**CURRENT STATUS OF PATHOPHYSIOLOGY AND THERAPY OF PERIPHERAL ARTERY DISEASE**

**S. Bhullar**, N.S. Dhalla

St. Boniface Hospital, University of Manitoba, Winnipeg, MB, Canada

**Background:**Peripheral artery disease (PAD) has been recognized as a major cause of circulatory disorder and is usually diagnosed by ankle-brachial index, ultrasound methods as well as different angiographic and imaging techniques. Although several risk factors such as dyslipidemia, diabetes and hypertension have been identified to promote PAD, the pathophysiology and therapy of this disease are poorly understood.

**Observations and Discussion:**Various factors such as atherosclerosis, thrombosis, arterial stiffness, inflammation, vascular remodeling and endothelial dysfunction have been shown to induce PAD by reducing blood flow and producing ischemia in the hind limb. Thus various therapies for PAD are concerned about promoting blood flow and preventing ischemia in the hind limb to slow the progress of this disease. These treatments include different growth factors, gene or cell therapy and antiatherosclerotic medications in addition to thrombolytic therapy, balloon angioplasty, stent implantation and vascular bypass surgeries. Recent studies have shown that exercise and CO2-bath therapy provide beneficial effects in PAD by inducing angiogenesis; however, extensive studies needs to be carried out to the develop a wide variety of interventions for promoting angiogenesis

**Conclusion:**It is proposed that some biodegradable drug-coated scaffolds be developed using micro/nanotechnology for inducing angiogenesis in skeletal muscles as well as for reducing blood clots and removing atherosclerotic plaques from hind limbs in subjects with PAD.