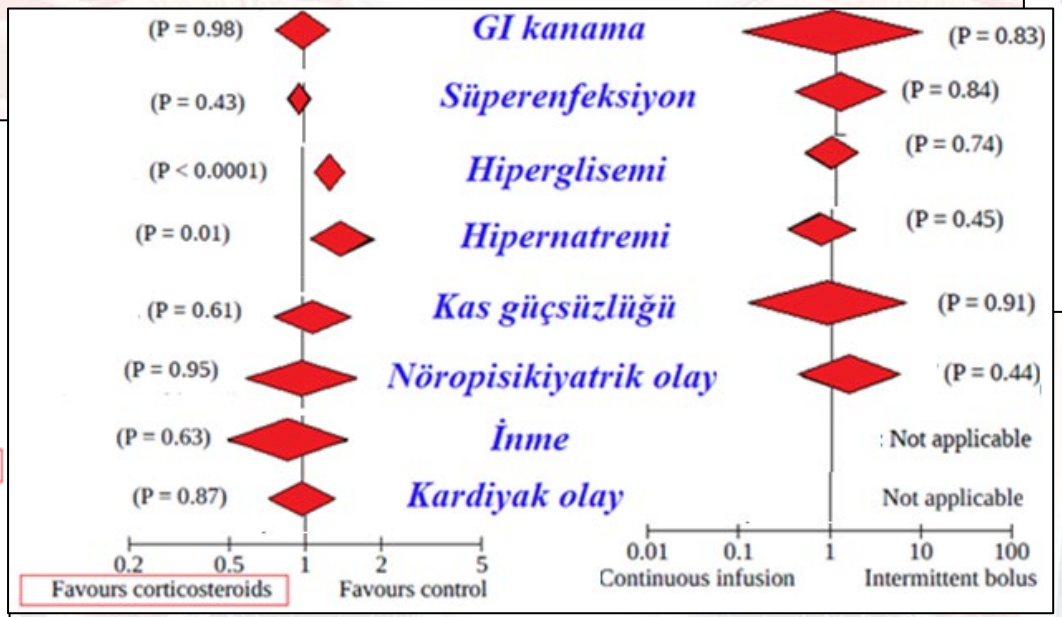
28 günlük tüm nedenlere bağlı mortalite


Kademeli azaltma olmadan
P = 0.007)
Kademeli azaltma ile
(P = 0.03)
Total (Wald²)
(P = 0.001)
0.01 0.1 1 10 100
Favours corticosteroids
Favours control
Adult
(P = 0.001)
Pediatrik
(P = 0.82)
Total (Wald²) (P = 0.001)
0.2 0.5 1 2 5
Favours corticosteroids
Favours control


Tüm ICU LOS
(P = 0.04)
Sağ kalanlar ICU-LOS
(P=0.01)
Tüm Hastane-LOS
(P=0.005)
Sağ kalanlar Hastane-LOS
(P=0.07)
-4 -2 0 2 4
Favours corticosteroids
Favours control


Sürekli infüzyon -Bolus
28 gün mortalite
(P = 0.79)
Uzun dönem mortalite
(P = 0.04)
Hastane mortalite
(P = 0.53)
90 gün mortalite
(P = 0.41)
ICU mortalite
(P = 0.98)
ICU-LOS
(P = 0.70)
Hastane-LOS
(P = 0.93)
7. gün şok düzeldiği
(P = 0.17)
28. gün düzeldiği
(P = 0.37)
7. gün SOFA
(P = 0.13)
-100 -50 0 50 100
Continuous infusion
Intermittent bolus


7. günde şok etkisinin düzeldiği
(P < 0.00001)
0.2 0.5 1 2 5
Favours control
Favours corticosteroids
28. günde şok etkisinin düzeldiği
(P < 0.00001)
0.2 0.5 1 2 5
Favours control
Favours corticosteroids
7. günde SOFA skoru
P < 0.00001)
-4 -2 0 2 4
Favours corticosteroids
Favours control

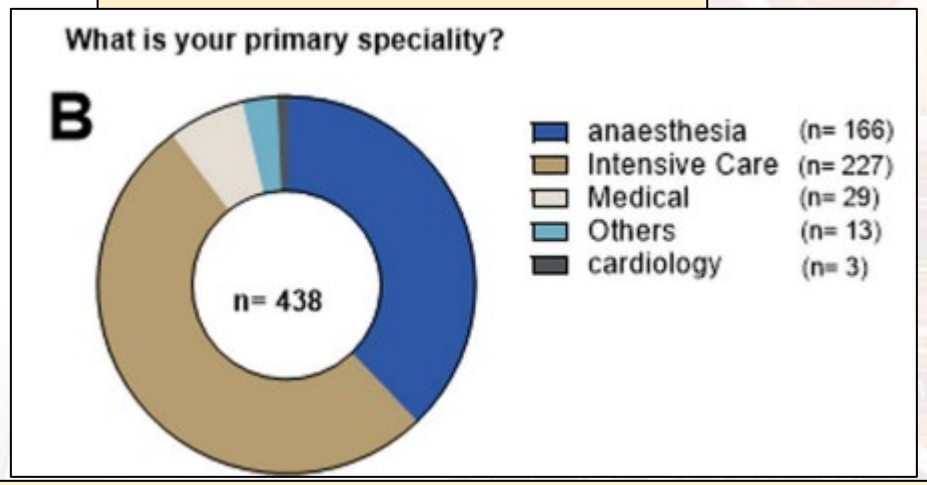

(P = 0.98)
GI kanama
(P = 0.83)
(P = 0.43)
Süperenfeksiyon
(P = 0.84)
(P = 0.74)
(P < 0.0001)
Hiperglisemi
(P = 0.01)
Hipernatremi
(P = 0.45)
(P = 0.61)
Kas güçsüzlüğü
(P = 0.91)
(P = 0.95)
Nöropisikiyatrik olay
(P = 0.44)
(P = 0.63)
İnme
: Not applicable
(P = 0.87)
Kardiyak olay
Not applicable
0.2 0.5 1 2 5
Favours corticosteroids
Favours control
0.01 0.1 1 10 100
Continuous infusion
Intermittent bolus

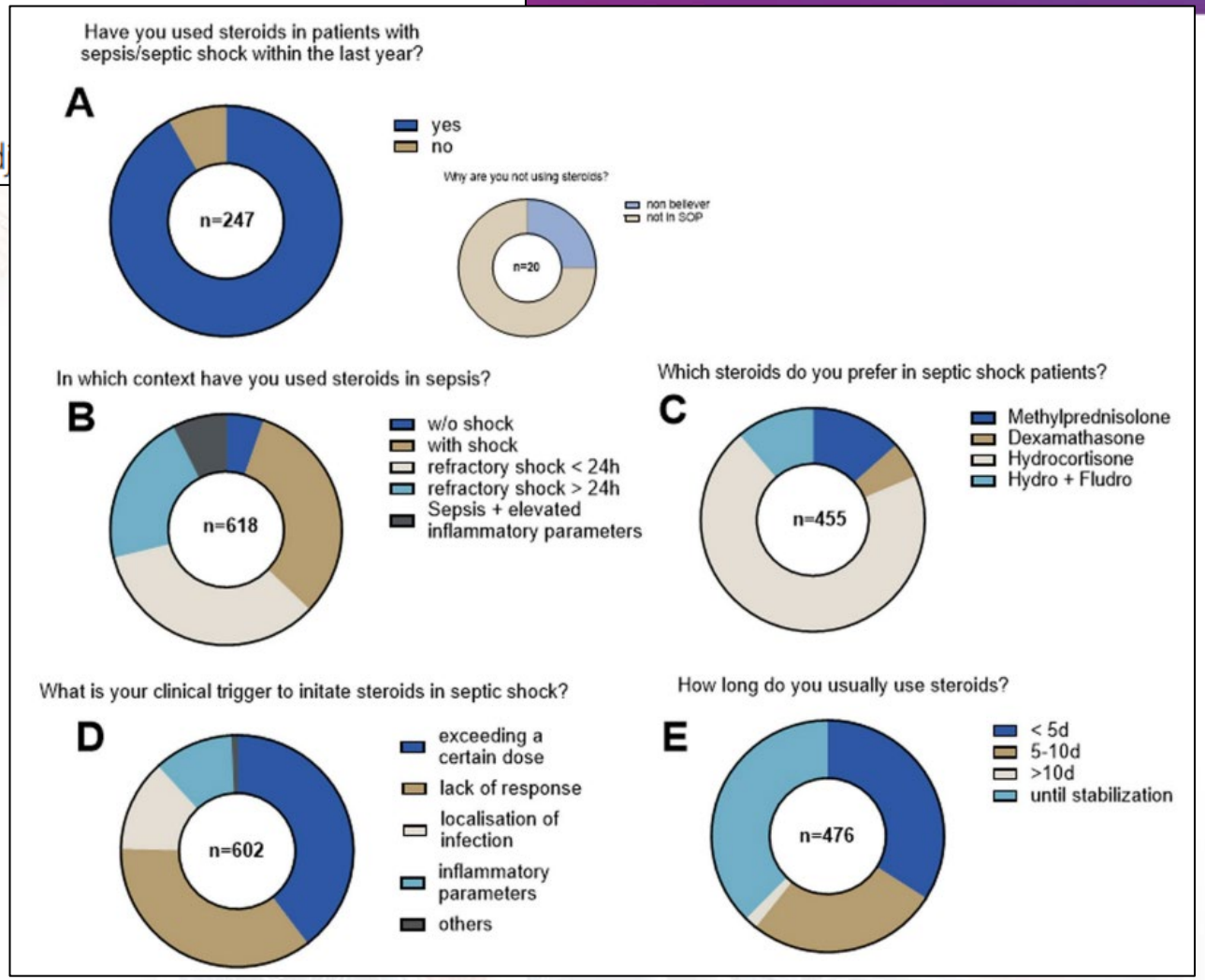
Clinical practice in using corticosteroids and adjunctive sepsis therapies at the bedside among European ICUs: an ESICM-endorsed survey

