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Università degli
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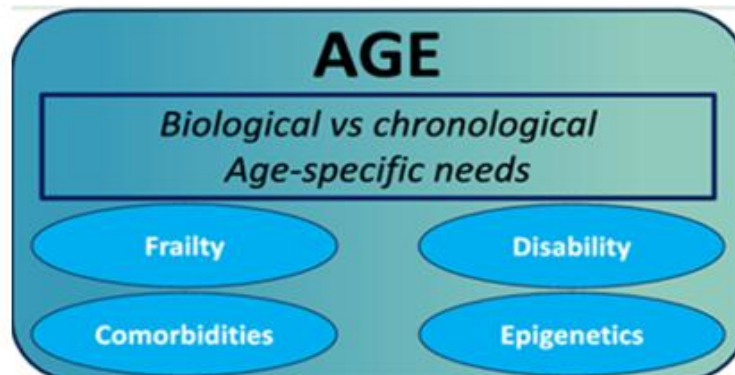
SOCIETÀ ITALIANA
DI GERONTOLOGIA
E GERIATRIA

Management of hypertension in older persons

Marc Ferrini, Lyon (F)



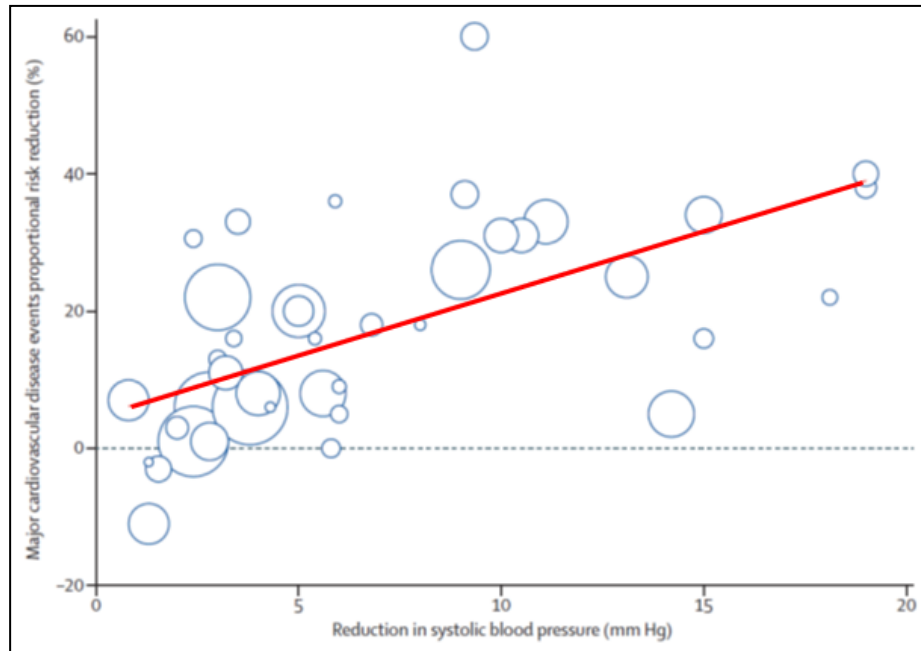
No disclosure declared.



RF Pedretti et al Eur J Prev Cardiol (2025)
<https://doi.org/10.1093/eurjpc/zwaf175>

Treating HT

Blood pressure lowering significantly reduces vascular risk across various baseline blood pressure levels and comorbidities



Meta analysis 123 studies 613815 pts

10mmHg PA sys. reduction results in:

20% reduction Major CV events

17% CHD

27% Stroke

28% HF

13% All cause mortality

Every millimeter counts!!

Ettehad D. et al Lancet. 2016;387:957–67.

Table 1
Randomized, controlled trials of antihypertensive medications in older adults with hypertension

Trial	Date	Achieved BP		Age Criteria	N	Intervention Arm Antihypertensive Medication Regimen	SBP Target Intervention vs comparator ^a	Median Follow-Up (Years)
		Intervention	Comparator					
HYVET⁵	2008	144/78	159/84	≥80 y	3845	TZD ± ACEI	TZD ± ACEI vs placebo	1.8
JATOS ¹⁷	2008	136/75	146/78	65–85 y	4418	CCB	<140 vs 140–<160	2
^b VALISH ¹⁶	2010	137/75	142/77	70–84 y	3260	ARB first line	<140 vs 140–<150	3.1
SPRINT-Senior⁶	2016	123/62	135/67	≥75 y	2636	TZD or ACEI/ARB or CCB first line	<120 vs <140	3.1
STEP⁷	2021	127/76	136/79	60–80 y	8511	ARB or CCB first line	110–<130 vs 130–<150	3.3

HT Treatment in old persons: limits of the CRT?

