

Heart Attack: Recent Advances in Treatment

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Every 25 seconds in the U.S., a heart attack strikes, affecting nearly 1.5 million persons per year, and accounting for one-fourth of all deaths.

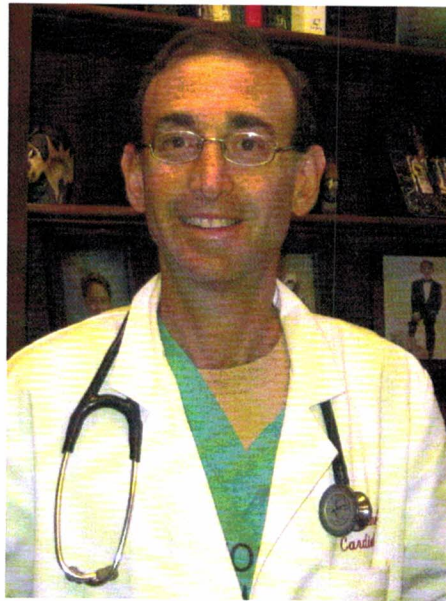
A heart attack is caused in almost all cases by the sudden blockage of one of the arteries supplying the heart. Once blood flow is stopped, a portion of the heart will begin to die. With each passing moment, the opportunity to halt the ongoing damage steadily diminishes, and in just a matter of hours, the heart muscle will have become irreversibly injured. Further, in the first few hours of a heart attack, the risk of dying is greatest, for the affected heart muscle is prone to erratic heart rhythms. This can cause the victim to suddenly lose blood pressure and consciousness, leading to death in minutes unless an effective heart rhythm is restored.

Hence, it is imperative that people suffering a heart attack recognize the symptoms and seek medical attention in an emergency room immediately.

The typical description of a heart attack is the sudden onset of mid-chest pain that is often severe. The pain is characterized as a pressure, constricting or squeezing sensation that may also travel to the neck, arms (usually the left) or back. The pain is prolonged and often associated with shortness of breath, sweating, nausea and weakness. Less commonly chest pain may be absent with only

the usual associated symptoms being present.

Also, in the days and weeks before a heart attack, many people have warning symptoms, which are usually milder and more brief versions of the heart attack symptoms. The critical point is, that if



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any suggestive symptoms develop, medical evaluation should be sought promptly. Further, we need to guard against the temptation to ascribe important symptoms to other causes, such as indigestion or muscle strain that could lead one to ignore an ongoing heart attack.

There is much hope for victims of heart attacks. Great strides have been made in treatment. A substantial reduction of in-hospital death has been achieved via the ability

to continuously monitor the heart rhythm and quickly detect and treat life-threatening arrhythmias.

Additionally, new and powerful drugs so-called "clot busters" have been developed, which can be administered early during an ongoing heart attack. These drugs have the ability to dissolve the blood clot that is occluding the coronary artery and re-establish blood flow to the heart. This leads to stopping of the heart attack, and salvage of heart tissue that would have otherwise been irreversibly damaged.

Another major advance is the ability to perform an immediate angiogram in the patient having a heart attack and identify the exact location of the arterial occlusion. The artery can then be entered via the non-surgical approach with a tiny balloon catheter which dilates open the blockage.

The artery is usually further stabilized by insertion of a metal coil known as a coronary stent. This achieves an even greater opening of the affected artery and restores blood flow to the heart. This technique has a greater than 90% success rate.

These many advances have led to a significant fall in the incidence of death and disability from heart attacks. However, these advances are effective in a relatively small window of opportunity necessitating that the stricken victim not delay in getting medical attention. ■