Intensive Care Medicine Experimental (2026) 14:33

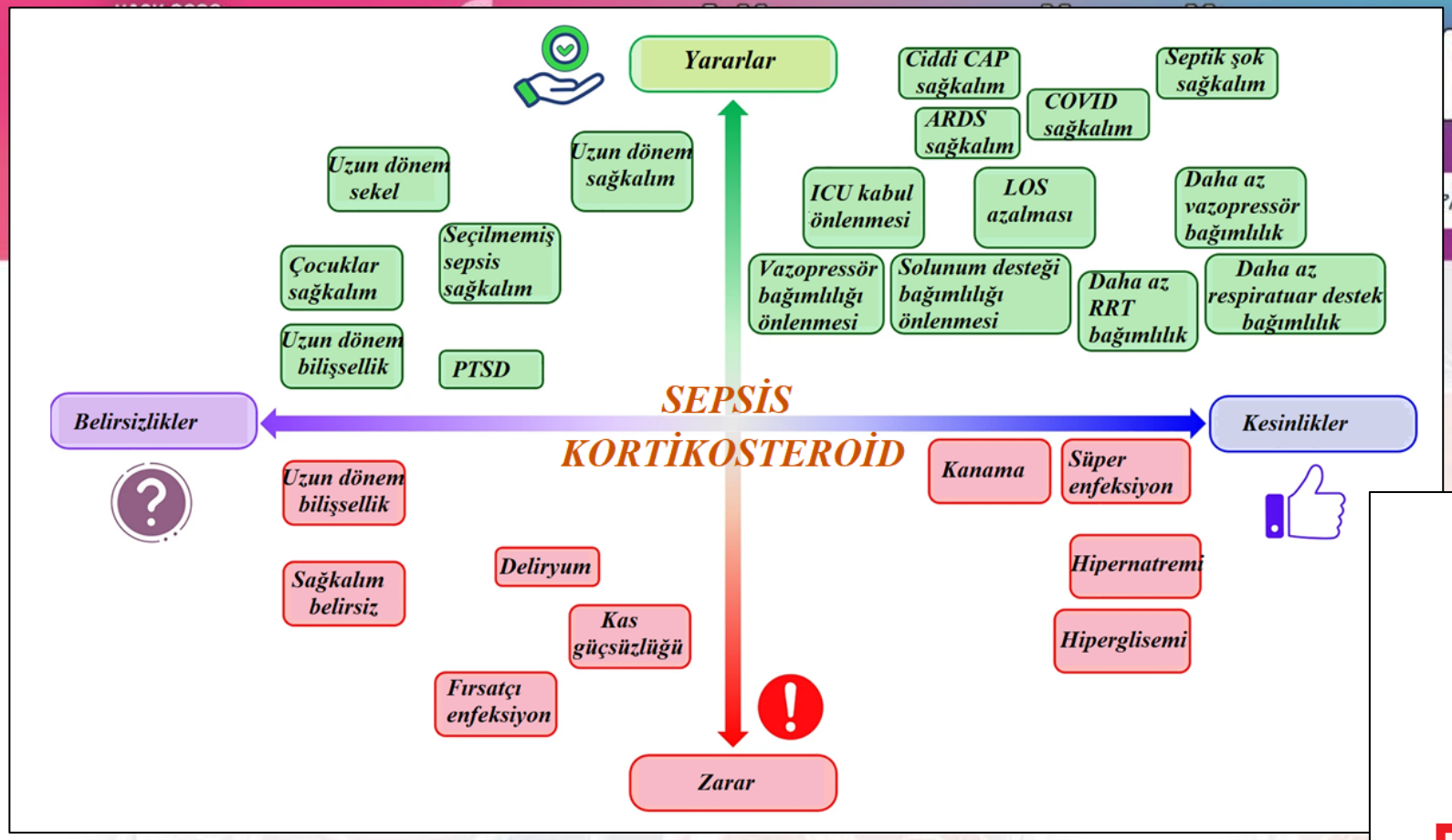
Sascha David[1,2*], Marc Leone[3], Massimo Girardis[4], Mattia M. Müller[1], Srdj

