Update in Geriatric Medicine

UD 004
FACULTY

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Disclosure: Has no significant relationships to disclose.

I. COMMON CLINICAL CHALLENGES IN CARING FOR OLDER ADULTS

Treatment of hypertension in patients 80 years of age or older


BACKGROUND

Hypertension is common in older adults. There is an almost linear rise in systolic blood pressure with age. This rise in blood pressure is related to risks of specific cardiovascular disease (CHF, stroke, ischemic heart disease) as well as all-cause mortality. Prior studies, especially from the Veterans Administration Cooperative Group, have documented that this morbidity and mortality can be attenuated by treatment of systolic and diastolic blood pressure. However in the very-old, the overall risk of untreated hypertension is reduced, and concerns have been raised about adverse effects related to autonomic instability and hazards of polypharmacy associated with treatment regimens.

AIM

In patients ≥ 80 years of age with persistent hypertension, what are the benefits and risks of antihypertensive therapy?

METHODS

The Hypertension in the Very Elderly Trial (HYVET) was a randomized, double blind, placebo controlled trial involving 3845 multinational subjects 80 years of age or older who had sustained systolic blood pressure measurements of 160 mm Hg or more. Subjects were randomized to receive either the diuretic indapamide (Lozol), sustained release (1.5mg), or matching placebo. The angiotensin-converting-enzyme-inhibitor perindopril (Acon) (2-4mg) was added if necessary to achieve the target blood pressure of >150/80 mm Hg. The primary endpoint was fatal or non-fatal stroke. Secondary endpoints included heart failure, any cardiovascular event, and death from stroke or any cause.

RESULTS

Mean age of the participants was 84 years. Initial sitting blood pressure was 173/91 mm Hg; median follow-up was 1.8 years. At two years, mean blood pressure
was 15/6 mm Hg lower in the active treatment group compared to placebo. Active treatment was associated with a 30% reduction in the rate of fatal or non-fatal stroke, a 39% reduction in rate of death from stroke, a 21% reduction in death from any cause, and a 64% reduction in the rate of heart failure. Medication use was well-tolerated.

**CONCLUSIONS**
Antihypertensive treatment with indapamide, with or without perindopril, reduced all cause mortality in this population of subjects ≥ 80 years of age.

**IMPACT ON INTERNAL MEDICINE**
This study is a significant contribution to our approach to an extremely common clinical issue in this fast-emerging population of older adults ≥ age 80 years of age. The data were sufficiently positive that based on favorable clinical outcomes over 1.8 years the study was prematurely stopped for ethical reasons. Moreover, this relatively conservative regimen of a thiazide diuretic (indapamide) with or without an ACE inhibitor (perindopril), along with a conservative target end point (BP of ≤170/80), was associated with benefit in an acceptably short time frame given the age of the participants. Side effects were reactively modest as well. A key consideration of course is the applicability of these data to individual practices. The study cohort represented a healthy population. Individuals with heart failure or dementia were excluded. Chronological age should not be the primary determinant in deciding on antihypertensive therapy for patients ≥ 80 years of age. Careful functional evaluation should allow proper decision making.

**ADDITIONAL REFERENCES**

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**Serum 25-hydroxyvitamin D concentrations and risk for hip fractures**

Cauley JA, LaCroix AZ, Wu L, Hormitz m.


**AIM**
To determine if lower serum concentrations of Vitamin D are associated with hip fractures among older women living in the community.

**METHODS**
This paper outlines a prospective cohort study to test the hypothesis that lower levels of Vitamin D correlate with hip fracture. This nested case control study was drawn from the Women's Health Initiative Observational Study (WHI-OS) among 400 case-point women with documented hip fracture and 400 control subjects. Serum 25 (OH) vitamin D was measured and patients were followed for a median of 7.1 years (range, 0.7 to 9.3 years) to assess fractures.

**RESULTS**
Mean serum 25(OH) vitamin D concentrations were lower in hip fracture subjects than in control subjects (55.95 nmol/L vs 59.6 nmol/L; P = 0.007); Lower serum 25(OH) vitamin D concentrations increased hip fracture risk (adjusted odds ratio for each 25-nmol/L by 1.33. The risk of fracture increased statistically significantly across quartiles of serum 25(OH) vitamin D.

**CONCLUSIONS**
Low serum 25(OH) vitamin D concentrations are associated with a higher risk for hip fracture.

**IMPACT ON INTERNAL MEDICINE**
The geriatrics/internal medicine literature has been especially prolific this past year in the field of osteoporosis in general and in the role of Vitamin D in particular. It is well known that Vitamin D deficiency as measured by serum 25(OH) vitamin D is widespread in the United States, especially in the frail elderly. Although this deficiency is seen at all geographic latitudes, northern areas with less actinic exposure accentuate the problem. While associations of hip fracture with serum 25(OH) vitamin D deficiency can be documented in well-