Trattamento dell'ipertensione arteriosa nel paziente ospedalizzato: soprattutto, niente zelo!

Massimiliano Uccelli

S.C. Medicina Sanremo (IM)

Hypertensive Emergencies

Jan Koch-Weser, M.D.

MEDICAL INTELLIGENCE

CURRENT CONCEPTS

Hypertensive Emergencies

JAN KOCH-WESER, M.D.

HYPERTENSION rarely constitutes a medical patient is nisms are orally ac- l-pressure apid nor- often un- eated hy-

such as hypertensive encephalopathy, intracranial hemorrhage, and acute left ventricular failure can appear at any time. Accelerated hypertension commonly manifests itself by markedly elevated diastolic pressure and by rapid progression of central-nervous-system manifestations ranging from headache to coma and convulsions, of retinopathy with cotton-wool exudates, striated hemorrhages, papilledema and blurring of vision, and of renal failure with proteinuria, hematuria, cylindruria and azotemia.

Patients with clinical manifestations of severe accelerated hypertension should be immediately hospitalized, preferably in an intensive-care unit. Treatment begins promptly and, depending on the clinical situation, aims at adequate blood-pressure reduction in a few hours to a few days. Diagnostic studies other than hemogram, urinalysis, serum creatinine and electrolytes, roentgenogram of chest and abdomen, and electrocardiogram can be deferred until the blood pressure is controlled.

HYPERTENSIVE ENCEPHALOPATHY

Hypertensive encephalopathy represents the most serious complication of accelerated hypertension[4] and

several weeks of ambulatory observation. Rapid normalization of blood pressure is unnecessary, often uncomfortable and sometimes hazardous.

Systematic, gradual institution of antihypertensive therapy is impossible in

pertensive patients who

"Hypertension rarely constitutes a medical emergency"

Dr. Koch-Weser, 1974

REVIEWS AND META-ANALYSIS

Hypertensive emergencies and urgencies in emergency departments: a systematic review and meta-analysis

Astarita, Anna[a,*]; Covella, Michele[b,*]; Vallelonga, Fabrizio[a]; Cesareo, Marco[a]; Totaro, Silvia[c]; Ventre, Luca[d]; Aprà, Franco[e]; Veglio, Franco[a]; Milan, Alberto[a]

Author Information

Journal of Hypertension 38(7):p 1203-1210, July 2020.

Hypertensive emergencies and hypertensive urgencies are a frequent cause of access to emergency departments, with hypertensive urgencies being significantly more common. BP levels alone do not reliably predict the presence of aHMOD, which should be suspected according to the presenting signs and symptoms.

