Refractory hypertension: determination of prevalence, risk factors, and comorbidities in a large, population-based cohort.

Refractory hypertension is an extreme phenotype of antihypertensive treatment failure. Participants in the REasons for Geographic And Racial Differences in Stroke (REGARDS) Study, a large (n=30 239), population-based cohort were evaluated to determine the prevalence of refractory hypertension and associated cardiovascular risk factors and comorbidities. Refractory hypertension was defined as uncontrolled blood pressure (systolic/diastolic, ≥140/90 mm Hg) on ≥5 antihypertensive drug classes. Participants with resistant hypertension (systolic/diastolic, ≥140/90 mm Hg on ≥3 or <140/90 mm Hg on ≥4 antihypertensive classes) and all participants treated for hypertension served as comparator groups. Of 14 809 REGARDS participants receiving antihypertensive treatment, 78 (0.5%) had refractory hypertension. The prevalence of refractory hypertension was 3.6% among participants with resistant hypertension (n=2144) and 41.7% among participants on ≥5 antihypertensive drug classes. Among all participants with hypertension, black race, male sex, living in the stroke belt or buckle, higher body mass index, lower heart rate, reduced estimated glomerular filtration rate, albuminuria, diabetes mellitus, and history of stroke and coronary heart disease were associated with refractory hypertension. Compared with resistant hypertension, prevalence ratios for refractory hypertension were increased for blacks (3.00; 95% confidence interval, 1.68-5.37) and those with albuminuria.
(2.22; 95% confidence interval, 1.40-3.52) and diabetes mellitus (2.09; 95% confidence interval, 1.32-3.31). The median 10-year Framingham risk for coronary heart disease and stroke was higher among participants with refractory hypertension when compared with those with either comparator group. These data indicate that although resistant hypertension is relatively common among treated patients with hypertension, true antihypertensive treatment failure is rare.