EPIDEMIOLOGY AND RISK FACTORS FOR STROKE IN AFRICAN AMERICANS

PROGRESS IN ELIMINATING STROKE AND CVD DISPARITIES—NATIONAL SUMMIT ON HEALTH DISPARITIES—4-11-2011

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STROKE FACTS

- Third leading cause of death
- 150,000 deaths per year
- 550,000 new strokes per year
- 3,820,000 stroke survivors
- Leading cause of adult disability
- Leading diagnosis resulting in discharge from hospital to long-term care

INCIDENCE OF STROKE BY AGE AND GENDER

Framingham Study, 20-year Followup

Average Annual Incidence per 10,000 Persons

Men
Women

45-54
20
9

55-64
32
29

65-74
84
86

STROKE AWARENESS IN THE UNITED STATES

- 19% are unaware that stroke is preventable
- 38% don’t know where in the body stroke occurs
- 42% can’t identify most common symptom—weakness/numbness
- 92% don’t know what a TIA is

Adapted from: Gallup NSA Survey of Stroke Awareness in America, 1996.
CHANGING THE PERCEPTION OF STROKE

Myth
- Stroke is unpreventable
- Stroke cannot be treated
- Stroke only strikes the elderly
- Stroke happens to the heart
- Stroke recovery happens soon after a stroke

Reality
- Stroke is largely preventable
- Stroke requires emergency treatment
- Stroke can happen to anyone
- Stroke is a "Brain Attack"
- Stroke recovery continues throughout life

### Risk Markers for Stroke

<table>
<thead>
<tr>
<th>Age</th>
<th>Incidence of stroke more than doubles each decade after age 55.</th>
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<tbody>
<tr>
<td>Gender</td>
<td>Incidence of stroke is approximately 19% higher for men than women.</td>
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<tr>
<td>Race</td>
<td>African-American men have a 98% and women a 77% higher death rate than their Caucasian counterparts.</td>
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Adapted from: 1996 Heart and Stroke Facts. Dallas, TX: American Heart Association; 1996:11.
MODIFIABLE RISK FACTORS FOR ISCHEMIC STROKE (PREVALENCE)

- Hypertension (25-40%)
- Cardiac disease (10-20%)
- Atrial fibrillation (1-2%)
- Diabetes mellitus (4-8%)
- Smoking (20-40%)
- Alcohol Abuse (5-30%)
- Hyperlipidemia (6-40%)
- Asymptomatic carotid artery stenosis (1-10%)

RISK OF ISCHEMIC STROKE FROM HYPERTENSION

Average Yearly Incidence per 10,000

Men

- Normotensive (<140/90): 6
- Borderline: 17
- Hypertensive (>160/95): 48

Women

- Normotensive (<140/90): 5
- Borderline: 14
- Hypertensive (>160/95): 38

RELATIONSHIP BETWEEN STROKE AND DIASTOLIC BLOOD PRESSURE

In 5 categories defined by baseline DBP

Relative Risk of Stroke

Baseline DBP Category

Approximate Mean Usual DBP (mm Hg)

76  84  91  98  105

0.25  0.50  1.00  2.00  4.00

EFFECT OF BLOOD PRESSURE CONTROL ON INCIDENCE OF STROKE

6 mm Hg decrease in diastolic blood pressure

Antihypertensive stepped-care drug treatment of isolated systolic hypertension

Blood pressure reduction in the elderly

40% reduction in incidence of stroke

36% reduction in incidence of stroke

47% reduction in incidence of stroke


HYPERCHOLESTEROLEMIA AS A STROKE RISK FACTOR

1.12, Los Angeles
2.02, Hiroshima
1.95, Evans County
1.80, Birmingham
0.45, Akabane and Asahi
1.01, Shikoku
1.19, Southern California
1.27, MRFIT
1.13, Shanghai
1.05, Shanghai
1.31, All Studies Combined

Relative Stroke Risk

SMOKING: RISK OF STROKE

Cerebral Infarction

1.92

Hemorrhagic Stroke

1.01

Subarachnoid Hemorrhage

2.93

Relative Risk Above Nonsmokers

Take Home Points

- Stroke is one of the leading causes of death, especially in the Black community.
- T’l’A’s are often undetected and therefore proper treatment and prevention of stroke is not realized.
- Treatment of hypertension remains the best mechanism for stroke prevention.
- Risk Factors very similar to those for CAD.