32% Heart failure/Pulmonary edema
29% Ischemic stroke

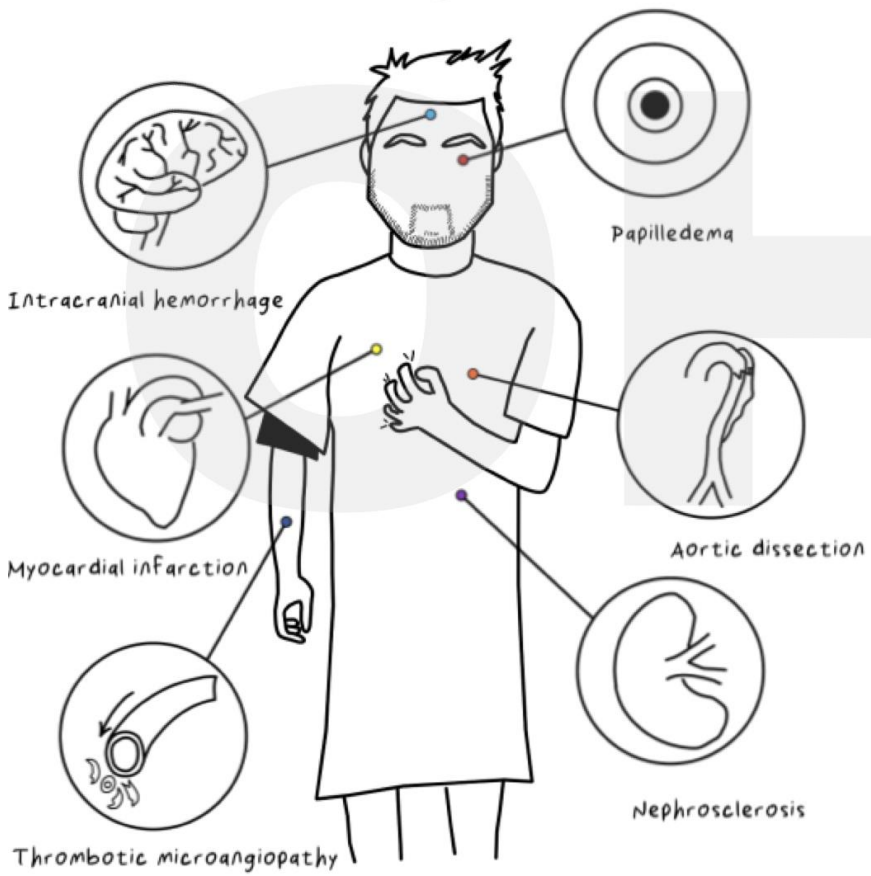
18% Acute coronary syndrome
11% Intracranial hemorrhage

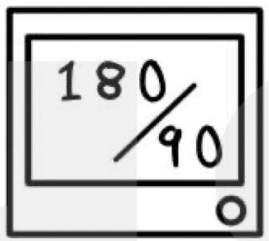
2% Aortic dissection
2% Encephalopathy

Hypertensive Emergency

Vs.

Asymptomatic Hypertensive ~~Urgency~~





Zachary G. Jacobs, MD
Division of Hospital Medicine
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Editorial

Treating Acute Hypertension in the Hospital

A Lacuna in the Guidelines

Alan B. Weder

(*Hypertension*. 2011;57:18-20.)

My impression is that many physicians "treat the numbers" in hospitalized patients and that those numbers mostly reflect physician trepidation.

Il lavoro del medico si svolge su un crinale stretto tra il fare troppo o troppo poco, un terreno accidentato

2023 ESH Guidelines for the management of arterial hypertension

The Task Force for the management of arterial hypertension of the European Society of Hypertension

16.2 Hypertensive urgencies and emergencies

The proper management of patients who come to the Emergency Department for BP elevation faces a number of difficulties. A major challenge for the physician is to identify and discriminate the patients at immediate risk of CV or kidney complications from those in whom the BP elevation does not carry any immediate risk for health. While the former

Current Cardiology Reports (2022) 24:801–805
https://doi.org/10.1007/s11886-022-01699-0

ISCHEMIC HEART DISEASE (D MUKHERJEE, SECTION EDITOR)

Treatment of Hypertension Among Non-Cardiac Hospitalized Patients

Bhanu Chaganti[1] · **Richard A. Lange**[1]

Accepted: 31 March 2022 / Published online: 7 May 2022

Guideline Differences	American College of Cardiology/American Heart Association (ACC/AHA)			European Society of Cardiology/European Society of Hypertension (ESC/ESH)		
Level of blood pressure (BP) defining hypertension	Systolic (mm Hg)	and/or	Diastolic (mm Hg)	Systolic (mm Hg)	and/or	Diastolic (mm Hg)
Office/Clinic BP	≥ 130		≥ 80	≥ 140		≥ 90
Daytime mean	≥ 130		≥ 80	≥ 135		≥ 85
Nighttime mean	≥ 110		≥ 65	≥ 120		≥ 70
24-hour mean	≥ 125		≥ 75	≥ 130		≥ 80
Home BP mean	≥ 130		≥ 80	≥ 135		≥ 85
BP targets for treatment	< 130/80 mm Hg			Systolic targets < 140 mm Hg and close to 130 mm Hg		
Initial Combination Therapy	Initial single-pill combination therapy in patients > 20/10 mm Hg above BP goal			Initial single-pill combination therapy in patients ≥ 140/90 mm Hg		
Hypertensive requiring intervention	> 130/80 mm Hg			≥ 140/90 mm Hg		

None of the guidelines discusses the management of inpatient HTN in the absence of hypertensive emergencies or BP sensitive acute conditions such as acute myocardial infarction and acute ischemic stroke.

