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An anomalous muscle in the region of the popliteal fossa: case report

Variations in the hamstring muscles are not common. We describe here a rare anomalous muscle in the popliteal fossa and speculate on its functional significance.

During routine dissections for undergraduate students over the past 15 y, 300 lower limbs from 150 cadavers of both sexes have been examined for muscle variations as well as for anomalies of the vessels and nerves in the popliteal region (Somayaji et al. 1996). We have reported variations in the branching pattern of popliteal artery (Somayaji et al. 1996), but for the first time we have found an anomalous muscle. It was carefully dissected and photographed (Fig.). The other popliteal fossa was entirely normal.

The anomalous muscle was found superficially, close to the roof of the popliteal fossa. It originated from 2 narrow tendinous slips, one from semitendinosus and another from the long head of biceps femoris. These 2 tendinous bands united to form a single tendon which became a muscle belly in the middle of the popliteal fossa. Inferiorly the muscle became tendinous, descended between the 2 heads of gastrocnemius and continued on the superficial surface of the tendo calcaneus. The fleshy belly of the muscle received its innervation from the tibial nerve on its deep aspect.

Muscle slips from the hamstrings to the sural fascia and tendo calcaneus have been reported, e.g. a muscle fascicle from the semimembranosus to the popliteal space, a fascicle from the semitendinosus to the fascia of the back of the leg and a similar fascicle from the biceps to the sural fascia (tensor fasciae suralis) which may insert into the tendo calcaneus. According to Barry & Bothroyd (1924) extra slips of origin associated with gastrocnemius and soleus usually join those muscles or the tendo calcaneus. Parsons (1920), however, recorded an instance of a muscle slip that passed transversely between the 2 heads of origin of gastrocnemius. Insertion of muscle slips from biceps femoris into gastrocnemius and into the tendo calcaneus have been reported (Moore, 1922). Our finding differs from other reports in that the muscle arose by 2 thin tendinous slips, one from biceps and the other from semitendinosus and inserted into the tendo calcaneus; it is a rare anomalous muscle. In view of its innervation we can regard this as a muscle of the leg. Since the popliteal vein is superficial to the artery in this area, it is possible that the muscle could have a compressive effect on the popliteal vein.

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Fig. Photograph of the anomalous muscle (AMB) taking its origin by 2 slender tendons: one slip (S) from semitendinosus (ST) and the other (B) from the long head of biceps femoris (LB). Inferiorly, the muscle ends in a narrow tendon of insertion (TI) which descends superficial to soleus (SO), between and behind the 2 heads of gastrocnemius muscle (G) to become continuous with the tendo calcaneus. Deep to the muscle is the popliteal vein (PV). The tibial nerve (TN) and common peroneal nerve (CPN) have been displaced laterally. Adductor magnus (AM) is deep to semimembranosus (SM).