

A Study of Morphological Variations of the Plantaris Muscle

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Abstract

Background: Plantaris muscle is made of a small thin muscle belly and long slender tendon. It forms the part of a superficial group of muscles in the posterior compartment of the calf. Agenesis of plantaris muscle can affect the dynamics of the knee. We in the current study tried to determine the variations in the origin and insertion of muscle with a percentage of the absence of plantaris muscle. **Methods:** Human Adult cadavers were already preserved by the standard method of embalming for dissection. After the dissection of the popliteal fossa followed by dissection of the superficial compartment of the calf muscles, careful dissection was done for the isolation of the plantaris muscle, the muscle was identified and traced from its origin to its insertion with blunt dissection and when required with the fine dissection keeping other related structures like muscles, vessels, and nerves intact. **Results:** Total number of specimens was n=50 study. The tendon is inserted into the calcaneum medial to the Achilles tendon in 33 out of 48 lower extremities examined, an incidence of 68.75% the most common type of insertion. The common type of origin was type 2 where the muscle was originated from the following sites, the popliteal surface of the supracondylar ridge, oblique popliteal ligament, and thin bundle of fibers from the posterior part of the capsule of the knee joint in 14 of 48 limbs, an incidence of 29.16%. The incidence of agenesis was 4%. **Conclusion:** The plantaris muscle and its tendon are subject to considerable variation in both the points of origin and insertion. The genesis of the plantaris muscle was seen bilaterally of a male cadaver, an incidence of 4%. Interdigitations with the lateral head of gastrocnemius (2.1%) and extension of few muscle fibers to the lateral patellar ligament (4.16%) encountered in the present study are less frequent but important variations to be considered for differential diagnosis in PFPS [Patellofemoral pain syndrome] related pains.