

Studies Identify Risk Factors for Atrial Fibrillation

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NEW ORLEANS — Taller stature boosted the risk of atrial fibrillation while better blood pressure 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 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 atrial fibrillation 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 atrial fibrillation, said Dr. Langberg, director of electrophysiology at Emory

University in Atlanta.

A man who is 6 feet 5 inches tall has a 35% greater risk of developing atrial fibrillation than does a man in similar health who is 10 inches shorter.

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 atrial fibrillation.

Separate analyses for men and women showed that both genders had a significant and direct correlation between height and prevalence of atrial fibrillation.

In a multivariate analysis that controlled for several potential confounders, the risk of atrial fibrillation 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 atrial fibrillation than does a man in similar health who is 10 inches shorter, or 5 feet 7 inches tall, Dr. Langberg said.

A relationship between hypertension and atrial fibrillation is well established: Patients with hypertension have an increased risk of atrial fibrillation, 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 atrial fibrillation.

To test this idea, they reviewed the records of 226 patients with hypertension and a diagnosis of coronary artery disease who had no atrial fibrillation 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 tak-

en 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 atrial fibrillation.

Of the 99 patients who maintained an average systolic pressure of 120-139 mm Hg, 14 patients developed atrial fibrillation. Of the 45 patients who maintained

an average systolic pressure of 140-159 mm Hg, 7 developed atrial fibrillation. And of 14 patients with an average systolic pressure of 160 mm Hg or greater, 1 patient developed atrial fibrillation 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 atrial fibrillation, 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 atrial fibrillation, said Dr. Ravid, director of the Lown Cardiovascular Center at Brigham and Women's Hospital in Boston.

Because these findings were not the prespecified end point of the study, they were tentative and need confirmation in additional studies, Dr. Ravid said. ■

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