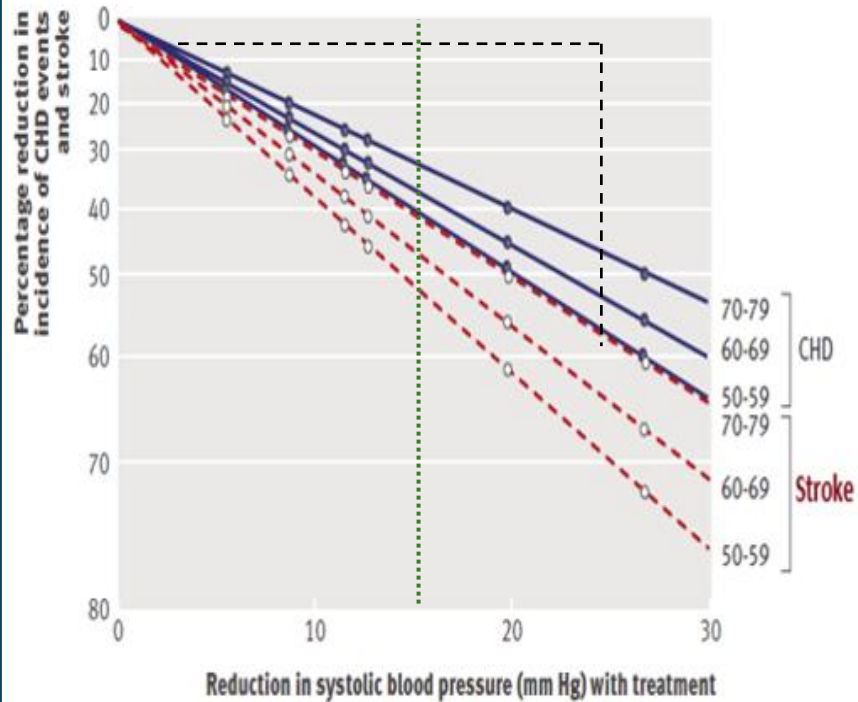
- Guidelines rely on **Clinical Randomized Trials** which restrict enrolment to relatively healthy, highly selected, community-dwelling individuals.
- Generalisation of such results to older patients seen in routine care is difficult.
- Several cohort studies of >80years : higher all cause mortality rate if low baseline pressure

In oldest-old adults, predictive value of BP and benefit/harm balance of TTT are inconsistent.

Anker et al. Public Health Reviews (2018) 39:26

Effect of Age on TTT

The efficacy of Hypertension Treatment depends on the amplitude of BP reduction but is modulated (↪) by AGE.



MR Law BMJ 2009

Risk/Benefit?

In elderly, intensifying treatment may be at risk and limited by side effects. Evaluation of Risk/Benefit balance crucial