Journal of Hospital Medicine

shm Society of Hospital Medicine

Original Research

Assess Before Rx: Reducing the Overtreatment of Asymptomatic Blood Pressure Elevation in the Inpatient Setting

Sara D Pasik BA, Sophia Chiu MS, Jeong Yang BA, Catherine Sinfield MPH, Nicole Zubizarreta MPH, Rosemarie Ramkeesoon FNP, Hyung J Cho MD, Mona Krouss MD

First published: 01 March 2019 | https://doi.org/10.12788/jhm.3190 | Citations: 2

JAMA Internal Medicine | Original Investigation | LESS IS MORE

Treatment and Outcomes of Inpatient Hypertension Among Adults With Noncardiac Admissions

Radhika Rastogi, MD, MPH; Megan M. Sheehan, BS; Bo Hu, PhD; Victoria Shaker, BA; Lisa Kojima, BSE; Michael B. Rothberg, MD, MPH

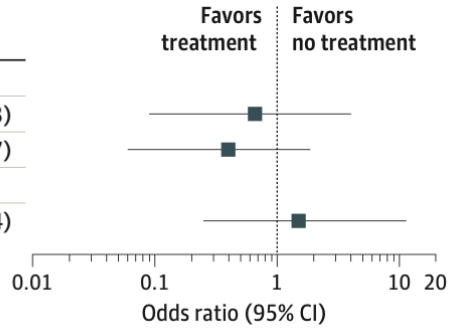
2022

Figure. Inpatient Outcomes for Treated vs Untreated Patients by Treatment Route and SBP Interval

stroke

A Stroke

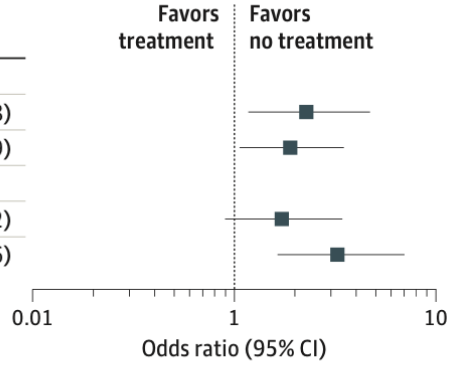
Source	Odds ratio (95% CI)
Treatment route	
IV	0.66 (0.09-4.03)
Oral	0.40 (0.06-1.87)
SBP interval (mm Hg)	
160-199	1.50 (0.25-11.4)



MI

B Myocardial injury

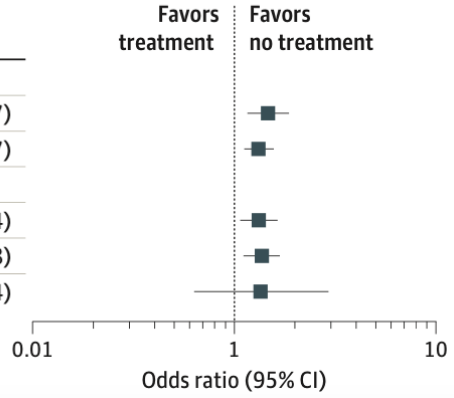
Source	Odds ratio (95% CI)
Treatment route	
IV	2.27 (1.17-4.68)
Oral	1.89 (1.06-3.49)
SBP interval (mm Hg)	
140-159	1.72 (0.90-3.42)
160-199	2.32 (1.64-6.96)



