**Original article:**

**Comparative study of high resolusion ultrasonography and magnetic resonance imaging in diagnosing traumatic knee injuries & pathologies**

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**Abstract**

**Introduction:** The purpose of this study was to evaluate & compare the sensitivity, specificity and accuracy of high resolution sonography in diagnosing the traumatic knee injuries & pathologies.

**Materials and Methods**: 90 cases with history of knee injury and symptoms of other knee pathologies, who were referred to department of radiology for HRUS or MRI were subjected to study. The age ranges from 10-70 yrs with exclusion of patients having metallic implants or any post-operative history. Prior to MRI and HRUS, a detailed history, clinical and local examination was done. HRUS was performed by using GE VOLUSON 730 PRO machine with high frequency probe (7-10 mHz) and MRI was performed on Siemens Magnetom C 0.3 Tesla machine using specific knee coil and standard protocol consisting of PDFS in axial, sagittal and coronal planes, T2W in sagittal plane and T1W sagittal plane were taken.

**Results :** The study revealed that the mean accuracy and specificity of high resolution HRUS in the diagnosis of both meniscal and cruciate injury is nearly equal to that of MRI. However, sensitivity of HRUS is lower compared to MRI. Therefore, it is preferable to use high resolution ultrasound as a preliminary investigation for diagnosis of various knee injuries & pathologies. For other pathologies like cystic lesions, hemangiomas etc. both HRUS and MRI had similar diagnostic accuracy, though few cases were missed on HRUS in our study.

**Conclusions :** If there is a patient with complaints of knee pain, limitation of joint movements with suspicion of meniscal injuries, cruciate ligament injuries or any other soft tissue pathologies around knee, we recommend with high resolution ultrasound examination as primary screening tool. MRI can be reserved for those cases where HRUS is equivocal, patients condition is not improving and preoperatively for detailed assessment.

**Key words :** HRUS, Knee pathologies, Knee ache, Cystic lesions