Numbers needed to treat and numbers needed to harm

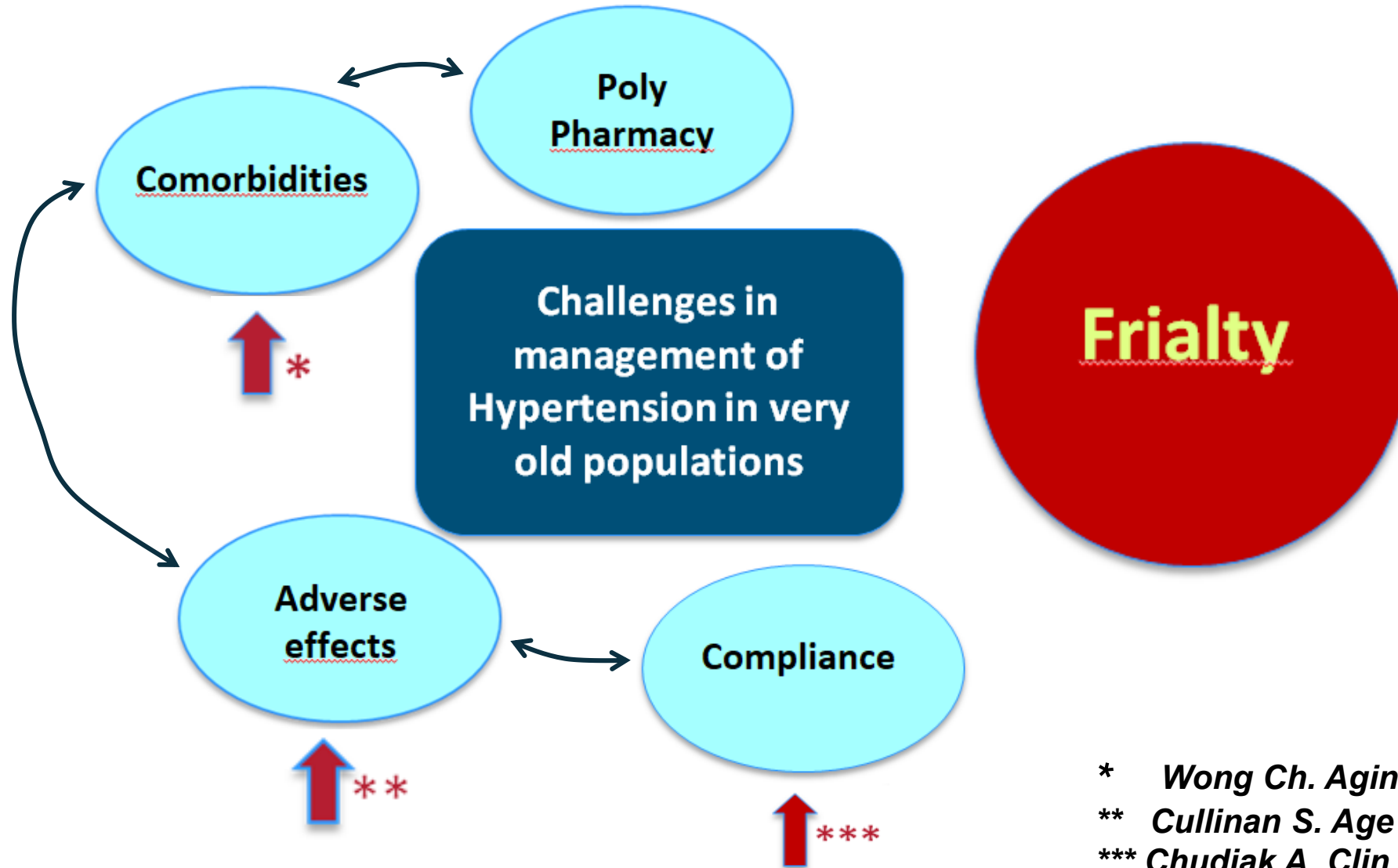
Event		Numbers Needed to Treat (NNT) at 5 Years ¹⁹					
		MACE	Stroke	Ischemic Heart Disease	Heart Failure	Cardiovascular Death	All-cause Mortality
Age Categories	65-74 y	38	120	55	100	301	100
	75-84 y	25	86	40	75	55	75
	85+ y	23	40	43	151	86	25

OM Todd, Clin Geriatr Med (2024) <https://doi.org/10.1016/j.cger.2024.04.004>

Htension TTT in older: what do the Guidelines say?

Threshold values and targets (mm Hg) for drug treatment in the hypertensive older adults among recent guidelines

Publication (Year)	Threshold values (mmHg)	
	Age: 65–79 years	Age >80 years
ESC (2024) ⁶³	>140/90 >130/85 if CAD or Stroke	>140/90
AHA/ACC (2017) ¹⁰²	>130/80 >140/90 if moderate–low CV risk	>130
Hypertension Canada (2018) ¹⁰³	>140/90 >130/80 if high CV Risk, DM, or >age 75 >160/100 if low CV risk	>140/90 >130/80 if high CV Risk, DM, or >age 75 >160/100 if low CV risk
NICE (UK) (2019) ¹⁰⁴	>160/100 >140/90 if high CV risk	>160/100 >150/90 advised
ESH (2024)	>140/90	SBP > 160 >159–140 advised



- * Wong Ch. *Ageing Clin Exp Res* 2010
- ** Cullinan S. *Age Ageing* 2016
- *** Chudiak A. *Clin Interven Aging* 2017

Frailty : definition?

- **Lack of consensus** on the **definition** of frailty and on **different measures** being use for its screening.+++
- No consensus view about its **pathophysiological mechanism**.

'I can't tell you what it is, but I know it when I see it'



Townend J N. Eur Heart J: 2019.

Some basic points...

- 1/ Frailty is **multidimensional**.
- 2/ Frailty is an **extreme consequence of the normal ageing process** (an energy dysregulation?)
- 3/ Frailty is **dynamic**.
- 4/ Frailty is **potentially preventable**.