AKI

C AKI

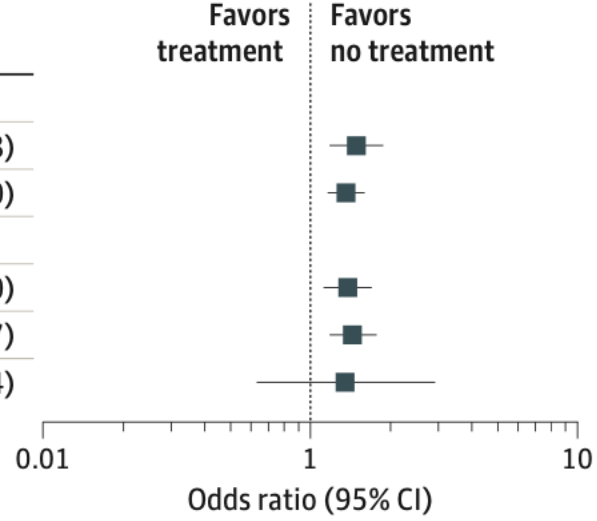
Source	Odds ratio (95% CI)
Treatment route	
IV	1.47 (1.16-1.87)
Oral	1.32 (1.12-1.57)
SBP interval (mm Hg)	
140-159	1.32 (1.07-1.64)
160-199	1.37 (1.11-1.68)
≥200	1.35 (0.63-2.94)



COMPOSITE

D Composite

Source	Odds ratio (95% CI)
Treatment route	
IV	1.49 (1.18-1.88)
Oral	1.36 (1.16-1.60)
SBP interval (mm Hg)	
140-159	1.38 (1.12-1.70)
160-199	1.44 (1.18-1.77)
≥200	1.35 (0.63-2.94)



2020 International Society of Hypertension Global Hypertension Practice Guidelines

Thomas Unger, Claudio Borghi, Fadi Charchar, Nadia A. Khan, Neil R. Poulter, Dorairaj Prabhakaran, Agustin Ramirez, Markus Schlaich, George S. Stergiou, Maciej Tomaszewski, Richard D. Wainford, Bryan Williams, Aletta E. Schutte

Table 7. Drug/Substance Exacerbators and Inducers of Hypertension

Drug/Substance[32-43]	Substances*
Nonsteroidal anti-inflammatory drugs (NSAIDs)	No difference or an increase of up to 3/1 mm Hg with celecoxib 3/1 mm Hg increase with nonselective NSAIDs No increase in blood pressure with aspirin NSAIDs can antagonize the effects of RAAS-inhibitors and beta blockers
Combined oral contraceptive pill	6/3 mm Hg increase with high doses of estrogen (>50 mcg of estrogen and 1–4 mcg progestin)
Antidepressants	2/1 mm Hg increase with SNRI (selective norepinephrine and serotonin reuptake inhibitors) Increased odds ratio of 3.19 of hypertension with tricyclic antidepressant use No increases in blood pressure with SSRI (selective serotonin reuptake inhibitors)
Acetaminophen	Increased relative risk of 1.34 of hypertension with almost daily acetaminophen use
Other medications	Steroids Antiretroviral therapy: inconsistent study findings for increased blood pressure Sympathomimetics: pseudoephedrine, cocaine, amphetamines Antimigraine serotonergics Recombinant human erythropoeitin Calcineurin inhibitors Antiangiogenesis and kinase inhibitors 11 ß-hydroxysteroid dehydrogenase type 2 inhibitors
Herbal and other substances[44-45]	Alcohol, ma-huang, ginseng at high doses, liquorice, St. John's wort, yohimbine

