

A MORPHOMETRIC STUDY OF MEDIAL MENISCUS OF KNEE JOINT IN HUMAN CADAVERS

ABSTRACT

INTRODUCTION

The menisci are crescentic, intra capsular, fibro cartilaginous laminae. They serve to widen and deepen the tibial articular surfaces that receive the femoral condyles. Medial meniscus is semi-circular in shape and lines the medial part of the articular surface of the tibia. The menisci act as shock absorbers and also function to transmit the body weight evenly across the knee joint and provide stability to the joint. The most common injuries of the knee are the meniscal injury. Menisci play important role in knee joint biomechanics.

AIM OF THE STUDY

The aim of the present study is to evaluate the morphometric data of human medial meniscus, document variation in medial meniscus dimensions between genders and to evaluate symmetry in medial meniscus measurements between the two sides and to compare it with that of the previous literature.

MATERIALS AND METHODS

25 embalmed cadavers were selected from the cadavers allotted to I MBBS students in the Institute of Anatomy, Madras Medical College, and Chennai from which 50 specimens of medial meniscus were taken for the study. The medial menisci from 50 knee joints of 25 adult cadavers were properly dissected and dried. There

were 12 male and 13 female cadavers. The morphological parameters of the medial meniscus were measured.

The parameters are measured using measuring tape, threads, graph paper, digital vernier callipers, linear scale, pin, electronic weight scale and compared with other studies. In the present study the following parameters are measured and analysed, 1. Width of medial meniscus, 2. Thickness of medial meniscus, 3. Outer circumference of medial meniscus, 4. Inner circumference of medial meniscus, 5. Area of medial meniscus, 6. Ratio of medial meniscus area to tibial plateau area, 7. Weight of medial meniscus.

CONCLUSION

The findings of the present study are compared with the findings of other similar studies conducted in other countries and different parts of India. This cadaveric study is useful in such a way that actual dimensions of menisci are calculated instead of a radiological one. This study was a systematic effort to quantitatively and statistically characterize the morphometry of medial meniscus. The present study provides a comprehensive set of quantitative measures of menisci which may be of help for designing artificial meniscal prostheses and for improvement of commonly used knee prostheses.

KEY WORDS: Medial meniscus, Morphometric parameters.