**AGING AND HEART FAILURE: ROLE OF HEALING AFTER MYOCARDIAL INFARCTION**

**B. Jugdutt**

Dept. of Cardiology, University of Alberta, Edmonton, AB, Canada

The population of older patients with heart failure is increasing worldwide. Apart from the role of cardiovascular aging in HF among older patients, impaired healing after myocardial infarction (MI) may be a major culprit. Cumulative evidence over several decades has established that acute MI triggers the healing process, and optimal healing is needed for survival with a favorable outcome. It is known that healing involves an orchestrated sequence of inflammation and remodeling of the myocardium and extracellular matrix over weeks and months, depending on the species and infarct characteristics. In humans, small infarcts heal within weeks while large infarcts may take months to heal. Importantly, profound remodeling at structural, cellular, molecular and biochemical levels occurs during the healing process. While improved therapies after acute MI have improved survival, current therapies do not target post-infarct healing. While early reperfusion therapy reduces infarct size, impaired healing appears to a major factor that contributes to adverse remodeling and HF in older survivors. Progressive left ventricular remodeling and progression to HF are persistent problems, both in older adults and elderly patients. Additionally, several recommended therapies after MI can impact early and late phases of healing in positive or negative directions. Preclinical studies have suggested that several pathways during early and late phases of the healing process can be potentially targeted to prevent HF. Translational research protocols that address the different phases of post-MI healing as well as aging may bring us closer to therapy for optimizing post-infarct healing and outcome.