CONTENT

ROLE OF MRI KNEE IN TRAUMA PATIENTS

Introduction:-

Magnetic resonance imaging (MRI) of the knee uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of the structures within the knee joint. It is typically used to help diagnose or evaluate pain, weakness, swelling or bleeding in and around the joint. Knee MRI does not use ionizing radiation, and it can help determine whether you require surgery.

Magnetic resonance (MR) imaging of knee injuries enables identification of soft-tissue and radiographically occult bone injuries, and facilitates analysis and reporting of injury constellations in the context of functional knee instability. Magnetic resonance imaging (MRI) is an accepted noninvasive modality for evaluation of soft tissue pathology without exposure to ionizing radiation. Current applications demonstrate excellent visualization of the anatomy and pathology of various organs.

Magnetic resonance imaging of the knee is most commonly indicated in patients with suspected injuries of the menisci and cruciate ligaments. Plain radiographs have little value unless there has been an injury due to direct impact. In teaching centres where dedicated musculoskeletal radiologists report on images, diagnostic accuracy of 90% can be achieved for damage to the medial meniscus and anterior cruciate ligaments, slightly less for the lateral meniscus and slightly more for the posterior cruciate ligament.

Magnetic resonance imaging, however, usually has a limited role in patients in whom plain *x*-rays show evidence of osteoarthritis. The extent of anatomical damage does not correlate with symptoms, which are the primary determinants in the timing of arthroplasty. An exception is when a unicompartmental (that is medial compartment) rather than a total knee replacement is proposed. Here magnetic resonance imaging can confirm that the other compartments are normal.

Magnetic resonance imaging (MRI) affords high-resolution visualization of the soft tissue structures (menisci, ligaments, cartilage, etc) and bone marrow of the knee. MRI scans were obtained in 40 patients, on 41 knees (one patient with bilateral scans).

The purpose of this review is to discuss the normal functional anatomy of key soft-tissue stabilizers of the knee, summarize the currently known etiology and types of posttraumatic knee instability, present the most common resultant MR imaging injury patterns, and synthesize a unified model for use as a targeted reporting checklist during MR image interpretation.