ORIGINAL RESEARCH PAPER
Volume - 13 | Issue - 05 | May - 2024 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

FABELLA IN THE MEDIAL HEAD OF GASTROCNEMIUS -A CASE REPORT.

Anatomy

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ABSTRACT

Fabella is sesamoid type of bone found around the knee joint. Whenever fabella is present, it is embedded in proximal tendon of lateral head of gastrocnemius. Fabella helps to stabilize the postero-lateral aspect of knee joint, to diminish friction between bone and tendon, to alter the direction of pull and action of muscle. In the present case, during routine dissection for students on a male cadaver, it has been found that fabella was present in proximal tendon of medial head of gastrocnemius in left lower limb. Fabella is more commonly seen in Asian population (30-52%). Recently the knee joint is one of the most frequently injured and diseased joints, it has been the subject of extensive research. Pathologies related to fabella are fabella pain syndrome, common fibular nerve palsy, and osteoarthritis. In order to diagnose and treat patients with pathology of this region, a deeper comprehension of the anatomy of the knee joint and its variations, such as fabella, is essential.

KEYWORDS

fabella, sesamoid bone, knee joint, gastrocnemius

INTRODUCTION

Sesamoid bones (Arab, sesame = seed) are seed like bony nodules, formed by endochondral ossification in tendon of muscle.[1] Sesamoid bones found around the knee joint are patella, cyamella, and fabella.[2] Usually, fabella is found at postero-lateral aspect of knee joint as an embedded in proximal tendon of lateral head of gastrocnemius. It is bony or fibro-cartilaginous.[1] Fabella is more commonly seen in Asian population as compared to non-Asian population. It is present bilaterally more than unilaterally, with equal frequency on right & left sides and in both genders. [3] Fabella along with fabello-fibular and arcuate ligament help to stabilize the posterolateral corner of knee joint.[4] The other functions of fabella are to diminish friction between bone and tendon, to alter the direction of pull of muscle and to assist muscle action.

MATERIALS AND METHOD

Human cadavers are willfully donated to the Department of Anatomy, B. J. Medical College, Ahmedabad, Gujarat. These cadavers are embalmed and preserved to be used in routine dissection for students. Instruments used for dissection were a scalpel with blade, toothed and toothless forceps, and a pair of scissors. Digital vernier calipers were used to measure the various dimensions of fabella. Dissection of knee joint and popliteal fossa were done according to Cunningham's Manual of Practical Anatomy. Brodies' bursa carefully opened and its expansion traced.

CASE STUDY

In this case, during routine dissection for students on a male cadaver, it has been found that fabella was present in proximal tendon of medial head of gastrocnemius in left lower limb. [figure 2] It was present in the Brodie's bursa, which lies deep to the medial head of gastrocnemius. [figure 1] It was discovered that Brodie's bursa to be in communication with the knee joint cavity. Additionally, bursa expanded into popliteal fossa, in the plane between the semimembranosus and the medial head of the gastrocnemius. The various dimensions of fabella are mentioned in table 1.

Figure 1: Left Popliteal fossa, showing Brodie's bursa

Table – 1 Measurement Of Fabella

Diameter (vertical)	4.71 mm
Diameter (antero-posteriorly)	7.21 mm
Diameter (transverse)	6.98 mm

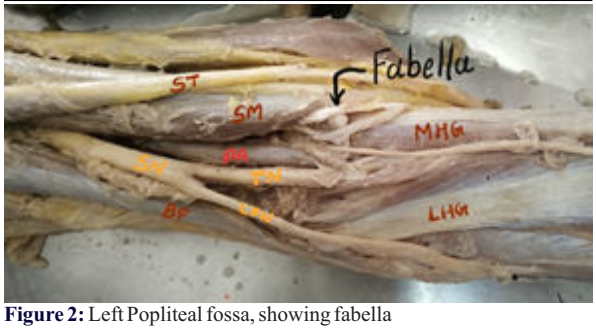

Figure 2: Left Popliteal fossa, showing fabella

DISCUSSION

Fabella is more commonly seen in Asian population (30-52%) as compared to non-Asian population. The knee joint has been the subject of extensive research recently, due to its high frequency of injuries and diseases. Fabella can lead to various pathology around knee joint like fabella pain syndrome, common fibular nerve palsy due to compression, osteoarthritis of knee joint and fractured by direct or indirect stress.[5,6,7] Sometimes, it can be mis-interpreted by radiologist as osteophyte or loose body.

CONCLUSIONS

Recently knee joint has been one of commonest site of injuries and diseases. It is crucial for doctors and surgeons to have this knowledge when treating patients for pain in posterior aspect of the knee joint. Surgeons should also be aware of this variation while performing total knee arthroplasty operation in patients, as it may result in post-operative impingement and fabella fracture.[8] So, a better understanding of the anatomy of the knee and its variations like fabella is important in diagnosing and treating patients with pathology of this area.

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