Height, Poor BP Control Risk Factors for Atrial Fib

BY MITCHEL L. ZOLER
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NEW ORLEANS — Taller stature boosted the risk of atrial fibrillation while better BP control cut the risk in a pair of studies presented at the annual scientific sessions of the American Heart Association.

Taller height was linked with an increased risk of atrial fibrillation (AF) in a review of more than 25,000 patients with a left ventricular ejection fraction of less than 40%, Jonathan J. Langberg, M.D., reported at the meeting. The hypothesized link between stature and AF is through heart size and atrial surface area. Taller people have larger hearts and atria, and larger atrial surface area raises the risk that simultaneous waveforms will appear in the atrium and trigger AF, said Dr. Langberg, director of electrophysiology at Emory University in Atlanta.

To test this hypothesis, Dr. Langberg and his associates reviewed records from 25,268 patients with impaired left ventricular function who were enrolled in a national database. Their average age was 66 years, their average left ventricular ejection fraction was 31%, and 28% had AF.

Separate analyses for men and women showed that both genders had a significant and direct correlation between height and AF prevalence. In a multivariate analysis that controlled for several potential confounders, the risk of AF rose by 3.5% for every additional inch of height in both men and women.

The consequence of this relationship is that a man who is 6 feet 5 inches tall has a 35% greater risk of developing AF than does a man of similar health who is 10 inches shorter, or 5 feet 7 inches tall, Dr. Langberg said.

A relationship between hypertension and AF is well established: Patients with hypertension have an increased risk of AF, said Shmuel Ravid, M.D., as he presented a poster at the meeting. Based on this, he and his associates hypothesized that improved hypertension control would cut the risk of new-onset AF.

To test this idea, they reviewed the records of 226 patients with hypertension and a diagnosis of coronary artery disease who had no AF at the start of a study that was primarily designed to follow the outcome of their coronary disease. The blood pressure of each patient was measured several times each year, and for this study all of the pressure readings taken in a single year from each patient were averaged together to track each patient's history of pressure control. Each patient was followed for a mean of 4 years.

During follow-up, 68 patients maintained an average systolic pressure of less than 120 mm Hg, 11 patients developed AF. Of the 99 patients who maintained an average systolic pressure of 120-139 mm Hg, 14 patients developed AF. Of the 45 patients who maintained an average systolic pressure of 140-159 mm Hg, 7 developed AF. And of 14 patients with an average systolic pressure of 160 mm Hg or greater, 1 patient developed AF during follow-up.

An analysis of these results showed that patients who maintained a systolic pressure of less than 120 mm Hg on treatment had a statistically significant 61% reduced risk of AF, compared with patients whose average systolic pressure was above this level. A similar analysis for diastolic pressure showed that patients who maintained their average pressure below 80 mm Hg had a 66% reduced risk of developing AF, said Dr. Ravid, director of the Lown Cardiovascular Center at Brigham and Women's Hospital in Boston. ■

Atrial Fibrillation Risk Higher in Male Runners

NEW ORLEANS — Male physicians who were frequent joggers were found to be at increased risk for atrial fibrillation in a new analysis from the Physicians' Health Study.

The association between frequent vigorous exercise and the development of atrial fibrillation seemed to be limited to running. It didn't extend to men whose main exercise was bicycling, racquet sports, or swimming, Anthony Aizer, M.D., said at the annual scientific sessions of the American Heart Association.

Dr. Aizer added that the study demonstrates an epidemiologic association between frequent jogging and atrial fibrillation (AF), not a cause and effect relationship. "These data in isolation should in no way be interpreted as saying you should change your exercise habits," he stressed. "Importantly, the observed elevation in risk is offset to some degree by the known benefits of exercise on other atrial fibrillation risk factors."

Vigorous exercisers in the Physicians' Health Study had lower rates of hypertension, diabetes, cardiovascular disease, and heart failure—all known risk factors for AF. It was only after differences in the prevalence of these risk factors were controlled for that a significant independent association emerged between frequent jogging and AF, said Dr. Aizer of Brigham and Women's Hospital, Boston.

He reported on 15,255 male physicians aged 40-84 with no history of AF at the time they enrolled in the Physicians' Health Study. During 14 years of follow-up, 1,285 of them developed AF. Participants' exercise histories showed that the increased exercise-related risk of AF was largely confined to men who worked out five to seven times per week and within that group, to the joggers. Indeed, men who jogged five to seven times per week had an adjusted 67% increased risk of developing AF, compared with nonexercisers.

