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 continuously 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 varied 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 a barrier 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 differentiate 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 slowly 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 abdomen 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 problems 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 unexpected 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).