

Bone Mineral Density and Myocardial Infarction

Source: Osteoporosis International

Throughout life, bone is constantly rebuilding itself. Bone serves as a storehouse for minerals, chiefly calcium, which can be tapped to meet the body's mineral requirements. Bone is broken down through a process called "resorption," releasing its minerals into the general circulation. New bone is then formed to replace the reabsorbed bone, preventing a net loss of bone. This is called bone "remodeling." As we age, however, bone formation begins to fall behind, causing the gradual bone loss that culminates in osteoporosis. The soft spongy bone in the wrists, hips, and spine are the most vulnerable to osteoporosis and prone to breakage as a result.

Acute myocardial infarction (AMI or MI) is commonly known as a heart attack. It is a medical condition that occurs when the blood supply to a part of the heart is interrupted, most commonly due to rupture of plaque in a coronary artery. It is a medical emergency, and the leading cause of death for both men and women all over the world. More than 50 percent of patients with ischemic heart disease initially present with acute myocardial infarction, and 50 percent of patients who suffer acute myocardial infarction do not survive.

Since the relationship between bone mineral density and cardiovascular disease are not completely understood, researchers conducted a study to investigate the risk of myocardial infarction in relation to bone density. The study included 5,490 women and 1,382 men who had x-rays to determine total hip and femoral neck bone mineral density. The participants were followed for an average of 5.7 years, during which time, 117 women and 79 men suffered an initial myocardial infarction. The results revealed that lower bone mineral density in the neck and hip was significantly linked to an increased risk of myocardial infarction. Even after adjusting for smoking, hypertension, hypertriglyceridemia and diabetes, the results showed a strong association between lower bone mineral density and myocardial infarction.¹

1 Wiklund P, Nordstrom A, Jansson JH, et al. Low bone mineral density is associated with increased risk for myocardial infarction in men and women. *Osteoporos Int*. Apr2011.