Some prior studies that failed to find a link between vigorous exercise and the development of AF did not control for the lower level of other cardiovascular risk factors among frequent exercisers.

If a direct causal link does exist between vigorous exercise and AF, one possibility is that the link is mediated by autonomic nervous system activity (ANS). Exercise modulates ANS, and ANS plays a role in arrhythmias. Yet it's also entirely possible the study findings are due to a detection bias on the part of physicians finely attuned to the signs of arrhythmia, he said.

—Bruce Jancin

Azimilide Helps Reduce Arrhythmias, Hospitalizations in Patients With ICDs

BY MITCHEL L. ZOLER
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NEW ORLEANS — Azimilide, an investigational antiarrhythmic drug, was safe and effective for preventing recurrent ventricular tachycardia or ventricular fibrillation episodes in patients with an implanted cardioverter defibrillator in a placebo-controlled trial that included 633 patients.

The drug helped patients regardless of sex, left-ventricular ejection fraction, or concomitant medications.

DR. DORIAN

"This was a highly significant and positive result, giving some proof of principle that antiarrhythmic agents may have a place in treating patients with an ICD [implantable cardioverter defibrillator]," commented Arthur J. Moss, M.D., at the annual scientific sessions of the American Heart Association.

"Azimilide may be very helpful for patients with symptomatic ventricular tachycardia [VT], but it may not be much help for patients with asymptomatic tachycardia or fibrillation," said Dr. Moss, a professor of medicine at the University of Rochester (N.Y.).

The study was sponsored by Procter & Gamble Pharmaceuticals Inc., which makes azimilide. Based on the study results, the company is "in discussions" with the Food and Drug Administration about azimilide, but a spokeswoman for the company said that she could not comment on whether a licensing application had been filed or would soon be filed.

The study enrolled adults if they had recently received an ICD or if they had a preexisting ICD that recently delivered a shock that was triggered by spontaneous VT or ventricular fibrillation (VF). Patients with a newly implanted ICD had to have a documented episode of VT or VF within 42 days preceding the implant. The study was done at 129 centers in nine countries including the United States.

The patients were randomized to receive 75 mg azimilide daily, 125 mg daily, or placebo, and were followed for 1 year. There were two primary end points: the number of all-cause shocks delivered by the ICD combined with the number of symptomatic tachyarrhythmias terminated by the ICD, and the number of all-cause shocks alone.

During follow-up, the patients had a total of 1,296 symptomatic tachyarrhythmias terminated by the ICDs and an additional 1,565 all-cause shocks (a total of 2,861 arrhythmia episodes). A total of 1,459 were in the 214 patients treated with placebo, 665 were in the 220 patients treated with 75 mg azimilide daily, and 737 were in the 199 patients who received 125 mg azimilide daily, Paul Dorian, M.D., reported at the meeting.

(The results were simultaneously published in the online edition of Circulation, http://circ.ahajournals.org/cgi/content/abstract/01.CIR.0000149240.98971.A8.)

Treatment with azimilide reduced the risk of arrhythmias by 57% in the 75-mg group and by 47% in the 125-mg group, compared with placebo; both reductions were statistically significant. Both dosages of azimilide also dropped the number of all-cause shocks relative to the placebo group, but the reductions were smaller and not statistically significant.

Both drug dosages helped patients regardless of their sex, left-ventricular ejection fraction, or concomitant medications. The 75-mg dosage also produced a significant reduction in the number of emergency department visits and hospitalizations. The 125-mg dose also cut the emergency room and hospitalization rates, but the reduction was not statistically significant relative to the placebo group, said Dr. Dorian, director of the arrhythmia service at St. Michael's Hospital in Toronto and a professor of medicine at the University of Toronto.

The percentage of patients who withdrew from treatment for an adverse event was virtually identical in the two azimilide arms, 20% and 21%, and in the placebo arm, 22%. The incidence of serious adverse events was 34% in the 75-mg group and 46% in the 125-mg group, compared with a 41% rate in the placebo arm. A total of five patients in the azimilide groups developed torsade de pointes (1.2%), compared with one patient in the placebo group (0.5%).

Two limitations of the study were its relatively short duration of 1 year and the fact that many patients did not have severe left ventricular dysfunction given the average 34% ejection fraction for all patients in the study, Dr. Moss added.

"Azimilide is a less-than-ideal agent because it has an adverse event profile that may limit its routine use in high-risk patients with an ICD, especially if used for a long time. But azimilide may be beneficial in selected patients with an ICD who have a high firing rate for VT or VF," he said. ■