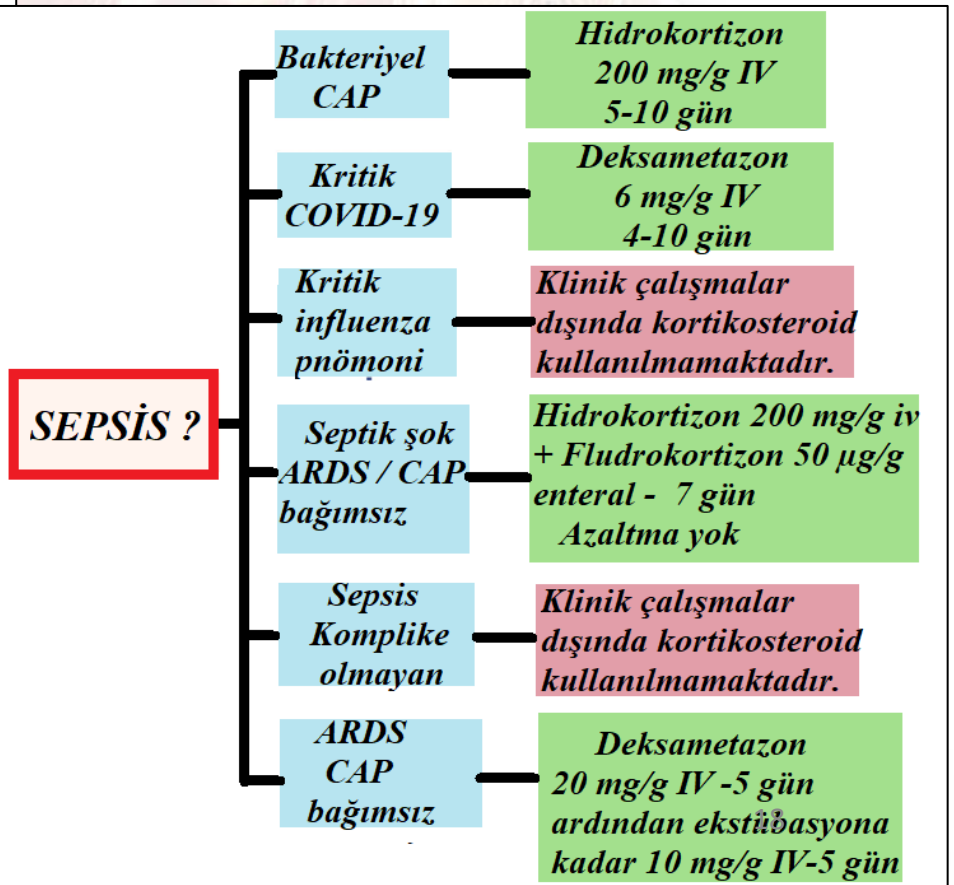
Anket: toplam 442 hekim

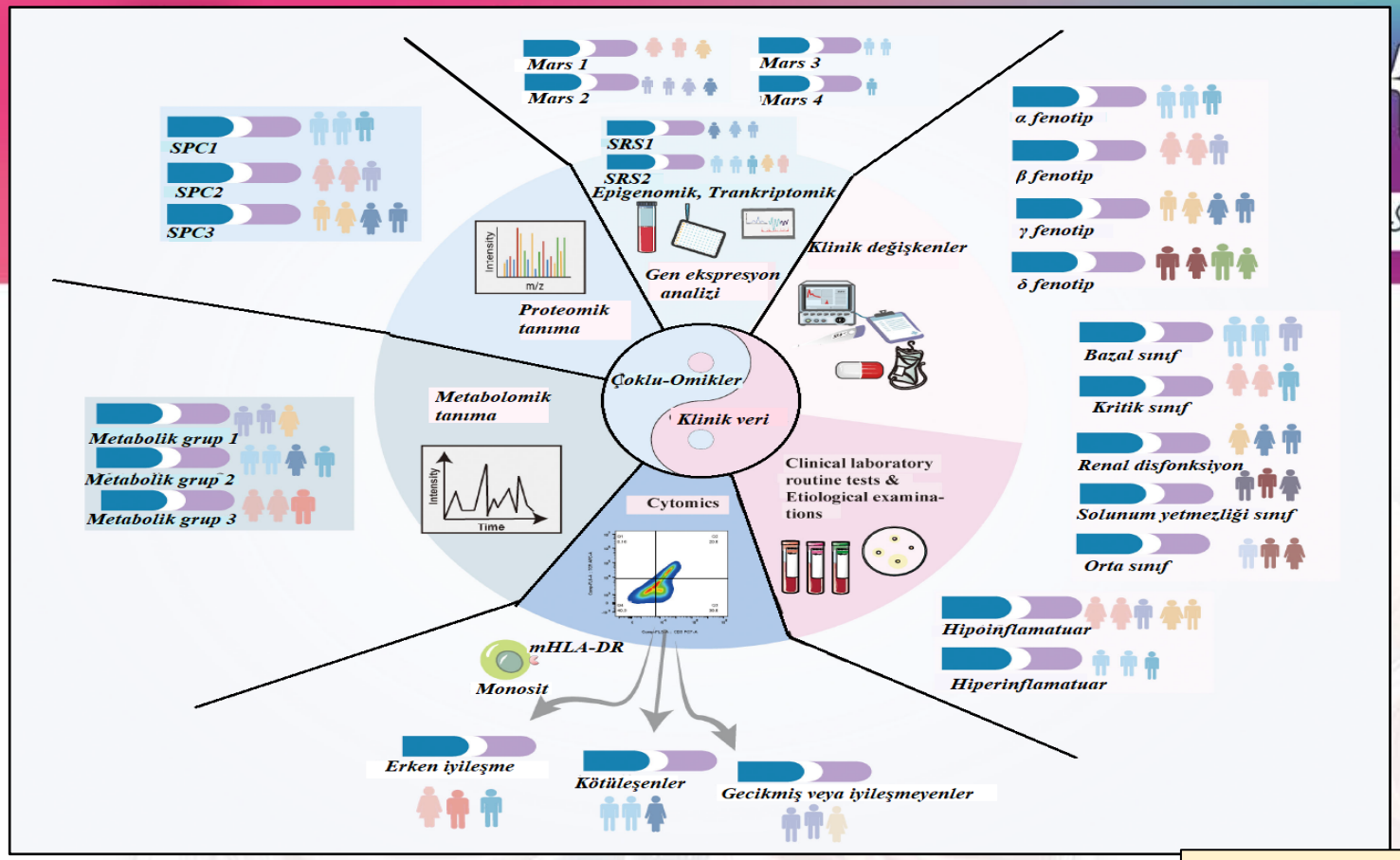


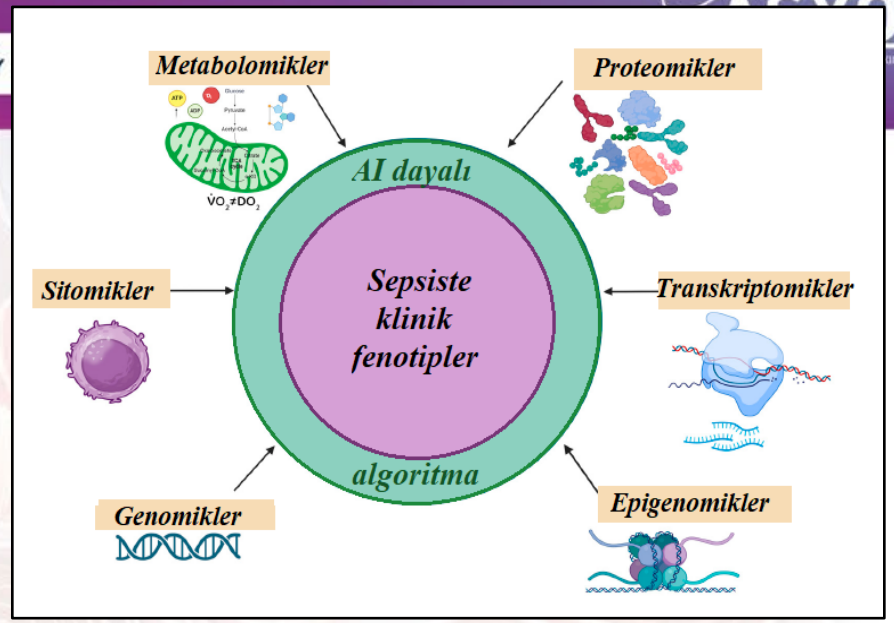


Avrupa: Şiddetli veya tedaviye dirençli Sepsis:
Yardımcı tedaviler yaygın kullanılma
Uygulamada önemli değişkenlik
Kanıta dayalı ve bireyselleştirilmiş stratejiler için;
RCT gerekliliği


Yararlar
Ciddi CAP sağkalım
Septik şok sağkalım
COVID sağkalım
ARDS sağkalım
Uzun dönem sekel
Uzun dönem sağkalım
ICU kabul önlenmesi
LOS azalması
Daha az vazopressör bağımlılık
Seçilmemiş sepsis sağkalım
Çocuklar sağkalım
Vazopressör bağımlılığı önlenmesi
Solunum desteği bağımlılığı önlenmesi
Daha az RRT bağımlılık
Daha az respiratuar destek bağımlılık
Uzun dönem bilişsellik
PTSD
Belirsizlikler
SEPSİS
KORTİKOSTEROİD
Kesinlikler
Kanama
Süper enfeksiyon
Uzun dönem bilişsellik
Hipernatremi
Deliryum
Sağkalım belirsiz
Kas güçsüzlüğü
Hiperglisemi
Fırsatçı enfeksiyon
Zarar


SEPSİS ?
Bakteriyel CAP
Hidrokortizon 200 mg/g IV 5-10 gün
Kritik COVID-19
Deksametazon 6 mg/g IV 4-10 gün
Kritik influenza pnömoni
Klinik çalışmalar dışında kortikosteroid kullanılmamaktadır.
Septik şok ARDS / CAP bağımsız
Hidrokortizon 200 mg/g iv + Fludrokortizon 50 µg/g enteral - 7 gün Azaltma yok
Sepsis Komplike olmayan
Klinik çalışmalar dışında kortikosteroid kullanılmamaktadır.
ARDS CAP bağımsız
Deksametazon 20 mg/g IV -5 gün ardından ekstübasyona kadar 10 mg/g IV-5 gün





Sepsis

'Steroide yanıt veren' fenotip

'Steroide yanıt vermeyen' fenotip

Sepsis endotipleri ve patofizyolojik özellikleri

Hemodinamik fenotip

Organ disfonksiyon fenotip

İnflamasyon yanıtına dayalı endotip

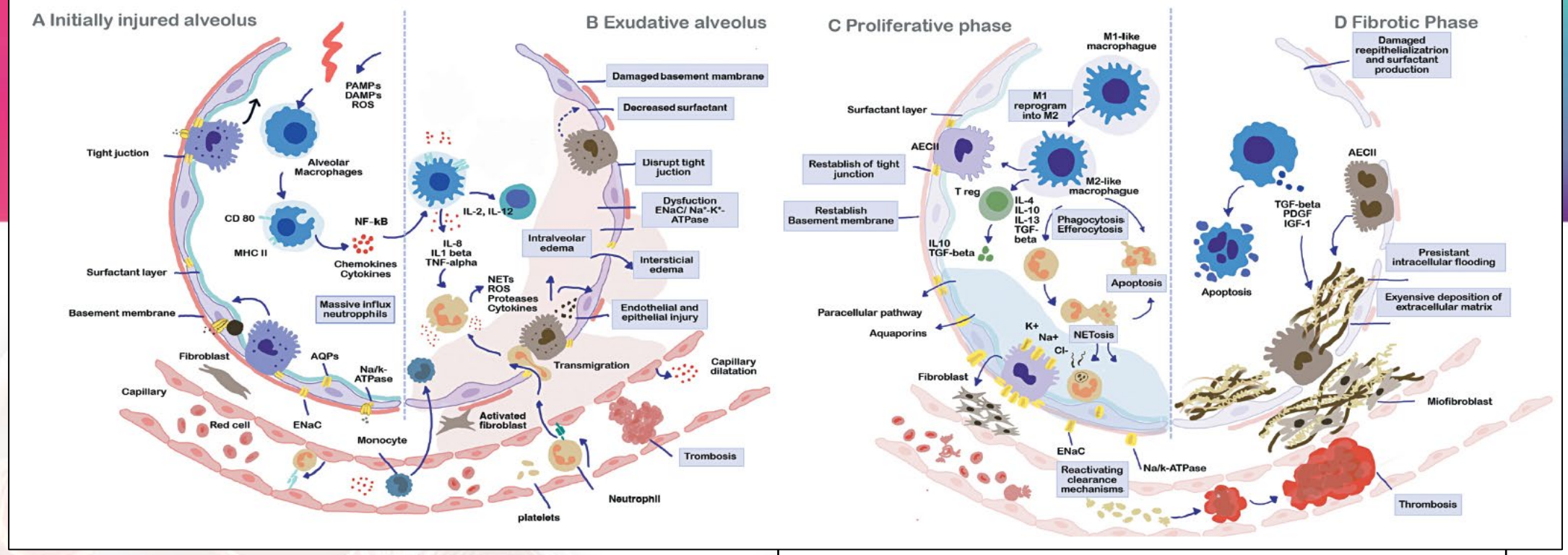
Büyük veri ve makine öğrenimine dayalı endotip

Klinik olarak elde edilen fenotipler

Gen ekspresyon profiline dayalı endotipler

UASK 2026

ARDS



Tedavinin zamanlaması

- ***Erken ARDS***
- ***Tedavi süresi***

Endojen glukokortikoid aktivitesini destekleme
HPA eksen fonksiyon bozukluğunu sınırlama
Endotel ve alveoler epitel hasarını azaltma
Alveolar sıvı birikimini azaltma
Gaz değişimi ve akciğer kompliansını iyileştirme

Steroid kullanma endikasyonu ne kadar güçlü?

Steroid kaynaklı komplikasyon riski ne kadar güçlüdür?		Çok güçlü (Semptom başlangıcı >7 gün ile COVİD, septik şok, ventilatör yönetimine rağmen P/F<200	←	Çok güçlü değil (P/F 200-300, influenza, travma gibi enfeksiyöz olmayanlar, hızlı P/F iyileşmesi
	Düşük	Steroid uygulanması	Steroid önerilir	Olguya göre düşünülmesi
	←	Steroid önerilir	Olguya göre düşünülmesi	Steroide karşı öneri
	Yüksek	Olguya göre steroid düşünülmesi	Steroide karşı öneri	Steroid uygulanmaması

Association between glucocorticoid administration and outcomes in patients with ARDS based on the MIMIC-III database

Zhonghua Lu, MD, PhD[a], Yan Tang, MD[b], Mei Liu, MD[a], Lijun Cao, MD[a], Hu Chen, MD[a], WeiLi Yu, PhD[a],

Medicine (2024) 103:32

ABD-2001-2012 MIMIC-III 464 hasta
ARDS Berlin:0-14 gün GC ve X , 232 hasta

Outcomes of the patients with ARDS treated with or without glucocorticoids.

