

<http://www.latimes.com/news/science/la-sci-heart24-2009jun24,0,4590967.story>

From the Los Angeles Times

Common heart abnormality linked to risks

Researchers connect the condition, called an increased PR interval, to a substantially higher risk of erratic heartbeats and need for a pacemaker, as well as risk of death.

By Thomas H. Maugh II

June 24, 2009

A common abnormality of electrocardiograms that has long been thought to be inconsequential is actually associated with a substantially increased risk of erratic heartbeats or a need for a pacemaker -- and with a modestly increased risk of death, researchers reported today.

Although there is no treatment to forestall such events, the presence of the abnormality should lead to increased monitoring of the patients to detect problems early, while they are more treatable, the team reported in the *Journal of the American Medical Assn.*

The abnormality, called an increased PR interval, "is fairly common in healthy people. We see it often in clinical practice and typically assume that it is a benign finding," said Dr. Thomas J. Wang of Massachusetts General Hospital in Boston, the lead author of the report.

But increased PR intervals are also seen in people with congenital heart disease and other problems, "so we know that it is not always so benign," Wang said.

The PR interval is the time it takes for an electrical signal emitted by the heart's natural pacemaker, the sinus node, to spread from the upper chambers of the heart to the lower chambers. A PR interval of less than 200 microseconds is considered normal. A longer interval is called a first-degree atrioventricular block. Previous short-term studies in military men and athletes have suggested that the condition does not cause problems.

To study potential risks from the condition, Wang and his colleagues studied 7,575 individuals enrolled in the Framingham Heart Study, the multi-decade, government-funded study of residents of a Massachusetts town that has revealed many different risk factors for heart disease.

The participants had a mean age of 47 when they underwent an electrocardiogram examination in 1968 through 1974, and they were followed through 2007. Over the course of the study, 481 developed atrial fibrillation (erratic heartbeats), 124 required implantation of a pacemaker and 1,739 died.

At the beginning of the study, 124 individuals had PR intervals longer than 200 microseconds. They had about twice the risk of atrial fibrillation, about three times the risk of requiring a pacemaker and about a 40% increased risk of death from all causes.

"The longer the interval, the greater the risk," Wang said, but there were too few patients with the longest intervals to accurately predict their risk increase.

"The [increased] PR interval is a red flag for physicians to be on the alert for these things, to look for them and treat them," said Dr. Albert Waldo of University Hospitals Case Medical Center in Cleveland, who was not involved in the study.

The longer PR interval "might be an early marker for fibrosis and scarring, or for increased vagal tone, both of which cause atrial fibrillation down the road," said Dr. John Kennedy, director of preventive cardiology and wellness at Marina del Rey Hospital, who was also not involved in the study. Fibrosis of heart tissue can interfere with conductivity of electrical signals, while an increased tone in the vagus nerve, often seen in athletes, can increase the heart rate, potentially producing complications.

Patients with a prolonged PR interval "should be looking more closely for signs of problems, such as palpitations, lightheadedness and fatigue," Kennedy added.

thomas.maugh@latimes.com