Hoogendijk E O.Lancet:2019

Frailty and HTension

Méta analysis

36 articles (over 1369 screened)
Age 60 – 81years
Community-dwelling

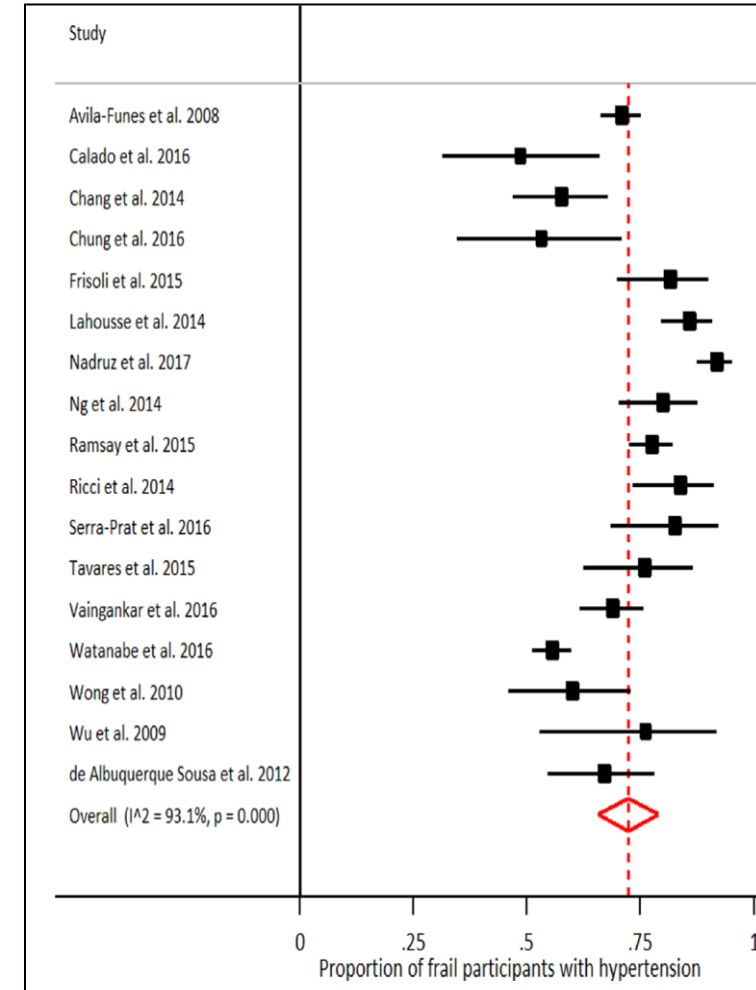
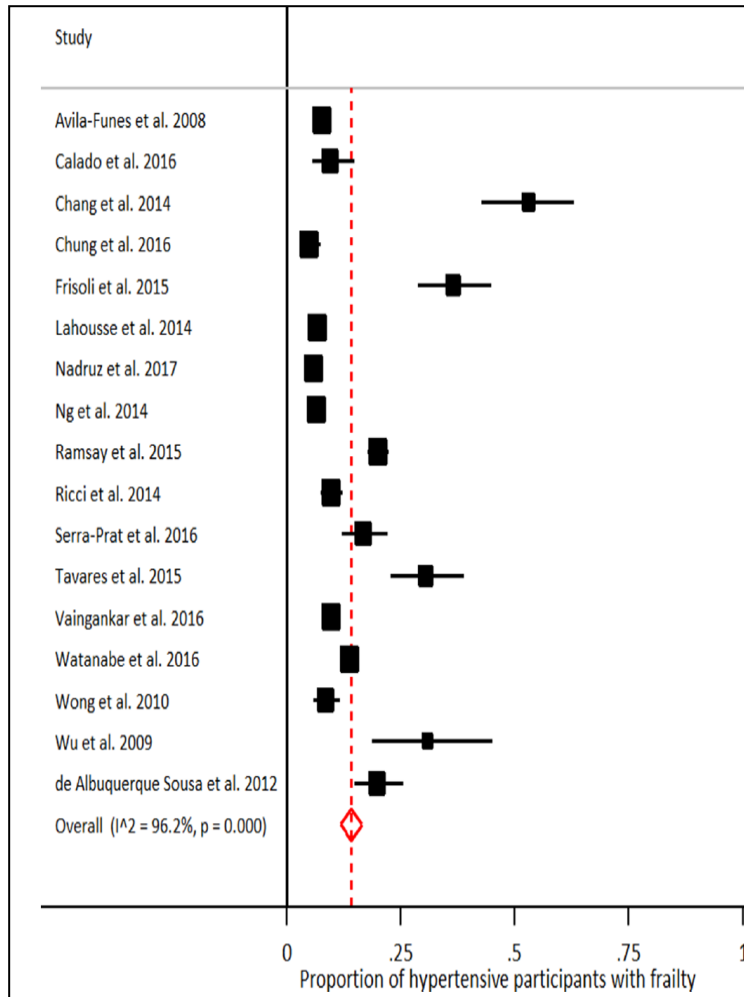
- Incidence of Frailty in HT patients: **14% (0.12-0.17)**
- Incidence HT in Frailty patient: **72% (0.66-0.79)**