Outcome	Non-GC	GC	*P* value
Matched cohort	n = 232	232	
60-day mortality†	82 (35.34%)	104 (44.83%)	.154
0–14-day mortality†	40 (17.24%)	41 (17.67%)	.643
15–60-day mortality†	42 (18.10%)	63 (27.16%)	.025
In-hospital mortality†	106 (45.69%)	130 (56.03%)	.039
LOS in ICU*	9.01 (5.38, 16.02)	12.06 (7.57, 18.89)	.003
LOS in hospital*	16.41 (9.78, 25.09)	18.09 (12.89, 26.69)	.112
28-day VFDs*	21.04 (0, 26.35)	14.10 (0, 23.78)	.010
ICU mortality†	69 (21.43%)	84 (36.21%)	.254
28-day mortality†	64 (27.59%)	82 (35.34%)	.344

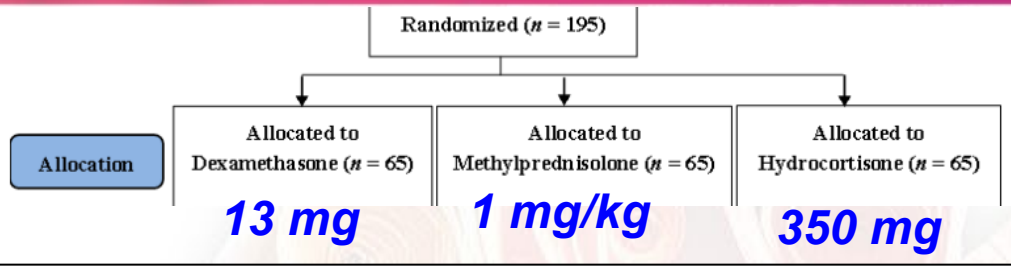
GC:
Hastane, 15-60 gün, ICU LOS ↗
28. gün ventilatörsüz ↘
14 ve 28 gün mortalite θ
Kullanımını desteklememektedir.

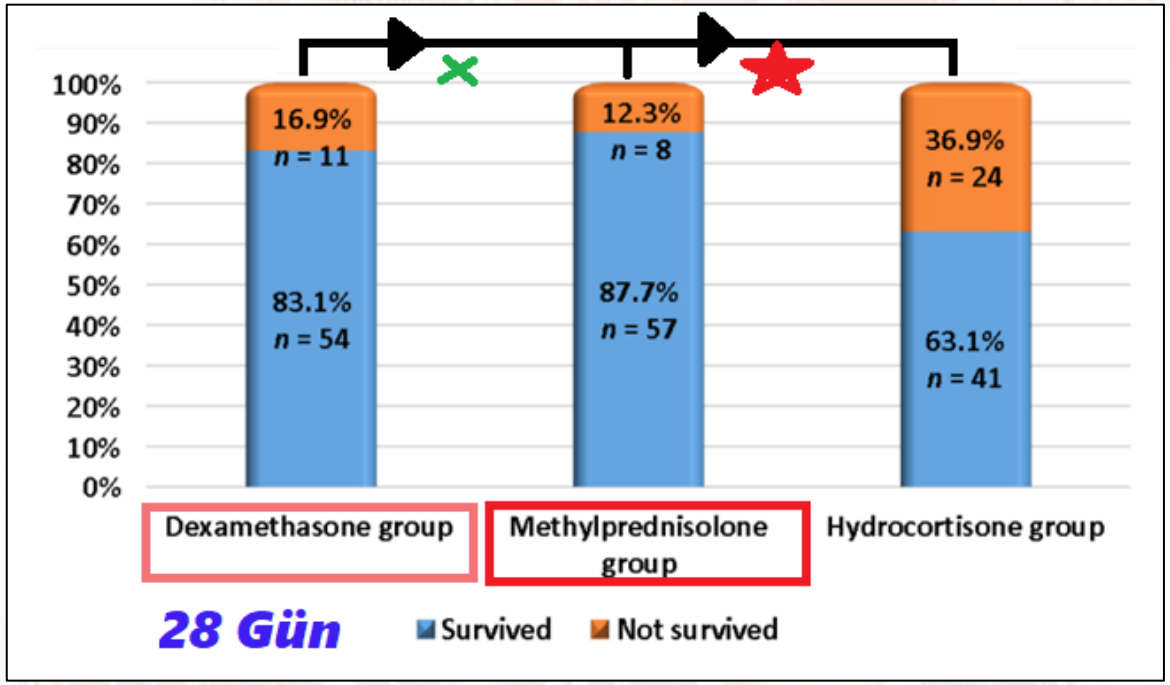
ARDS akut fazı:
Erken mortalite önemli etkilememektedir.

A Comparative Study of Glucocorticoids Efficacy in Acute Respiratory Distress Syndrome

Pharmaceuticals 2026, 19, 147

Marian S. Boshra [1], Mahmoud Ezzat [2], Mona Ibrahim [3], Mona Y. Alsheikh [4], Raghda R. S. Hussein [1]





Tek merkez
Kontrol grubu yok
İmmünolojik durum ?

Variables	Dexamethasone (n = 65)		Methylprednisolone (n = 65)		Hydrocortisone (n = 65)		p-Value
	No.	(%)	No.	(%)	No.	(%)	
Severity of ARDS							
Mild	14	21.5%	15	23.1%	13	20%	0.18
Moderate	30	46.2%	36	55.4%	25	38.5%	
Severe	21	32.3%	14	21.5%	27	41.5%	
Causes of ARDS							
Sepsis	35	53.8%	35	53.8%	32	49.2%	0.94
Pneumonia	24	36.9%	25	38.5%	24	36.9%	
Aspiration Pneumonia	2	3.1%	3	4.6%	3	4.6%	
Pulmonary Contusion	2	3.1%	1	1.5%	4	6.2%	
Pulmonary embolism	2	3.1%	1	1.5%	2	3.1%	

Ventilatörsüz gün sayısı
Hastanede-YBÜ LOS
IMV gereksinimi anlamlı fark yok

Eşdeğer dozlarda, ARDS'nin metilprednizolon ile tedavisi, deksametazon ve hidrokortizon kullanımına göre daha başarılı olabilir.

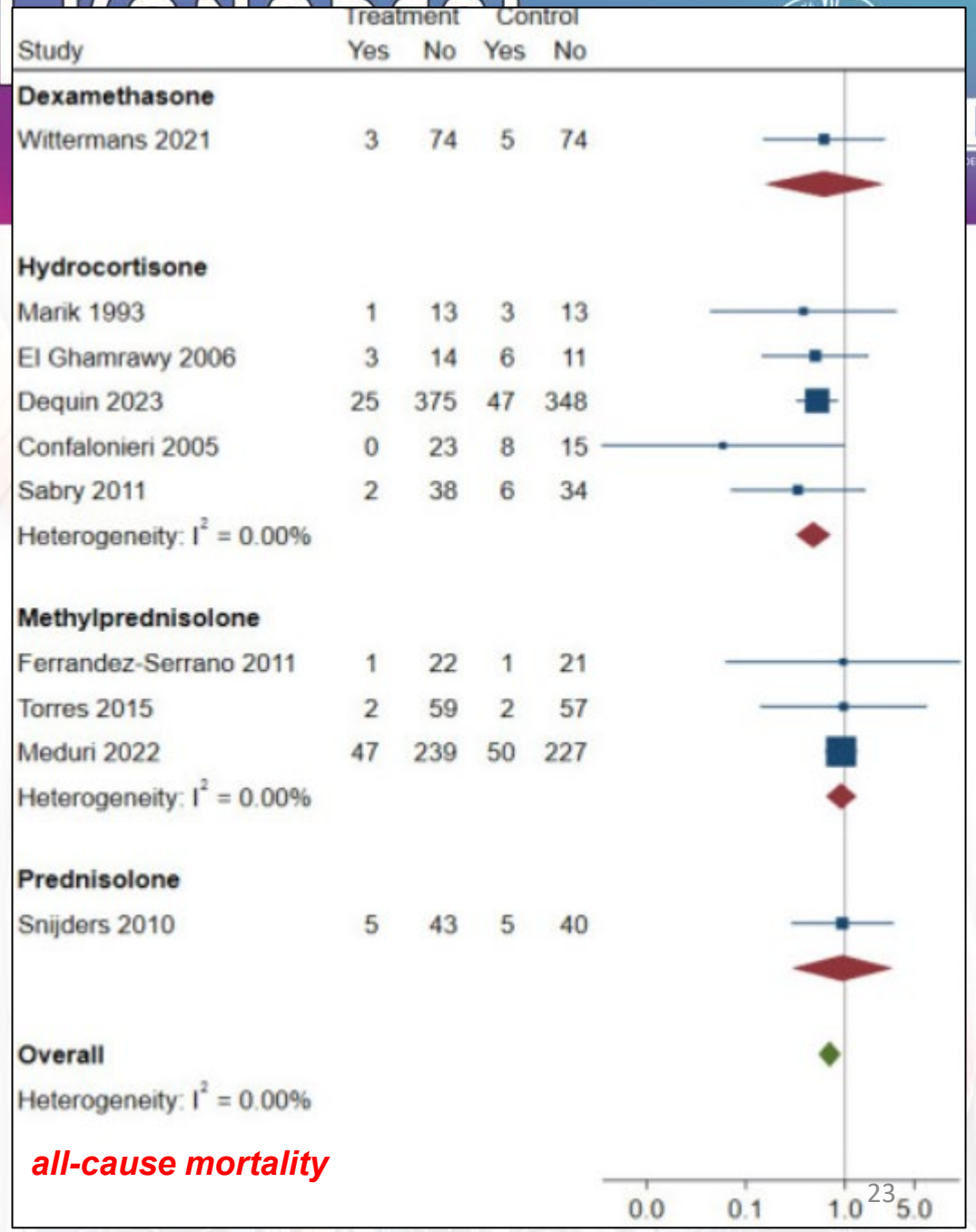
Impact of different corticosteroids on severe community-acquired pneumonia: a systematic review and meta-analysis

Respir Res 2024;11:e002141

Xin Ya See,[1] Tsu Hsien Wang,[2] Yu-Cheng Chang,[3] Juien Lo,[4] Weitao Liu,[5]

