Introduction

Stroke being the most serious sequale of carotid artery diseases, is considered the third leading cause of death in much of the industrialized world *(William, 2000)*.

This have fulled strong interest in assessment of carotid vessels to detect risk factors of stroke, such as plaque structure, in addition to the degree of carotid artery stenosis

There is general agreement that carotid artery angiography is the best to define surgicaly remediable lesions in the accessbile extracranial segment of CA but, concerns about the small and significant risks of neurological complications associated with carotid artery angiography such as local aneurysm and disfal embolism have fuelled strong interest in non invasive modalities such as Doppler ultrasound (DUS) and magnetic resonance angiography (MRA) *(Long et al., 2002)*.

Frequently, Doppler ultrasound replaces conventional angiography with the associated cost savings and reduction in patient morbidity *(Koelemay et al., 2001)*.

However, Doppler ultrasound does not always provide a full diagnostic assessment and there is no alternative but to seek confirmatory evidence of arterial disease with magnetic resonance angiography *(Nelemans et al., 2000)*.

Magnetic resonance angiography provides non invasive imaging of extracranial carotid but leads to over estimation of degree of stenosis in

the same time high quality MRA provides sufficient vascular overview of extracranial carotid circulation. Even the exact role of MRA is not will defined, it may be useful in calloborating the finding of an occluded carotid artery with duplex.

The combination of MRA and duplex ultrasound can provide similar diagnostic accuracy to angiography in some institution, where magnetic resonance angiography preceded by screening ultrasound examination as needed provides excellent noninvasive assessment of the severity of carotid artery stenosis *(Obuchowski et al., 1997).*

Despite abundant literature, the optimal imaging strategy remains controversial *(Davis and Donnan, 2003).*