Conflicting results

Association HTA-Frilty:
uncertain.

Frilty is common in HT
patients.

Further research needed.



Which drug in patient 80+ Years?

CCB Dihydropyridine CCB Non dihydropyridine CCB	Lower limb edema (LLO) Verapamil : Bradycardia, AV block, worsening heart failure, <i>constipation</i> , fatigue, dyspnea.
Diuretics Thiazide	HypoNa+, hypok+, hyperuricemia gout attacks, hypotension, dehydration.
ACE inhibitors	cough, hyperK+, rash,angioedema, fatigue, renal failure
Angiotensin II receptor antagonists	hyperK+, rash,angioedema, fatigue, renal failure

Which drug in patient 80+ Years?

Generally NOT in first line

β-Blockers

Nightmares,
sleep disturbances, depression,
confusion
Cardiac conduction problems
Bradycardia when associated
with acetylcholinesterase
inhibitors

To avoid...

α-blockers

Dizziness, fatigue, nausea, urinary incontinence, orthostatic hypotension, syncope

Central α-adrenoreceptor agonists

Drowsiness, dry mouth, dizziness, constipation, depression, anxiety, fatigue, urinary retention or incontinence, orthostatic hypotension, confusion, delirium

Benetos A. Circ Res. 2019

Therapeutic strategies for BP lowering in HT frail patient

Loss of function and altered activity daily



6 Moderately Frail

Help for outside activities/bathing
Keeping house



7 Severely Frail

Completely dependent
Stable/ Not at risk of dying



8 Very severely Frail

Completely dependent
Approaching the end of life



9 Terminally Ill

Life expectancy <6 mths
Not otherwise evidently frail

When to start? SBP>160mmHg ?

How?

- Simple drug – low dose (« go low and slow »)
- *If well tolerated* use combination (fixed to increase adherence)
- Do not prescribe > 2 drugs
- « ALAP » (As Low As Possible) Strategy.

Target: SBP < 150mmHg? ALAP

If SBP<130mmHg or orthostatic Hypotension

- Reduce if possible
- Identify/correct other factors
- *Deprescribe* temporarily
definitively

Mallery LH. Cleveland Clin J Med 2014.

Benetos A. et al Circ Res. 2019.