Background

@ fino al 20/2 Covid : circa 130 SDO

Medicina Sanremo (acuti)	2022 (feb-dic)@	2023 (gen-lug)
Sepsi, sepsi grave shock settico	201	95
Insufficienza respiratoria acuta	227	143
Polmonite	44	78
Insufficienza renale acuta	46	44
TEP	11	9
Peso medio	1,45 (regionale 1,22)	1,49 (regionale 1,22)
Sdo tot	1129	674

Indice di case mix 1,24

45 posti letto
1 Direttore + 4 dirigenti medici – copertura Guardia attiva su 12 ore (8-20)
Copertura del 60% dei turni pomeridiani da parte di Medico di altra struttura dipartimentale (pneumologo, nefrologo, infettivologo, internista da altro Presidio Ospedaliero)
Ore notturne (20-8) coperte in reperibilità, con supporto Cardiologo/Rianimatore per le Emergenze/Urgenze notturne

SC Medicina Sanremo

Background. 200 pazienti consecutivi, tutte le età (circa 2 mesi)

1- la prevalenza di ipertensione arteriosa nei pazienti ricoverati in ospedale è elevata (50-70%) -Nella nostra casistica (Medicina Interna, età media 74 aa M 48% F52%) prevalenza all'ingresso 64% (>140/90) - >65 aa 78%

2- i fattori contribuenti sono ansia, dolore, replezione di volume, farmaci interferenti, disconfort e nausea, alterazioni sonno/veglia, talvolta sospensione terapia domiciliare (errata ricognizione Rx, scelta medica, disfagia..)

3-non sempre la misurazione della PA viene eseguita con accuratezza ed è ripetibile

4- il 30% dei pazienti ricoverati ha diagnosi di ingresso correlata ad evento CV (soprattutto scompenso cardiaco)

5- il 22% dei pazienti ha CKD >stadio 3

200 CARTELLE CONSECUTIVE SC MEDICINA SANREMO > 65 aa

Farmaci all'ingresso	%
PPI	78
Diuretici	43
Neurolettici	26
Benzodiazepine	28
Antiipertensivi	79
Vitamina D	20
Antidiabetici orali	18
Anticoagulanti orali	18
Farmaci OTC	27

terapia all'ingresso (>65)

1- il 61% dei pazienti assumeva terapia antiipertensiva
(di questi: 17% 1 farmaco 37% 2 farmaci 34% 3 farmaci 12% 4 o piu' farmaci
2- il 57% assumeva piu' di 5 farmaci (polifarmacoterapia) e il 9% piu' di 10 farmaci (polifarmacoterapia eccessiva)

altro

Numero farmaci	all'ingresso	alla dimissione
0-1	2	/
2	5	3
3	10	7
4	17	16
5	21	20
6-9	36	48
10 >	9	6

SC Medicina Sanremo

Altro

3 -il 32% degli over 65 presentava malnutrizione calorico-proteica (MUST) e il 12% malnutrizione calorico proteica severa

4- il 23% degli over 65 presentava un Clinical Frailty Scale (CFS - CSHA) > 6 (moderate -severe frailty)

5- il 6% degli over 65 e il 19% degli over 80 presentava storia di cadute nell'ultimo anno

CLINICAL FRAILTY SCALE

1 **VERY FIT** — People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.

2 **FIT** — People who have **no active disease symptoms** but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.

3 **MANAGING WELL** — People whose **medical problems are well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.

4 **LIVING WITH VERY MILD FRAILTY** — Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.

5 **LIVING WITH MILD FRAILTY** — People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

6 **LIVING WITH MODERATE FRAILTY** — People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 **LIVING WITH SEVERE FRAILTY** — **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).

8 **LIVING WITH VERY SEVERE FRAILTY** — Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.

