# Prevalence of Coronary Artery Disease, Lower Extremity Peripheral Arterial Disease, and Cerebrovascular Disease in 110 Men With an Abdominal Aortic Aneurysm

Rishi Sukhija, MD, Wilbert S. Aronow, MD, Kiran Yalamanchili, MD, Neeraj Sinha, MD, and Sateesh Babu, MD

**Of 110 men (mean age 66 years) with an abdominal aortic aneurysm, 78 (71%) had coronary artery disease (CAD), 50 (46%) had lower extremity peripheral arterial disease (PAD), and 30 (27%) had cerebrovascular disease. Twenty-four percent of the patients with an abdominal aortic aneurysm had CAD plus lower extremity PAD plus cerebrovascular disease, 22% had CAD plus lower extremity PAD and no cerebrovascular disease, 22% had only CAD, 4% had CAD plus cerebrovascular disease and no lower extremity PAD, and 29% had no CAD, lower extremity PAD, or cerebrovascular disease.** 

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Atherosclerotic diseases such as coronary artery disease (CAD), lower extremity peripheral arterial disease (PAD), and cerebrovascular disease may coexist.[1,2] Abdominal aortic aneurysm (AAA) is also an atherosclerotic disorder. We are reporting the prevalence of CAD, lower extremity PAD, and cerebrovascular disease in 131 patients with AAA documented by computer tomography.

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We conducted a retrospective chart review that investigated the prevalence of CAD, lower extremity PAD, and cerebrovascular disease in 110 men with an AAA diagnosed by computer tomography and seen in the vascular surgery clinic at Westchester Medical Center/New York Medical College over a 44-month period. The 110 men (mean age 66 ± 10 years; range 40 to 90), included 45% whites, 43% blacks, 10% Hispanics, and 2% Asians. The size of the AAA measured by computer tomography varied from 3.3 to 10.0 cm in diameter.

Of the 78 patients with documented CAD, 70 (90%) had coronary angiographic evidence of significant CAD with >50% obstruction, 53 (68%) had a previous myocardial infarction, and 12 (15%) had typical angina pectoris with stress test–induced myocardial ischemia. Of the 50 patients with documented lower extremity PAD, 22 (40%) had previous revascularization of a lower extremity, 24 (48%) had symptomatic lower extremity PAD with an ankle-brachial index <0.9, and 6 (12%) had asymptomatic lower extremity PAD with an ankle-brachial index <0.9. Of the 30 patients with documented cerebrovascular disease, 18 (60%) had a previous stroke or transient cerebral ischemic attack, and 12 (40%) had previous carotid endarterectomy.

CAD was considered absent if the patient was asymptomatic, had no electrocardiographic evidence of previous myocardial infarction, and had no stress test–induced myocardial ischemia. Coronary angiography was not performed in these patients. Sixteen of 70 patients (23%) who had CAD documented by coronary angiography were asymptomatic but had coronary angography performed because of stress test–induced myocardial ischemia.

Table 1 shows the prevalence of CAD, lower extremity PAD, and cerebrovascular disease in 110 men with an AAA. Table 2 shows the coexistence of CAD, lower extremity PAD, and cerebrovascular disease in the 110 men with an AAA.

CAD was present in 32 of 32 patients (100%) with an AAA ≥6.0 cm in diameter, in 36 of 52 patients (69%) with an AAA 5.0 to 5.9 cm in diameter, and in 10 of 26 patients (39%) with an AAA <5.0 cm in diameter ($p < 0.001$ comparing ≥6.0 cm with 5.1 to 5.9 cm and with <5.0 cm; $p < 0.01$ comparing 5.0 to 5.9 cm with <5.0 cm). Lower extremity PAD was present in 30 of 32 patients (94%) with an AAA ≥6.0 cm in diameter, in 16 of 52 patients (31%) with an AAA 5.0 to 5.9 cm in diameter, and in 4 of 26 patients (15%) with an AAA <5.0 cm in diameter ($p < 0.001$ comparing ≥6.0 cm with 5.0 to 5.9 cm and with <5.0 cm).