1962 hasta -10 çalışma

Hidrokortizon:
CAP hastaları:
Genel mortalitede azalma
Pnömoniye bağlı sonuçlarda iyileşme



all-cause mortality

A systematic review and meta-analysis of the efficacy and safety of glucocorticoids in the treatment of severe pneumonia

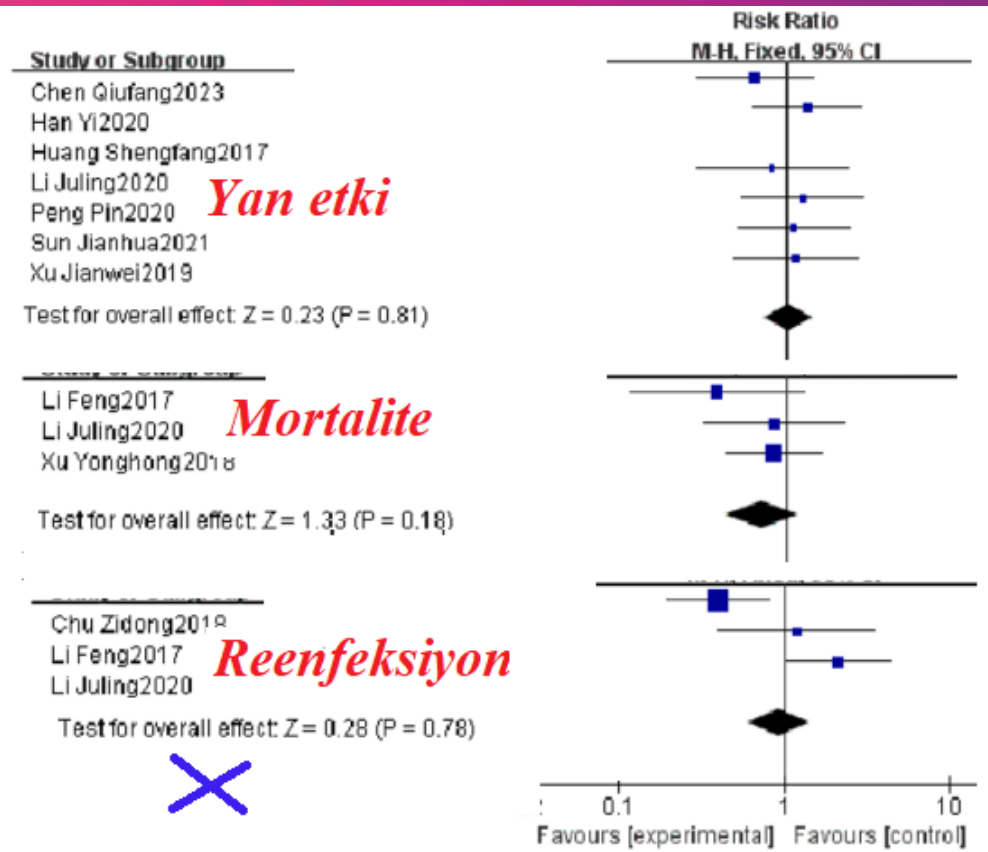
Jingye Liu [a], Zhiqiang Yang [b,*]

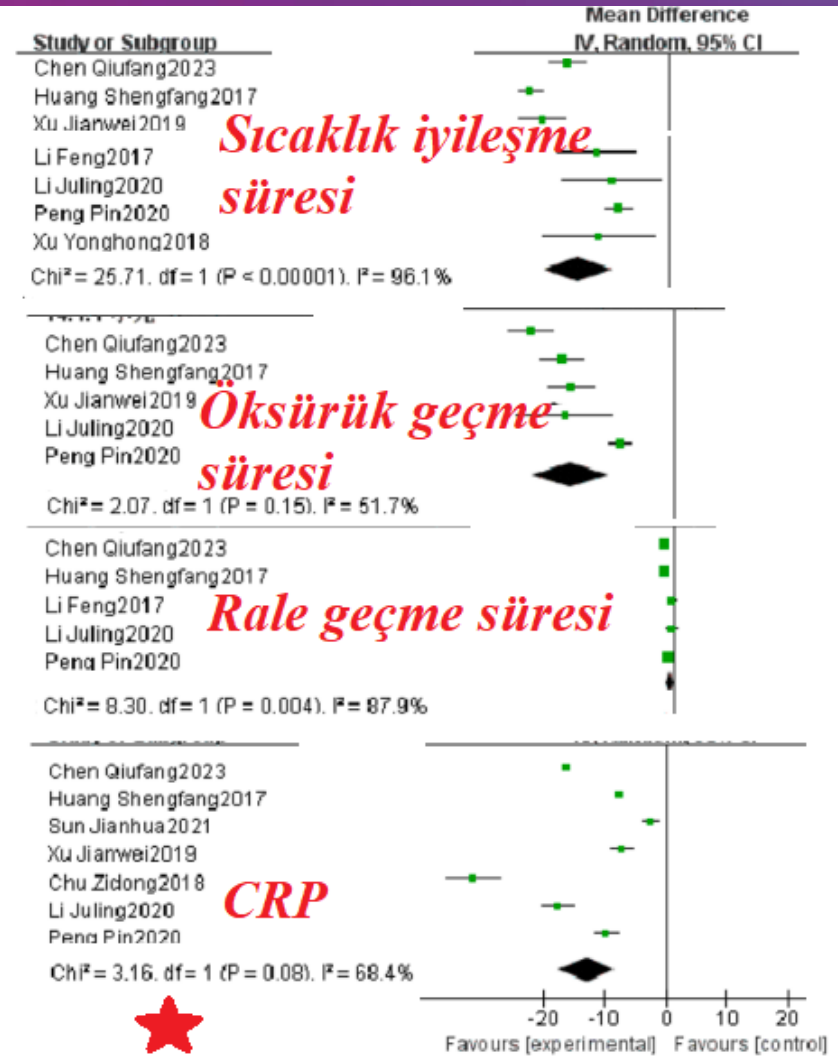
Clinics
Vol 80, 2025, 100630

Reports of included studies (n = 10)

1120 hasta
5 adult, 5 pediatri

Glukokortikoidler:
Belirgin klinik etkinlik göstermiştir

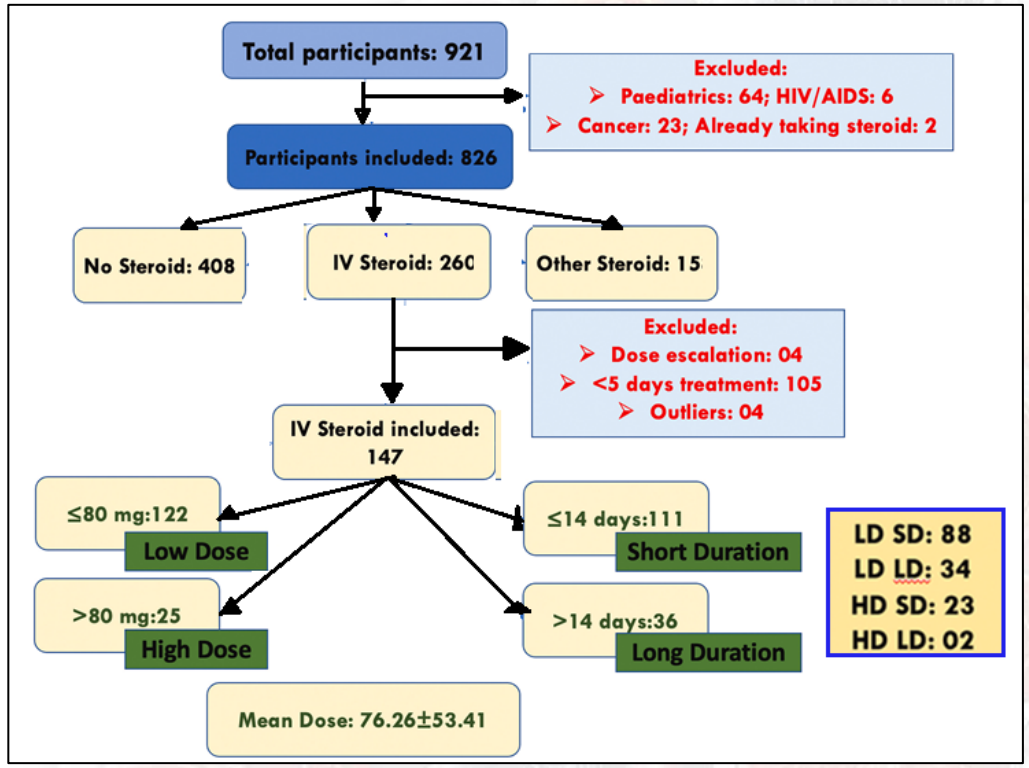




Low dose corticosteroid for a longer duration at an early phase: A potentially optimal dosage regimen for the management of ARDS

Muhammed Rashid [a] ... nbhag [b],

Clinical Epidemiology and Global Health 37 (2026) 102282



Atipik veya organize pnömoni-ARDS
Viral hastalık-ARDS
Pnömoni-Orta ila şiddetli ARDS
Akut ateşli hastalık-ARDS
Steroid dışında tedaviye yanıt vermeyen
Kültür negatif bakteriyel pnömoni-ARDS

ARDS tanısından geçen süre

24-72 saat içinde

3-5 gün düşük doz
1-2 mg/kg metilprednizolon (veya eşdeğer).
Ardından %50 doz azaltılması ile toplam >10 gün

72 saat sonra

Dikkate alınması gereken
Birincil kaynak/etioloji
Şiddet
Hastalığın başlangıcı
Yaş
Eşlik eden hastalıklar

Akciğer dışı patoloji-Sekonder ARDS
Hafif ARDS
Geç ARDS (semptomların başlangıcı > 14 gün)
Yanık -ARDS
Ameliyat sonrası/operasyon geçirenler
İmmün yetmezlik/HIV enfeksiyonu olanlar
Mantar enfeksiyonları
Yaygın tüberküloz
Gastrointestinal kanama riski
Kortikosteroide diğer kontrendikasyonlar

