

# Abscess: Coronary Cause

Hair-thin slices of artery reveal signs; Adolescents may carry precursor of coronary. Doctor calls sliced-section study the key.

By Faye Marley

➤ A WEST-COAST scientist who has been examining hair-thin cross-sections of blood vessels has found "abscesses" to explain pre-coronary arterial disease. Dr. Meyer Friedman of Mount Zion Hospital and Medical Center, San Francisco, also found that the danger signs show up early in life—at the high school age level.

What happens when a person has a coronary thrombosis is this, according to Dr. Friedman's account in *Medical Times*, Nov. 1966.

An abscess has formed within the artery's innermost layer. In several cases, he observed that the abscess proceeded toward the middle or muscular coat of an artery called the *tunica media*.

"When such an invasion proceeds in this direction, the patient of course remains free of thrombotic accident, but when it proceeds toward the lumen (interior) of the artery, and in so doing fragments the wall-barrier between abscess debris and luminal blood, the patient suffers a coronary thrombosis."

Coronary blood clots are not just uniform collections of clotted blood, but the majority have a rather characteristic structure consisting of differing amounts of blood components.

"A coronary thrombus almost invariably results from a wall rupture," Dr. Friedman pointed out, "but many pathologists have believed that an intramural hemorrhage initiated the majority of coronary occlusions."

The reason for so many erroneous beliefs on the part of pathologists, said Dr. Friedman, is that they have rarely studied sliced serial sections of thrombosed vessels and rarely detect the minute ruptures responsible for the clots.

Four years ago, Dr. Friedman said, he decided to do such a study. With the help of his colleague, Dr. Van den Bovenkamp, he examined the serial sections of 80 thrombosed, or clotted, coronary arteries. The results of their first study allowed little doubt concerning the local immediate cause of a coronary thrombus, which was found to be the same in 39 of 40 cases reported. The process began as a rupture of that portion of a plaque wall previously separating the interior, or luminal, blood from a fat-rich abscess.

No investigator or general practitioner can hope to understand coronary



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## CLOGGED ARTERY

artery disease, Dr. Friedman said in conclusion, without a similar study of the serial sections of at least a half dozen thrombosed arteries.

The only way a high-school youngster can be sure of avoiding a heart attack in his 40s or 50s is to give up the fats he is eating now, he explained.

This means that whether you are eating fats in hamburgers, ice cream, butter or milk, you are piling up artery plaques that can cause a coronary thrombosis in adulthood.

What should teen-agers eat then? Broiled lean meat, for one thing. Drink skimmed milk; eat ice milk instead of ice cream. Dr. Friedman also offers adolescents plenty of green vegetables and fruits, but warns against fried foods and animal fats.

The young adult enters his 20s and 30s with artery deposits, called plaques, already bulging with accumulated fats and even with calcified fragments, but he rarely suffers the pangs of angina or the crippling disabilities of myocardial infarction, or coronary thrombosis, during those decades. That comes later.

Hundreds of investigators in laboratories have been trying to find out why arteries that have been diseased for years begin to form clots with such tragic results in the 40s and 50s. Dr. Friedman points out. One mistake is to introduce and continue anticoagulants to forestall clotting. Instead, the doctor may unwittingly cause a thrombosis.

# Tanks Save Hours With 'Instant Bridge'

➤ U. S. ARMY tanks and other vehicles crossing canals and deep gullies in Viet Nam have often been delayed for several hours while a bridge was erected. Now the Army has developed a bridge that can be erected in 12 minutes and carried by the tanks themselves.

The bridge consists essentially of two 27-inch treadways, each composed of either five or seven 9-inch-square, 15-foot-long aluminum beams spaced to accommodate the vehicle's track width. In transit, the disassembled components are stowed aboard two APC's (Armored Personnel Carriers) or tanks.

The "launcher" used to erect the bridge is an H-frame boom, put together in the field and mounted on the towing eyes of the vehicle. The bridge is assembled on the ground and raised to the boom by chain hoists. The vehicle moves the structure to the gully or canal, then lowers it by slackening the hoists and backing away.

When all the vehicles have crossed the bridge, it can be retrieved in the same way. The system was developed by the Army Corps of Engineers at Ft. Belvoir.

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