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ELDER CARE

A Resource for Interprofessional Providers



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Systolic Hypertension in Elders

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Older adults frequently have elevated systolic blood pressures (BPs). For years, medical professionals have accepted both classic hypertension and isolated systolic hypertension (ISH) as a natural consequence of aging. However, studies continue to show that a reduction in blood pressure, in adults at any age, can significantly reduce both overall and cardiovascular mortality, as well as the incidence of stroke and cardiac events. Though the results are mixed, new evidence also suggests that ISH and dementia are linked; thus, blood pressure control might also delay the development of cognitive dysfunction.

The most recent recommendations of the JNC 7, issued in 2003, state that elders should follow the same BP parameters as the rest of the adult population. Normal blood pressure is currently defined as less than or equal to 120/80 mmHg for all adults. Prehypertension is defined by BPs above 120/80 but below 140/90 mmHg; this premorbid state heralds the onset of disease and should be addressed with strict lifestyle modifications. Because diabetes is associated with increased morbidity, the JNC 7 recommends that all diabetics aim for a blood pressure <130/80 mmHg. Blood pressures >140/90 mmHg are defined as hypertension, and are further grouped into Stage One (<160/90

mmHg) and Stage Two (>160/90 mmHg). Using these definitions, it is estimated that over one billion people worldwide, and over one-third of Americans over the age of 65, suffer from hypertension.

Effective treatment of this silent killer requires a team approach by the patient and the providers, to ensure maximum compliance with therapy. Making lifestyle modifications is the easiest suggestion, and the most difficult challenge, for most patients. Smoking cessation and weight loss are paramount for many elders. Exercise and dietary salt restriction are also important recommendations. Unfortunately, lifestyle modification is often an unattainable goal for many older adults.

The initial antihypertensive therapy drugs of choice are the same for the elderly as in other adults, namely, thiazide diuretics. Most ISH patients, however, particularly those with SBP>160, will require two drugs for successful therapy. Recent data suggest that calcium channel blockers (CCBs) and/or angiotensin converting enzyme inhibitors (ACEIs) may be more beneficial and better tolerated in older patients.

Don't forget the old adage - "start low and go slow". Don't accept elevated BP -treat!



Annual B/P evaluation is recommended for all adults.



Salt restriction may be a quality of life issue for some elders, and may be unreasonable for those who already have nutritional issues and decreased oral intake.



If able, walking 30 minutes a day can be of great cardiovascular benefit.

TIPS FOR DIAGNOSING HYPERTENSION IN OLDER ADULTS

- Ask all new patients about their hypertension history and cardiovascular risk factors.
- Look for treatable causes of hypertension –check tests of kidney and thyroid function.
- Remember that life style changes may not be a realistic option in many elders.
- Remember it often takes two medications to control BP– start with a diuretic and consider comorbidities when adding a second medication.
- Remember START LOW and GO SLOW with medications for older adults.

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Blood Pressure Components and their Significance

Elevated systolic blood pressure implies stiffening of large arteries and is the most common type of BP disorder in the elderly.

Elevated diastolic blood pressure implies increased peripheral resistance, and is commonly seen in younger hypertensives.

A widened pulse pressure (the difference between systolic and diastolic BP) greater than 50 mm is associated with increased cardiovascular disease. Peripheral vascular response often becomes diminished with age, and therefore, diastolic BP often normalizes in elders. When this is coupled with elevated systolic pressures from large artery stiffness, a widened pulse pressure results. Don't forget to look for other culprits, however, like valvular heart disease (e.g., aortic regurgitation).

Labile Blood Pressure - swings in blood pressure are associated with an increased stroke rate.

Treatable Causes of Hypertension

Cushing's Syndrome
Renovascular Disease
Chronic Kidney Disease
Primary Aldosteronism
Thyroid Disease
Parathyroid Disease
*Pheochromocytoma
*Coarctation of the Aorta

*Usually already diagnosed

BP Problems Encountered more Frequently in the Elderly

Orthostatic Hypotension- from normal aging, Parkinson's disease, dehydration, alpha blocking agents - associated with falls, hip fractures.

White Coat Hypertension - a 24 hour ambulatory BP monitor can help sort this out.



Ingested Substances that Contribute to Hypertension

Prescription

Steroids
Sympathomimetic Drugs
Decongestants
NSAIDS
Cyclosporine
Tacrolimus
Erythropoietin
*Diet Pills
*Oral Contraceptives

Non-Prescription

Excess Alcohol
Licorice
Chewing Tobacco
Smoking
Ephedra
Ma Huang
Bitter Orange
*Anabolic Steroids
*Amphetamines

*Use uncommon in elders

New Data - the HYVET Trial

The Hypertension in the Very Elderly Trial (see Lewington reference) is a recent landmark, randomized controlled trial, conducted across multiple continents, which evaluated the effects of BP control in the very elderly. This is the largest clinical trial of older adults and BP to date, with the average age 83.6 yrs, and with a mean sitting BP of 173/90 mmHg. The treatment arm received a diuretic alone or with a calcium channel blocker; the achieved average BP was 150/80 mmHg.

The study "provides unique evidence that hypertension treatment based on indapamide (sustained release), with or without perindopril, in the very elderly, aimed to achieve a target blood pressure of 150/80 mmHg, is beneficial and is associated with reduced risks of death from stroke, death from any cause, and heart failure."

References and Resources

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Interprofessional care improves the outcomes of older adults with complex health problems

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