# INTRODUCTION AND AIM OF THE WORK

Peripheral arterial occlusive diseases of the extremities is often the end result of a varied number of pathologies and may affect patients at any age depending on its etiology. Angiography is essential in the diagnosis of arterial obstruction due to atherosclerosis, aneurysms, embolism, thrombosis, dissection, trauma or other vascular occlusive lesions. It provides the specific morphological and hemodynamic information that allows optimal planning of interventional therapy. Atherosclerosis is the most common cause and is responsible for acute and chronic ischemia of the heart, brain, viscera, and extremities. Fortunately, the extremities as compared with other organs and tissues is comparatively resistant to the effects of ischemia. Peripheral vascular diseases (PVD) is commonly manifested in the lower extremity although the upper one may be involved. The frequency of PVD in the general population ranges from less than 2% in all patients younger than 60 years of age to slightly more than 5% in those patients older than 70 years *(McDaniel and Cronenwett., 1989)*.

Optimal care of the patient with PVD requires a balanced approach between conservative therapy and more invasive techniques. Maintaining this balance necessitates ongoing evaluation of the disease process and its effects on the patient. Non-invasive hemodynamic tests provide a cost effective screening tool. The functional data they supply can be used to amplify and enhance angiographic findings *(Roberts et al., 1994)*.

The management of PVD dominates the clinical efforts of most practitioners treating patients with vascular disease. The discplines of vascular surgery and interventional radiology have both made great strides in this arena since the advent of bypass surgery, which preceded by a decade the description of angioplasty by *Dotter and Judkins., (1964)*. Few years later *Gruentzig and Hopff., (1974)* successfully utilized a balloon catheter to achieve a much larger lumen than the catheter shaft. These evolutionary techniques and their followers have improved the lifestyle and salvaged the limbs of many patients suffering from chronic arterial occlusive disease. Nevertheless, the treatment of vascular disease is overwhelmingly palliative *(Rholl., 1994)*.

This is a prospective, non-randomized, diagnostic and therapeutic trial to further explore the role of different angiographic techniques as a component in the diagnosis and management of peripheral arterial occlusive diseases. The study population will include 50 patients with different causes of arterial occlusive diseases either acute or chronic in both upper and lower extremities. Patients presenting with false positive signs and symptoms of limb ischemia will be excluded. The study strategy for each patient will be initiated by a consultation with the vascular surgery team. In conjunction with the full history and physical examination, the non-invasive vascular laboratory data (NIVL) will be fully utilized to provide objective measurment of the degree of the vascular disease and allow a quantifiable and reproducible assessment. All these cumulative data will assist in the procedure planning, both for diagnostic and therapeutic procedures. The appropriate approach will be individualized, and this will be followed by complete diagnostic angiographic study. The diagnostic

findings will be again discussed to choose the appropriate therapeutic management whether medical, radiological, surgical, and/or combined treatment. The interventional radiological treatment will be carried out in the same sitting or later on depending on the patient's status. The technical and clinical outcomes of the radiological interventional modalities will be evaluated in comparison with the pre-procedural data. The frequency and significance of various complications will be reported. The primary and secondary patency rates will be evaluated on follow up for each patient considering the variables which influence the long term patency period. Results will be discussed and tabulated to evaluate the radiological treatment and compare it with similar studies formerly published in the literature. A final analysis in the form of a summary and conclusion of the study will be presented at the end.