9 **TERMINALLY ILL** — Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty.** (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

‘Malnutrition Universal Screening Tool’

BAPEN
www.bapen.org.uk

MAG
Malnutrition Advisory Group
A Standing Committee of BAPEN

(Strumento di screening universale della malnutrizione)

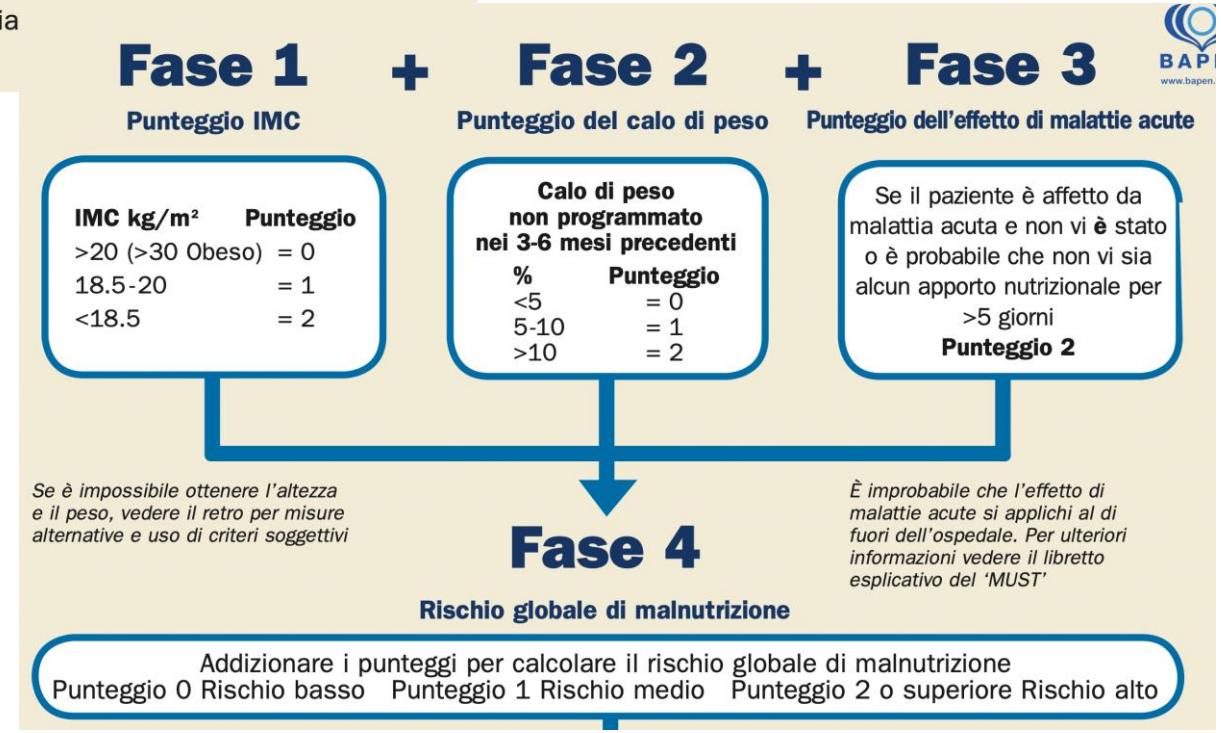
Numero di registrazione della BAPEN 1023927 www.bapen.org.uk

‘MUST’

Il ‘MUST’ è uno strumento di screening in cinque fasi per identificare **adulti** malnutriti, a rischio di malnutrizione (sottonutrizione) od obesi. Include anche linee guida gestionali che possono essere utilizzate per sviluppare un programma terapeutico.

È adatto all’uso in ospedale, comunità e altre strutture assistenzia gli operatori sanitari.

