Aspirin Usage Pre-race to Prevent Cardiac Arrest in Marathon Runners during Races

To the Editor:

Despite evidence for risk reduction of acute myocardial infarction in healthy persons with aspirin prophylaxis, Hennekens and Dalen\(^1\) conclude that this strategy is not ready for prime time because of its uncertain risk–benefit ratio. An apparent exception might be healthy runners recently shown to have an increased risk for sudden cardiac death during marathons.\(^2,4\) Cardiac arrest and sudden death occurred in 1 in 57,002 and 1 in 171,005 runners, respectively, with a mean age of 49.7 years in marathons since 1980.\(^3\) Atherosclerotic heart disease was the cause of death in over 90% of cases in the 2 retrospective studies, while a >2-fold increase was observed in middle-aged male runners in the latter half of a 10-year prospective registry.\(^4\)

Asymptomatic middle-aged physicians, as were in the initial primary prevention trial, demonstrated increased polymorphonuclear leukocytes, interleukin-6, and C-reactive protein levels during marathons as a likely consequence of rhabdomyolysis.\(^5\) A hemostatic imbalance with procoagulant effects including in vivo platelet activation also was observed. Coronary plaque rupture with acute myocardial infarction was reported in 3 runners after the 2011 Boston marathon,\(^6\) supporting inflammation as the triggering cause for such events.

These findings in aggregate demonstrate sudden cardiac death mediated by atherothrombosis during marathons in previously healthy runners with silent coronary heart disease. Aspirin prophylaxis is evidence-based by validated clinical paradigms for prevention, which is endorsed by the American Heart Association for such persons at above-average cardiovascular risk.

What message should susceptible marathon runners receive on this risk similar to the Food and Drug Administration’s advisory on azithromycin in patients with underlying heart disease?\(^7\) A low-dose aspirin, if not enteric coated,\(^8\) taken even at the starting line might prevent potentially unstable coronary plaques from morphing into culprit lesions. Aspirin prophylaxis warrants endorsement to reduce these rare cardiac deaths during marathons in the modern era of mass participation.\(^9\)

Arthur J. Siegel, MD
Department of Internal Medicine
McLean Hospital
Belmont, Mass
Harvard Medical School
Boston, Mass
Massachusetts General Hospital Internal Medicine Associates at Belmont
Belmont, Mass

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