

Heart Flutter Explained

An old medical concept called the 'circus movement theory' explaining the action of heart fibrillation or irregular heart beats has been revived

► A 50-YEAR-OLD discredited theory that explains the mechanism of one of the most common heart irregularities, atrial fibrillation, and the less common but related flutter, has been revived and exonerated by a professor at Stanford University School of Medicine, Palo Alto, Calif.

It is called the "circus movement theory," although most medical textbooks deny its existence. The word circus refers to a ring-like movement of electricity entrapped in a pathway around the great veins of the heart.

In the normal heart the electric charge that causes muscles to contract spreads throughout the atrial tissue like a ripple from a pebble dropped in a still pond. Its job done, the impulse fades out and a new one is generated.

When irregular heart beat occurs, the circus movement theory explains it as the electrical impulse going around and around, making the atrial tissue flutter, a condition that sometimes precedes a full-blown fibrillation.

Reviver of the theory, which originated in England, is Dr. David Rytand, who said doctors simply misunderstood the idea or have overlooked the clinical evidence. Physicians who studied the evidence were trapped by an optical illusion that made them misread their patients' electrocardiograms, (EKGs) Dr. Rytand stated.

Before the theory was applied to humans 50 years ago, the circus movement was demonstrated in jellyfish by Dr. Alfred G. Mayer, a physicist and marine biologist. The test was recently repeated by Dr. Rytand.

He found experiments in both American and foreign journals that have clearly shown the existence of an entrapped circuit wave in rings of living heart and other tissue, and he has observed the circus movement in 40 patients' EKGs.

His first two cases had flutter at a slow atrial rate ranging from 180 to 200 instead of the usual 300 cycles per minute. This was evidence of circus movement as the electrical impulse had a long way to travel around.

In flutter, he said, each passage of the entrapped electricity around the great veins shows up in the EKG as a line with a downward slope. Dr. Rytand found that the true appearance of this line can be restored by the use of a cylindrical lens to permit accurate reading of the EKG.

The same lens placed on the EKG enabled him to observe circus movement on a patient's heart during open

heart surgery, the first time it was ever accomplished.

Dr. Rytand cited a recent book entitled "The Heart," edited by Drs. J. Willis Hurst and R. Bruce Logue, which said there is no experimental evidence to date in support of the circus movement theory.

In spite of the fact that this theory has been rejected, ignored and misunderstood, Dr. Rytand pointed out, physicians have found a treatment for flutter by electroshock. Such a shock discharges the heart of its electricity and disrupts the ring-like circuit. He said it is an "irony of history" that the understanding of the condition comes half a century late to aid in a better diagnosis of this heart abnormality. It was an English clinical physiologist, Sir Thomas Lewis, who formulated the 50-year-old theory, which Dr. Rytand says is validated without a doubt.

MEDICINE

Diabetes Not Related To Child-Bearing Rate

► THE HIGHER incidence of diabetes among women is not due to the effects of pregnancy—at least not among the Pima Indians of Arizona, who couple large families with an extraordinarily high diabetes rate.

Diabetes is somewhat more frequent in Pima Indian women who have not borne children than in those who have borne seven and more, a team of scientists reported at the American Diabetes Association Meeting in Chicago.

Their study of approximately 700 Indian women showed different results from those of other investigators, principally in England, which supported the theory that there is a relationship between child-bearing and diabetes.

Drs. Peter H. Bennett and Thomas A. Burch of the National Institute of Arthritis and Metabolic Diseases, Bethesda, Md., reported the study in conjunction with Drs. Max Miller and Arthur G. Steinberg of Western Reserve University, Cleveland, Ohio.

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