Screening in 5 fasi per identificare adulti malnutriti



SC Medicina Sanremo

- Misurazioni della pressione arteriosa

1- nel paziente con diagnosi di ingresso di patologia CV o clinicamente instabile piu’ volte al giorno /monitoraggio con applicazione dello score NEWS

2-nel paziente stabile o senza problematica CV nota una volta al giorno + a seconda di necessità cliniche

3- utilizzo di apparecchi automatici o sfigmo aneroidi; nonostante richieste reiterate, non disponibilità di taratura periodica (sic)

SC Medicina Sanremo

Altri esami di diagnostica

1- ECG (ingresso, seriati)

2- rx torace (ingresso)

3- Creatinina plasmatica , calcolo GFR (ingresso, piu’ volte durante il ricovero)

4- pazienti ricoverati per scompenso cardiaco: ecocardio circa 85% dei pz, POCUS (Point of care US) 99%

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Quando l'infermiere misura la PA al paziente

Solitamente informa il medico

1- in caso di paziente sintomatico per qualsiasi tipo di sintomo riferito

2- se valori di PAS 100 mmHg («non ho somministrato la terapia antiipertensiva o diuretica»)

3- se valori di PA mediamente PAS >160 mmHg o PAD >100 (»dottore, facciamo qualcosa?»)

Il medico solitamente ha atteggiamenti diversificati:

1- tende a trattare valori di PA anche poco fuori soglia con anticipo della terapia in corso

2- con implementazione (per os/e.v.)

3- disponendo controllo successivo o astenendosi da prescrizioni

SC Medicina Sanremo

- Che cosa si è pensato di fare:

sensibilizzare il personale medico (anche di guardia) e infermieristico, proponendo un percorso formativo sull'argomento

1- per migliorare le modalità di misurazione della PA, agendo sul personale e sulla possibilità di miglioramento delle dotazioni tecniche

2- per migliorare le conoscenze teoriche e l'aggiornamento sulle indicazioni terapeutiche

3- sensibilizzare il personale ad una attenta valutazione CLINICA e, se occorre STRUMENTALE e LABORATORISTICA in un contesto di pazienti ad elevato rischio CV e di evidente carenza di risorse umane

4- evitare il riflesso condizionato terapeutico «gli ho dato qualcosa»

5- aumentare l'attenzione alla ricognizione/riconciliazione terapeutica

6- implementare l'attenzione medica e infermieristica alla corretta e completa prescrizione e somministrazione delle terapie (pazienti con ADL ridotte, disfagici, omesse somministrazioni per esami diagnostici o procedure..)

«La semplicità è una complessità risolta»

SC Medicina Sanremo

Alla dimissione:

Si è cercato di ottimizzare la riconciliazione terapeutica, riducendo ove possibile il numero di farmaci per gestire la polifarmacoterapia

Non abbiamo ancora dati su quanto siamo stati «conservativi» sull'implementazione/riduzione della terapia antiipertensiva alla dimissione

Original Investigation

FREE

May 26, 2020

Effect of Antihypertensive Medication Reduction vs Usual Care on Short-term Blood Pressure Control in Patients With Hypertension Aged 80 Years and Older

