

MRI EVALUATION OF ANTEROLATERAL LIGAMENT OF THE KNEE: A CROSS-SECTIONAL STUDY IN MALAYSIA

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ABSTRACT

Anterolateral ligament (ALL) of the knee has been demonstrated to be an important secondary restrainer in providing rotational stability to the knee. ALL stabilises the internal tibial rotation with increasing knee flexion. ALL injuries with concomitant anterior cruciate ligament (ACL) injuries have a higher grade of pivot shift. Magnetic resonant (MR) studies on ALL have been performed, but there is no such data among the Malaysian population. We aim to investigate the reproducibility of ALL identification on 1.5T MRI and the association with other ligamentous injuries. Magnetic resonant imaging of the knees with suspected ligamentous injuries from 1st January 2017 to 30th June 2017 were reviewed for suitability of this study. Post-operative MRI and MRI of patients with suspected tumour at the knee region were excluded. 1.5T MRI (Siemens Medical Solution) was used for assessment of all the knees. All MRIs were double read and approved by a consultant radiologist. A total of 36 knee MR images were obtained from 31 patients during the study period. Five patients were excluded (3 for suspected tumour and 2 for post-operative). Mean age of the patients was 29.44. All three components of ALL were identified in 20 MRIs (55.6%): femoral component (75%); meniscal (69.4%) and tibial (58.3%). There were 11 knees identified to have ALL injury, which was associated with an ACL injury. ALLs are best visualised on coronal views (PD, PD FS and T2) with lateral inferior genicular artery as a guide to locate the bifurcation of meniscal and tibial components. Delineation of ALLs from other surrounding structures such as lateral collateral ligaments, iliotibial band and popliteus tendon was done in both coronal and axial views. ALLs of the knees are delineated in more than half of the MR images. There is an association between ALL injuries and ACL injuries.

Keywords: MRI Evaluation, Anterolateral Ligament, Knee, Cross-sectional Study, Malaysia