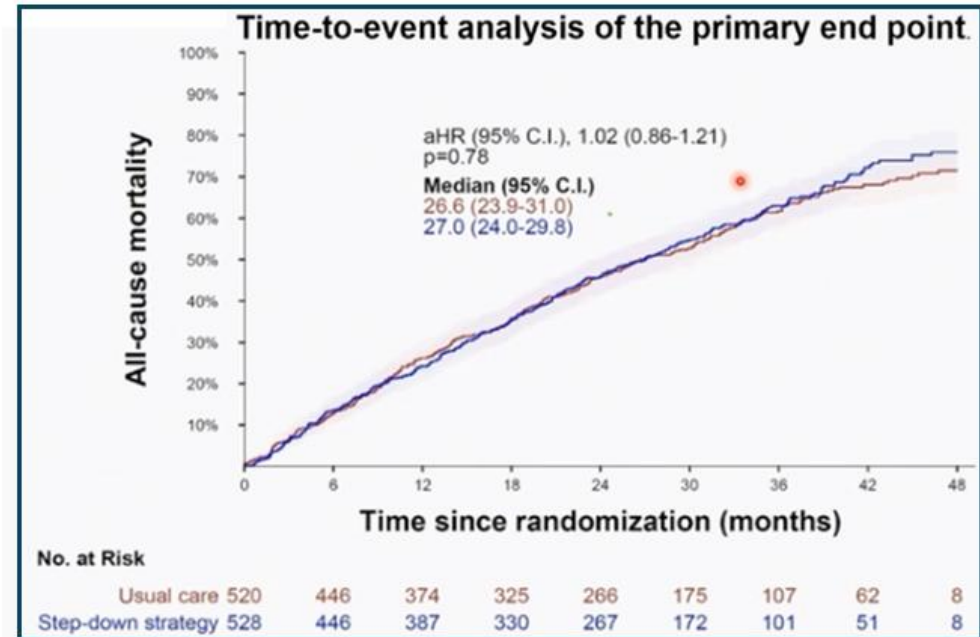
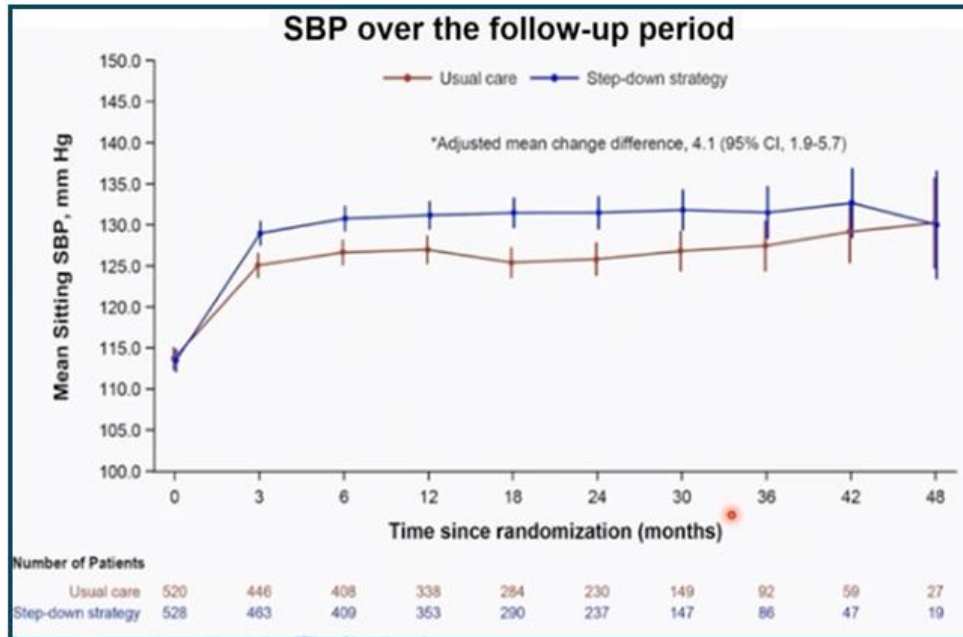
Del Pinto R. High Blood Pressure&Cardiovasc Prev (2019)

ESC Guidelines on High BP Eur H Jnal (2024)

Should we Step Down Hypertensive Therapy in Frail, Older Patients?

RETREAT FRAIL

1048 Pts > 80years; Nursing Home; Frail treated with Sys BP<130mmHg
randomized: Stepdown HTension TTT vs Usual care.



Over 3 years no reduction of mortality, no effect on functional capacities, MACE or other secondary side effects

A Benetos, NEJM, 2025.

Hypertension in older patients: Take Home Message

- ✓ La sola età non deve mai essere una barriera.
- ✓ Tenere in considerazione la condizione clinica, i trattamenti concomitanti, la fragilità.
- ✓ Ricercare attentamente i sintomi d'eventuali episodi d'ipotensione, di effetti nocivi o di problemi di tolleranza connessi ai trattamenti.
- ✓ In alcuni pazienti, la pressione osservata può essere più alta del target raccomandato, ma ricordarsi che *qualsunque livello di riduzione della pressione è probabilmente vantaggioso* e associato a un rischio ridotto di eventi C Vasc. gravi.

Hypertension in Frail patient: Conclusions

- ❑ La fragilità sovverte l'equilibrio tra:
 - l'efficacia del trattamento (↓)
 - e il rischio di effetti secondari (↑)
- ❑ Lo Screening per la fragilità: indispensabile per i pazienti anziani ipertesi.
- ❑ ***Puo la diminuzione della BP dei pazienti fragili ridurre l'impatto sugli esiti (sicurezza, morbidità, mortalità) ?***
Ci mancano ancora degli CRT specifici affine di disporre di robuste evidenze per suggerire una strategia terapeutica.
- ❑ ***Nel frattempo, dobbiamo utilizzare le «evidence based guidelines», ma soprattutto, far riposare la nostra terapeutica su un *saggio senso clinico*.***