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Atherosclerotic diseases such as CAD, lower extremity PAD, and cerebrovascular disease may coexist.[1,2] Kishi et al[3] found that significant CAD with ≥75% stenosis was present in 66 of 102 patients (65%) with an AAA on coronary angiography. Islamoglu et al[4] diagnosed significant CAD in 36 of 43 patients (84%) with an AAA on coronary angiography. Of 206 patients with an AAA, lower extremity PAD with an ankle-brachial index <0.6 was present in 12% of patients, and carotid artery stenosis >60% was present in 18% of patients.[5] Mautner et al[6] demonstrated at necropsy that 23 of 27 patients (85%) with an AAA had 76% to 100% narrowing in the cross-

From the Department of Medicine, the Cardiology Division, and the Division of Vascular Surgery, Westchester Medical Center/New York Medical College, Valhalla, New York. Dr. Aronow's address is: Cardiology Division, New York Medical College, Macy Pavilion, Room 138, Valhalla, New York 10595. E-mail: WSAronow@aol.com. Manuscript received June 8, 2004; revised manuscript received and accepted July 21, 2004.

 

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**TABLE 1** Prevalence of Coronary Artery Disease, Lower Extremity Peripheral Arterial Disease (PAD), and Cerebrovascular Disease in 110 Men With an Abdominal Aortic Aneurysm

| | No. of Patients |
|---|---|
| Coronary artery disease | 78 (71%) |
| Lower extremity PAD | 50 (46%) |
| Cerebrovascular disease | 30 (27%) |

**TABLE 2** Prevalence of Coexistent Coronary Artery Disease (CAD), Lower Extremity Peripheral Arterial Disease (PAD), and Cerebrovascular Disease in 110 Men With an Abdominal Aortic Aneurysm

| | No. of Patients |
|---|---|
| CAD plus lower extremity PAD plus cerebrovascular disease | 26 (24%) |
| CAD plus lower extremity PAD | 24 (22%) |
| CAD plus cerebrovascular disease | 4 (4%) |
| CAD only | 24 (22%) |
| No CAD, lower extremity PAD, or cerebrovascular diseasee | 32 (29%) |

sectional area of ≥1 major coronary artery by atherosclerotic plaque.

In the present study of 110 men with an AAA, 71% had CAD, 46% had lower extremity PAD, and 27% had cerebrovascular disease. Twenty-four percent of the patients with an AAA had CAD plus lower extremity PAD plus cerebrovascular disease, 22% had CAD plus lower extremity PAD and no cerebrovascular disease, 22% had only CAD, 4% had CAD plus cerebrovascular disease and no lower extremity PAD, and 29% had no CAD, lower extremity PAD, or cerebrovascular disease.

These data show that there is a high prevalence of coexistent atherosclerotic vascular disease in patients with an AAA. Patients with an AAA should be screened for coexistent atherosclerotic vascular disease and should receive intensive risk factor modification.


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# Safety and Efficacy of Citrus Aurantium for Weight Loss


Stephen Bent, MD,* Amy Padula, MS, and John Neuhaus, PhD



**To examine the safety and efficacy of citrus aurantium, an herb now commonly used as a substitute for ephedra in dietary supplements marketed to promote weight loss, we conducted a systematic review. An extensive search of MEDLINE, EMBASE, BIOSIS, and the Cochrane Collaboration Database identified only 1 eligible randomized placebo controlled trial, which followed 20 patients for 6 weeks, demonstrated no statistically significant benefit for weight loss, and provided limited information about the safety of the herb.** ©2004 by Excerpta Medica, Inc.



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On April 11, 2004, the Food and Drug Administration (FDA) banned the sale of dietary supplements containing ephedrine alkaloids because they present an "unreasonable risk of illness or injury."[1] This FDA action followed the publication of several studies that highlighted the potential dangers of ephedra.[2–4] Before the announcement of the FDA ban, it was estimated that approximately 2 million adults took ephedra-containing products daily.[5] In response to the ban, many manufacturers changed their supplement formulations to "ephedra-free" products by eliminating ephedra and substituting the herb citrus aurantium (also known as "bitter orange" and "sour orange"). For example, 8 of the former leading manufacturers of ephedra-containing dietary supplements now sell weight loss products that include citrus aurantium.[6] Citrus aurantium extract contains m-synephrine (phenylephrine),[7] a sympathomimetic drug, which primarily stimulates α-1 adrenergic receptors.[8] Because many former ephedra users may now be using citrus aurantium-containing products, we


From the Osher Center for Integrative Medicine at the University of California, San Francisco; Department of Medicine, San Francisco VA Medical Center, San Francisco, and Department of Epidemiology and Biostatistics, University of California, San Francsico, California.


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Dr. Bent's address is: San Francisco VA Medical Center, 111-A1, 4150 Clement Street, San Francisco, California 94121. E-mail: bent@itsa.ucsf.edu.


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