

The thigh extension of the small saphenous vein: a hypothesis about its significance, based on morphological, embryological and anatomic-comparative reports

Fabrizio Barberini, Alvise Cavallini and Alberto Caggiati

Department of Human Anatomy
University of Rome "La Sapienza"
Via Alfonso Borelli, 50
00161 - Rome, Italy

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SUMMARY

The small saphenous vein in its modal pattern flows into the popliteal vein by means of a terminal arch (sapheno-popliteal junction), and frequently gives off an anastomotic branch, ascending on the medial aspect of the thigh, to the great saphenous vein. This branch has often been termed thigh extension of the small saphenous vein.

As resulted in this report from autopsy, the venous extension coursed on the midline of the posterior aspect of the thigh, tributary to the deep femoral vein, and the small saphenous vein presented neither a sapheno-popliteal terminal arch, nor evident intersaphenous anastomoses. As a consequence, the small saphenous vein by means of its prolongation continued directly from the calf into the deep femoral vein. In the human embryo the small saphenous vein appears as direct communication with the posterior cardinal vein, and accompanies the developing ischiatic artery and nerve, as the main vein (ischiatic vein) of the lower limb bud. At the end of development, its proximal part persists as inferior gluteal vein. Comparative anatomy indicates that in animals the small saphenous vein is the only superficial vein well developed and that in humans its termination into the popliteal one might be an adaptation to the elongation and relative rigidity of the lower limb. In the horse a posterior vein of the thigh connects the small saphenous with the ischiatic one, and ascends along the ischiatic nerve to anastomose with the deep femoral vein. It would appear also that in the lower animals the small saphenous vein ascends to a higher level on the posterior aspect of the thigh. Thus, a venous extension like that we observed might be an atavism. Therefore, on the basis of these embryological and phylogenetical data, the Authors hypothesized that a small saphenous vein and a thigh extension of such a feature might be regarded as a unique venous channel, wholly axial throughout its course, formed by the small saphenous vein proper in the leg and by a persistent and functional sciatic (ischiatic) vein, which usually disappears, satellite of the ischiatic nerve, in the thigh.