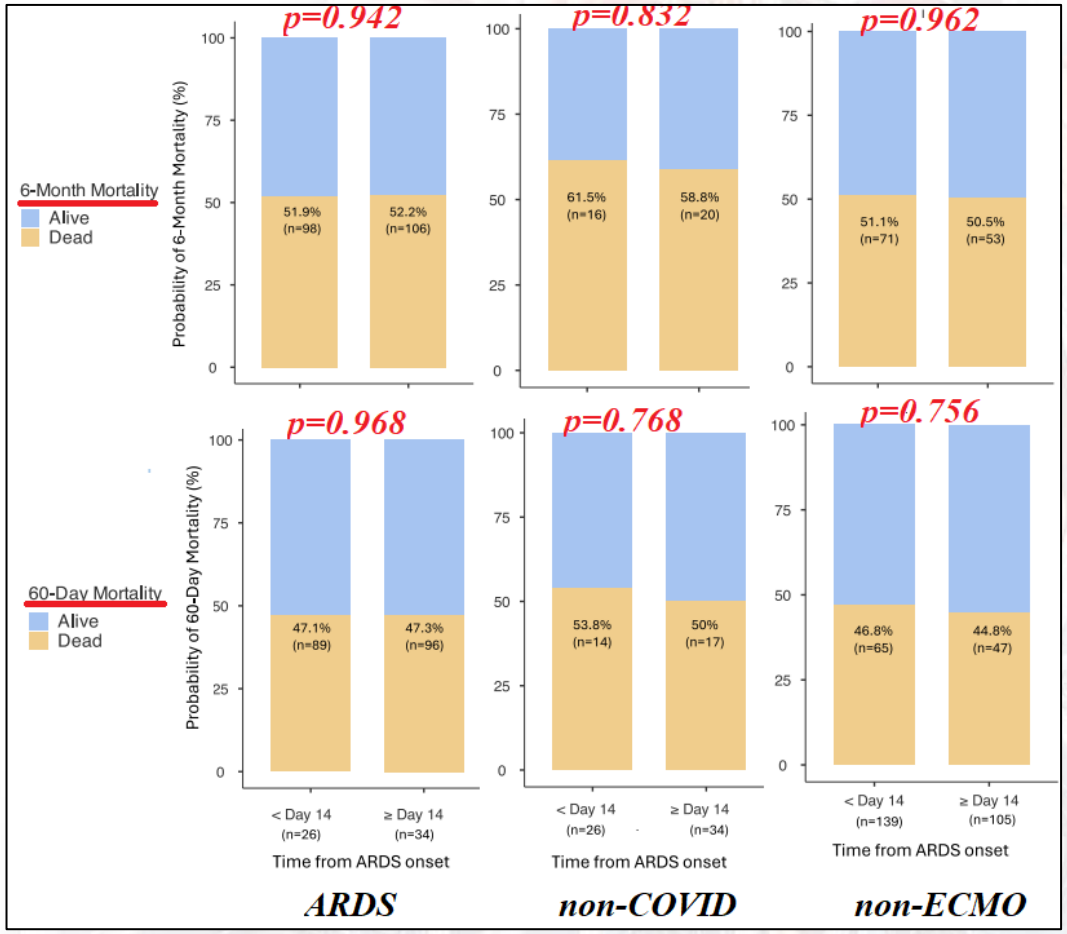
LDLD > Diğer grup: İyileşme: p = 0,002
VFD, IFD, OFD: Daha iyi sonuç, p > 0,05
Tanı-İyileşme oranı: 24-48 s / 48-72 s > 24 s önce / 72 s sonra
(%100) (%66.7) (%31.8) (%50)

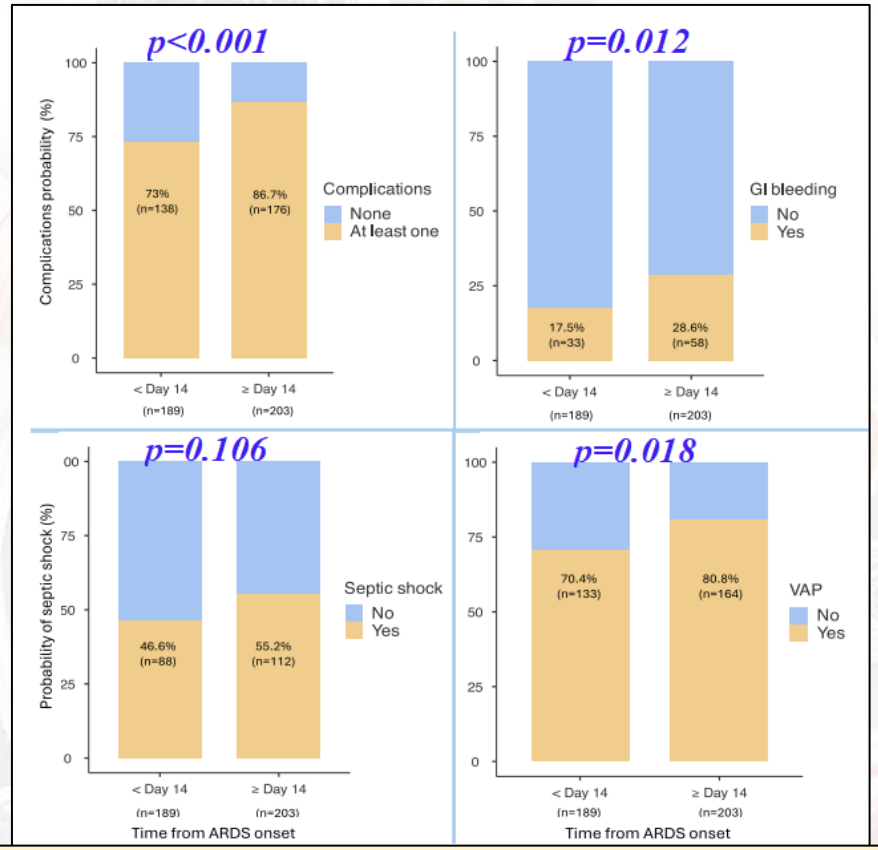
Early versus late 2 mg/kg methylprednisolone therapy in ARDS

Scientific Reports | (2025) 15:38167

Justine Verchère[1,10]✉, Damien Barrau[1,8,10], Jonathan Chelly[2], Julien Carvelli[3,8,10],

392 hasta
COVID-19 (332 hasta, %84,7)
Bakteriyel pnömoni (25 hasta, %6,4)
İnfluenza pnömoni (17 hasta, %4,3)





ARDS: Metilprednizolon 2 mg/kg
Erken veya - düşük doz: iyileşme göstermemiş
Geciktirilerek başlatılması düşünülebilir.

Temporal stability of phenotypes of acute respiratory distress syndrome: clinical implications for early corticosteroid therapy and mortality

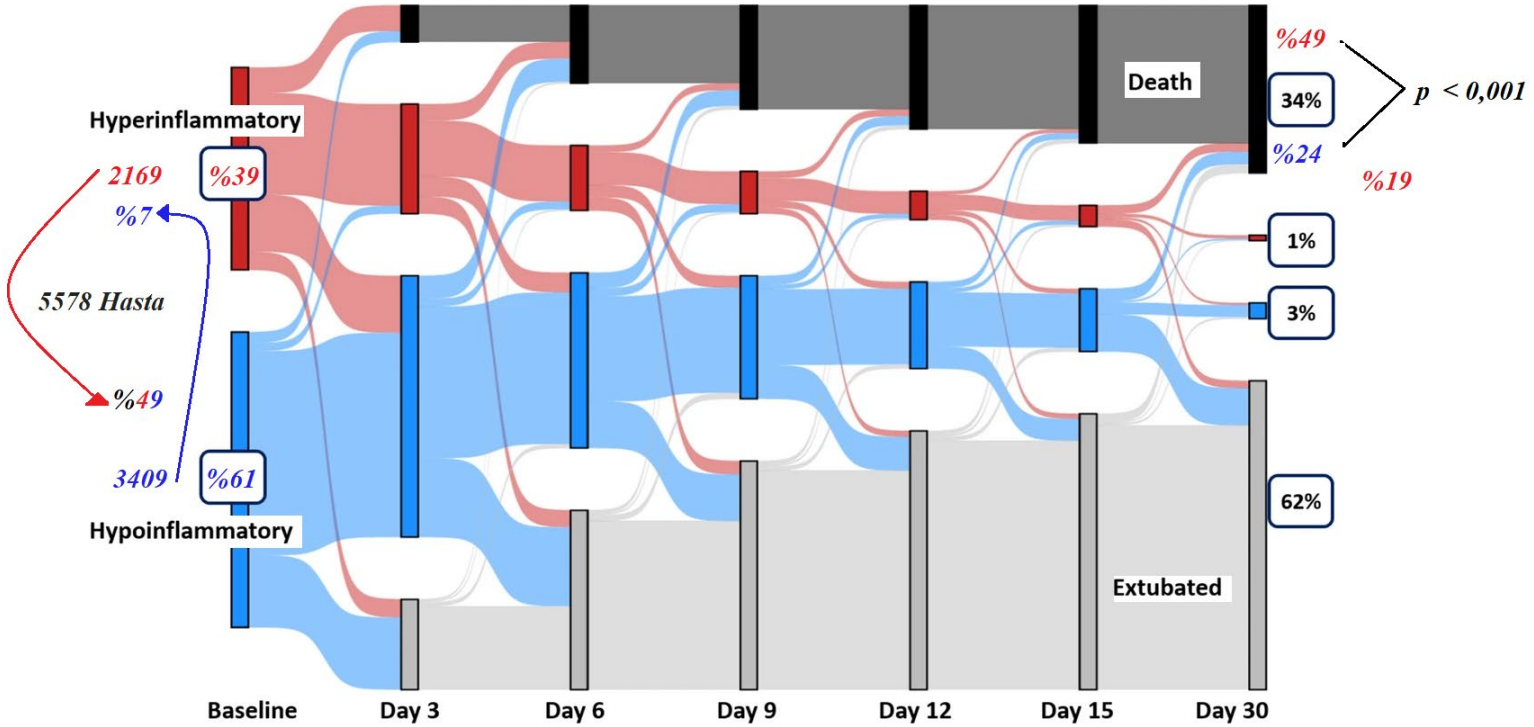
Intensive Care Medicine, 2025, 51(10):1784-1796

