Introduction

No other branch in medicine has progressed as rapidly as imaging has and this trend will continue in the future of clinical practice . Further refinements in present modalities are continousely being made and newer technologies come up so rapidly that it's difficult to keep up with . The liver in indeed an exquisite field for radiological investigations because of its homogenous parenchymal texture , dual blood supply , and voried physiological & biochemical functions ***(Word J et al .,1999).***

Ultrasound is capable of providing anatomical information with high resolution at low cost without the requirement for administration of contrast agents . However, some of the important limitations to the use of ultrasound are , the variable quality of images obtained . it's operator dependent , results are affected by the body built , bone and gas forms abarrier against ultrasonic waves , and ill defined small lesions may not be detected ***(L.J. King et al ., 2002)*** .

Computed tomography(CT) is considered the most accurate method for detecting liver metastasis . The non contrast enhanced CT is helpful in detecting metastasis from hypervascular tumours and in visualizing calcification or hemorrhage that may aid in characterizing the lesions . Dynamic bolus contrast enhanced CT is more accurate than non-enhanced CT and can accurately differentaiate vascular structures from small metastasis ***(Vilgerian et al., 1993).***

Unlike computed tomography , magnetic resonance imaging (MRI) is a relatively recent imaging tool , with its high inherent soft tissue contrast resolution , tissue characterization technical versatility for sequence selection and modification , provision of biochemical as well as anatomic information , multiplaner imaging , intrinsic sensitivity to blood flow and blood breakdown products , as well as lack of ionizing radiation ***(Soyer.et al., 1995) .***

Abdominal MRI developed more slowely than applications in the CNS, Musculoskeletal system and heart for two main reasons : first , other imaging techniques are well established and effective in the investigation of upper abdomind disease ; and second , the anatomical detail available with conventional spin – echo MRI was limited by motion artifact from respiration and peristalsis . The development of breath – hold imaging techniques has largely overcome the latter problem , and the superior contrast resolution of MRI when combined with the judicious use of oral , intravenous and liver specific contrast media has lead to the emerging superiority of MRI over the techniques in many clinical applications in the upper abdomen . specific MRI procedures can be designed to explain differences in physiochemical and physiological properties of different tissues as well as their anatomical features ***(Samam the Kubaska et al., 2001)*** .

MRI is not appropriate as a first line routine technique as many liver imaging proplems can be assessed satisfactorily using ultrasound or computed tomography (CT) , However , MRI is more sensitive than CT or ultrasound in detecting small lesions and also more specific in the characterization of various pathologies . Liver MRI is best used in problem cases where ultrasound or CT finding are equivocal or un expected or when a patient cannot receive iodinated intravenous contrast materials and as "one stop shopping" approach in patients who are surgical candidates for liver resection or transplantation ***(SemelKa Rc, et al.,1992).***