The OPTIMISE Randomized Clinical Trial

James P. Sheppard, PhD[1]; Jenni Burt, PhD[2]; Mark Lown, MRCGP[3]; et al

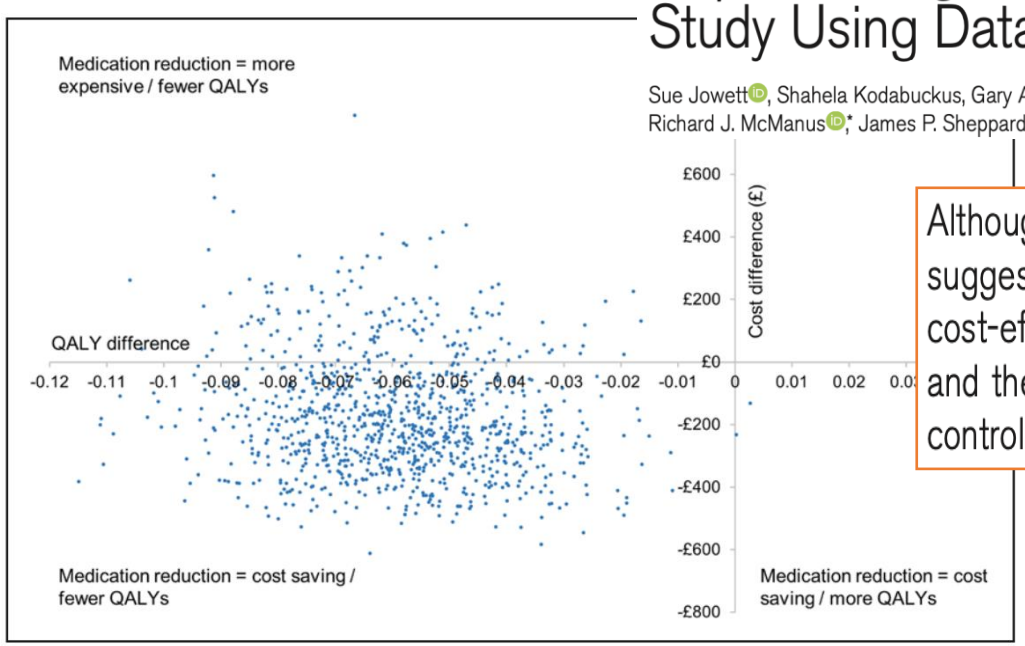
Hypertension

deprescribing

ORIGINAL ARTICLE

Cost-Effectiveness of Antihypertensive Deprescribing in Primary Care: a Markov Modelling Study Using Data From the OPTiMISE Trial

Sue Jowett, Shahela Kodabuckus, Gary A. Ford, F.D. Richard Hobbs, Mark Lown, Jonathan Mant, Rupert Payne, Richard J. McManus,* James P. Sheppard*; for the OPTiMISE investigators



Although based on data with some uncertainty, this study suggests that antihypertensive deprescribing may not be cost-effective in older patients aged 80 years and older, and therefore, should not be attempted in patients with controlled systolic blood pressure as a routine policy.

Forse no..

Original Investigation | Less Is More

May 30, 2023

Clinical Outcomes of Intensive Inpatient Blood Pressure Management in Hospitalized Older Adults

Timothy S. Anderson, MD, MAS[1,2,3]; Shoshana J. Herzig, MD, MPH[1,2]; Bocheng Jing, MS[3,4]; et al

» Author Affiliations

JAMA Intern Med. 2023;183(7):715-723. doi:10.1001/jamainternmed.2023.1667

Conclusions and Relevance The study's findings indicate that among hospitalized older adults with elevated BPs, intensive pharmacologic antihypertensive treatment was associated with a greater risk of adverse events. These findings do not support the treatment of elevated inpatient BPs without evidence of end organ damage, and they highlight the need for randomized clinical trials of inpatient BP treatment targets.

Alle volte…

«L’assai basta e il troppo guasta…»

Less Is More

'*Australian National Medicines Policy*

NPS Medicine Wise:[85]

Choosing wisely

Uso
GIUDIZIOSO
APPROPRIATO
SICURO
EFFICACE

- *uso giudizioso*, selezionando saggiamente le opzioni a disposizione: i farmaci prescritti dovrebbero essere utilizzati solo se appropriati, considerando anche alternative non farmacologiche;
- *uso appropriato*, scegliendo il farmaco più appropriato, tenendo conto della malattia in causa da trattare, i potenziali rischi, i benefici del trattamento, il dosaggio, la durata del trattamento e dei costi;
- *uso sicuro*, utilizzando i farmaci di comprovata efficacia e sicurezza per ottenere i migliori risultati possibili: l'abuso, l'uso eccessivo o il sottoutilizzo dei farmaci dovrebbero essere ridotti al minimo;
- *uso efficace*: i medicinali devono raggiungere gli obiettivi terapeutici realizzando espliciti risultati positivi.

Et sûrtout, pas trop de zèle

Charles Maurice de Talleyrand-Périgord

Grazie!

Massimiliano Uccelli
SC Medicina Sanremo