Joris Pensier[1,2], Maxime Fosset[2,3], Béla-Simon Paschold[2], Dario von Wedel[2,4], Simone Redaelli[2],

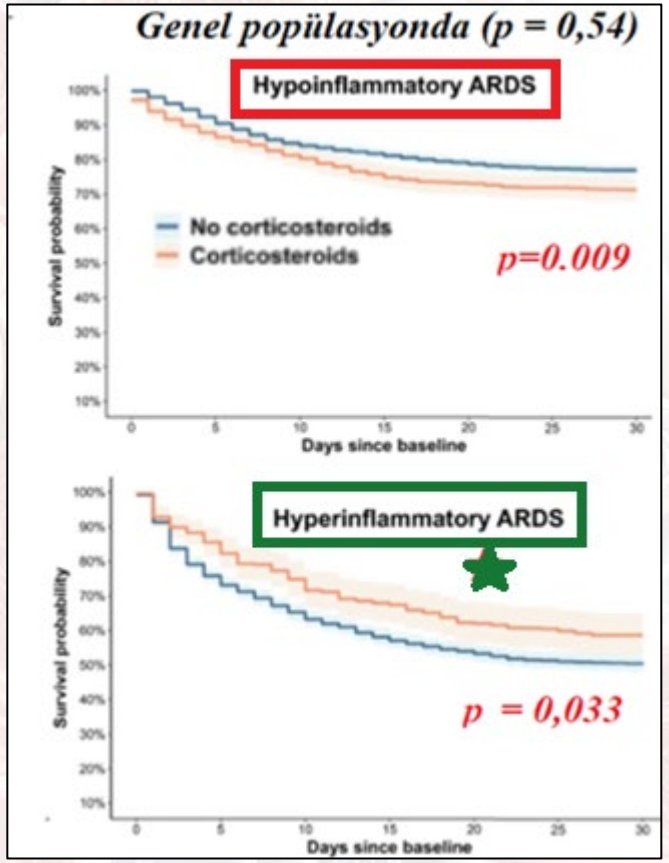
GRESİ

ASYOD

İlk 24 saat: % 13 -715 hasta
İlk 7 gün: %17 -953 hasta
340 mg hidrokortizon eşdeğeri



%49 30 gün mortalite daha düşük (%34 vs %63, p < 0,001)
%7 30 gün mortalite daha yüksek (%57 vs %22, p < 0,001)

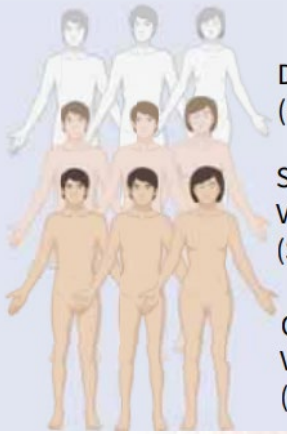


Kortikosteroidler hiperinflamatuar ARDS'de faydalı, hipoinflamatuar ARDS'de ise zararlı olabilir

Large-scale proteomic profiling identifies distinct inflammatory phenotypes in acute respiratory distress syndrome: a multicentre, prospective cohort study

Eur Respir J 2026; 67: 2500933

Mengna Lin, Feixiang Xu, Yiyu Deng, Ying Wei, Feng Shi, Yun Xie, Cuiying Xie, Chen Chen, Jianfeng Song,

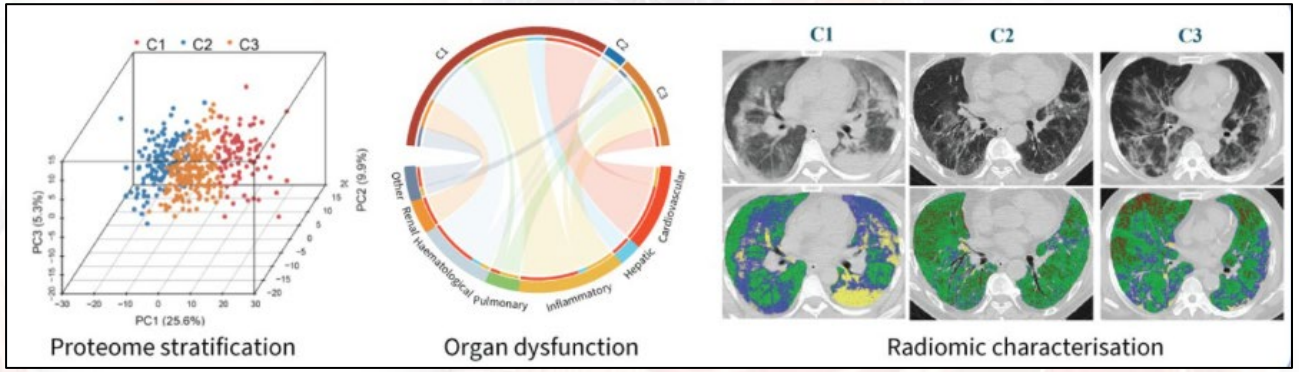


Discovery cohort (n=414)

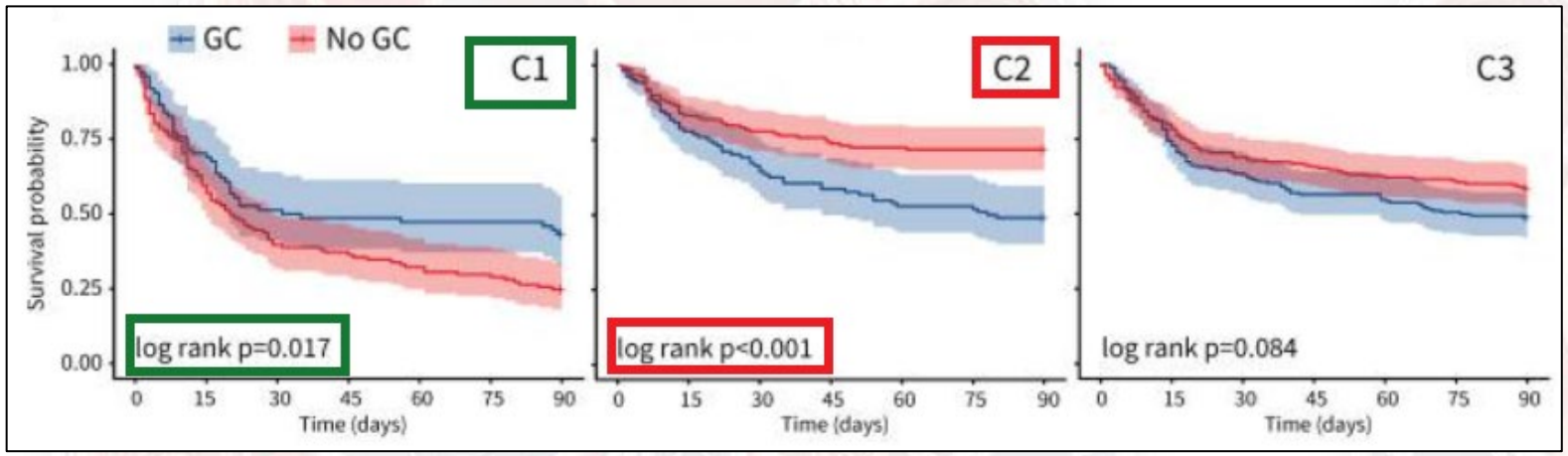
Shanghai Internal Validation cohort (SIV cohort, n=324)

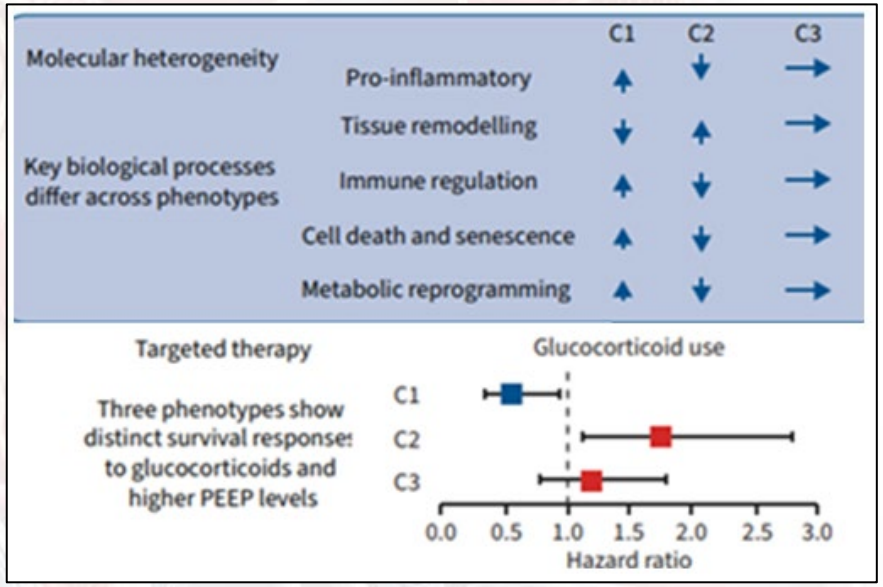
Outside Shanghai Validation cohort (OSV cohort, n=310)

