

The Association of Migraine and Other Headaches with Ischemic Strokes in the Atherosclerosis Risk in Communities Study. Kathryn Rose, PhD, April Perry, MSPH, Jing-Ping Mo, MD,Ph.D Sara A. Ephross, PhD, Paul E. Stang, PhD, Eyal Shahar, MD

An association between migraine headaches and stroke has been suggested, although much of the research to date has been limited to young women. The association between a lifetime history of migraines with or without aura and the occurrence of validated stroke was investigated among 12,750 middle-aged African-American and white men and women participating in the 3<sup>rd</sup> annual follow-up examination (1993-1995) of the Atherosclerosis Risk in Communities (ARIC) Study. Participants were queried about their lifetime history of headaches lasting four or more hours. Using modified International Headache Society criteria, the following groups were formed: migraine with (N=345) and without aura (N=670), headaches not meeting all migraine criteria with (N=243) and without (N=1446) aura symptoms, and no history of headaches (N=10046). From the inception of the ARIC cohort (1987-89) through December 1998, 244 validated ischemic strokes (IS) occurred among the ARIC cohort Visit 3 participants. The age, gender, and ethnicity adjusted prevalence of IS was 4.8% for migraine with aura, 1.9% for migraine without aura, 4.7% for other headaches with aura, 2% for other headaches without aura, and 1.7% for the no headache group. Logistic regression analysis was used to model the association between the different types of headaches and stroke, controlling for ethnicity, gender, age, field center, hypertension, diabetes, educational attainment, smoking status and total serum cholesterol. The no headache group served as the referent. Migraine with aura (RR=2.8, 95% CI 1.5, 5.4) and other headaches with aura (RR=2.2, 95% CI=1.1, 4.4) were associated with a greater occurrence of IS, while migraines without aura (RR=1.3, 95% CI=0.3 2.6) and other headaches without aura (RR=1.1, 95% CI=0.7, 1.8) were not. These results suggest that a history of migraines and other headaches is associated with IS only when accompanied by aura. Further research is needed to identify pathophysiologic mechanisms, which potentially link the two conditions.

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