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Morphological study of the transverse ligament of the knee joint in embalmed cadavers

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Abstract

Aim: The aim of this study was to study the morphology and morphometry of the TL in adult embalmed knee joints. The objectives were to measure its topographical distance from the tibial tuberosity and the tibial insertion of the anterior cruciate ligament.

Methods: The present study utilized 50 adult embalmed cadaveric knee joints, among them 25 belonged to each side.

Results: The TL was absent in 10% of the specimens of this study. The double lateral attachment of the TL was observed in 2% of the cases. The TL was extending from the anterior horn of MM to the anterior margin of LM in 82% cases. In 4% of the specimens, the TL was attaching between the anterior margins of the MM and LM. In one specimen (2%), the TL was inserting into the anterior horn of MM and the capsule of the knee joint laterally. The length, width and thickness of the TL were 30.38 ± 2.38 mm, 29.23 ± 3.7 mm, 2.8 ± 0.79 mm, 2.56 ± 0.68 mm, 1.94 ± 0.53 and 2.25 ± 0.56 mm over the right and left sides respectively. The distance of the TL from the tibial attachment of the ACL was 2.4 ± 1.2 mm and 2.24 ± 1.12 mm over the right and left knee joints. Its distance from the TT was 40.24 ± 1.94 mm and 39.11 ± 1.94 mm at the right and left sided specimens.

Conclusion: The present study provided information about the morphology and morphometry of the TL in sample Indian population. This data is enlightening to the arthroscopic surgeons during their procedures like the reconstruction of the cruciate ligaments of the knee joint. The present study observed that none of the dimensions were different statistically, when measured between the right and left sides ($p > 0.05$).

Keywords: Anterior Cruciate Ligament Reconstruction, Arthroscopy, Knee