90-day follow-up



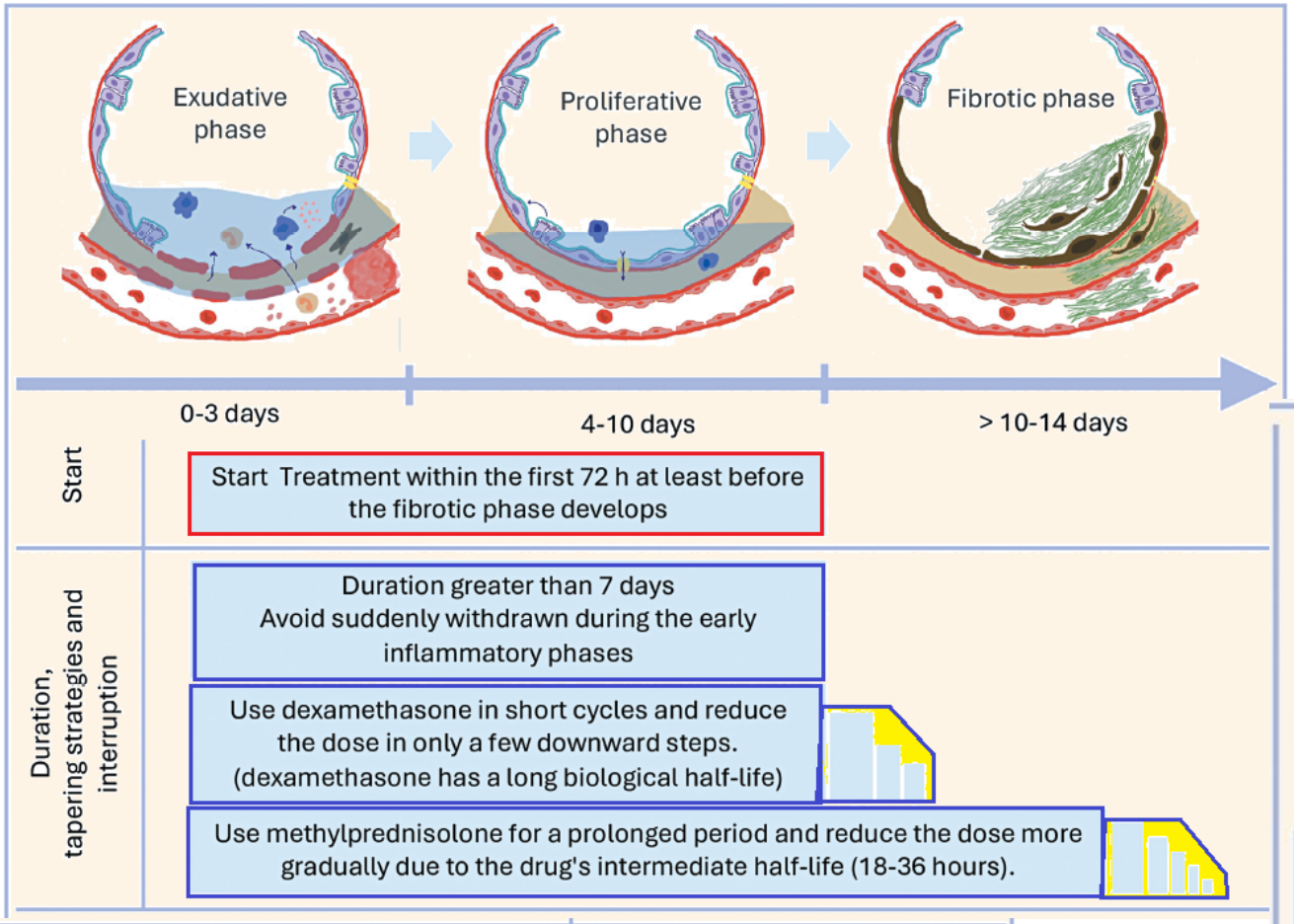
Proteome stratification | Organ dysfunction | Radiomic characterisation





Metilprednizolon (%73,5)
Deksametazon (%22,4)
10 gün

ARDS inflamatuar 3 fenotip
GC doz süre !!



Phenotypes

ARDS sub-phenotypes

hyper-inflammatory

hypo-inflammatory

Individualization of the steroid dose based on the alveolar immuno-inflammatory phenotype

Dosage selection and type of corticosteroid

Type: MP and DEX are more effective than HC in terms of reducing mortality and duration of mechanical ventilation, due to higher GC potency and less mineralocorticoid activity

Dosage: Optimal doses vary according to the drug used.

*DEX **6 mg/day, 10 days*** *DEX **20mg/day for 5 days** and then **10 mg/day for the following 5 days*** *MP **1 mg/kg/day***	*↓ Mortality*
*Meduri et al. tested prolonged effect of MP (**2 mg/kg/day** as loading dose, gradually reduced in 32 days*	*↓ Mortality and MV.*

Red flags

The use of corticosteroids are not recommended in ARDS...
... with high viral load origin.
... invasive fungal infections.
... and surgery (anastomotic dehiscence).

Complications

- Hyperglycaemia
- Myopathy/neuropathy
- Neuropsychiatric alterations
- Increased infectious risk

Semin Respir Crit Care Med 2026

Septik şok

Hidrokortizon 200 mg/gün IV +/- Fludrokortizon 50 µg/gün — 7 gün veya YBÜ taburcu

ARDS

Erken (24 -72 sa):

Deksametazon 20 mg/gün 5 gün			10 mg/gün 5 gün		Ekstübasyon
Metilprednizolon 1 mg/kg IV bolus,	• 1-14.		• 15-21.	•22-25.	• 26-28.
mg/kg/gün	1		0,5	0,25	0,125

Geç (7-21 gün)

Metilprednizolon 2 mg/kg IV bolus	• 1-14.	• 15-21.	• 22–28	• 29–30	• 31-32.
mg/kg/gün (her 6 saatte bir bölünmüş)	2	1	0,5	0,25	0,125

• 14. günden önce ekstübe edilirse ilaç tedavisi rejiminin 15. gününe ilerlenir

Şiddetli bakteriyel CAP

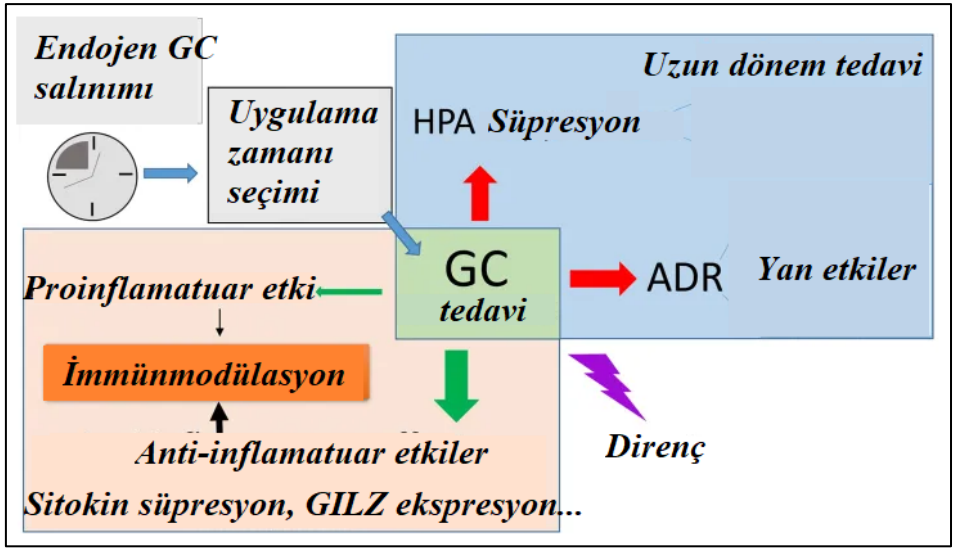
Hidrokortizon bir kez 200 mg IV — 7 gün 10 mg/saat IV infüzyon X

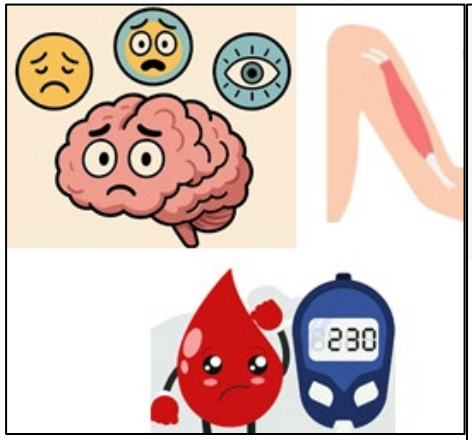
Hidrokortizon 200 mg/gün IV (klinik iyileşme 4 veya 8 gün) — Azaltılarak (toplam 8 veya 14 gün)

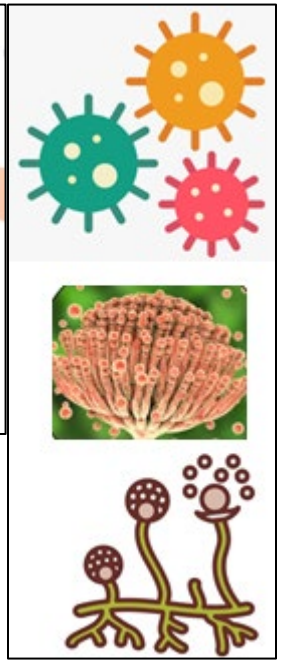
Metilprednizolon 0,5 mg/kg IV — 7 gün her 12 saatte bir

Metilprednizolon 40 mg IV bolus	• 1-7.	• 8-14.	• 15-17.	• 18–20
mg/gün	40	20	12	4

Kortikosteroid







Optimal tedavi protokolü ??????

GC tedavisinin bileşenleri için iyi tanımlanmış gerekçe?????

RCT heterojenlik!!!!

Farmakolojik verilerin çoğu metilprednizolon literatürden!!!!

Yanıtı etkilemede uygulama modu spesifik molekülden daha önemli!!!!

Doz ve GRa, tedaviye optimal yanıtın elde edilmesi için gerekli!!!!

GC'ler genellikle klinik semptomları iyileştirmede etkilidir ancak nadiren hastalığı iyileştirir.

Kortikosteroid kullanımına ilişkin karar bireyselleştirilmelidir