

The bony perforator veins of the knee are commonly responsible for reticular veins or telangiectases around the knee, but they are underdiagnosed by the sonographers. This explains why the injection of these cosmetic lesions around the knee frequently leads to recurrence.

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References

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3D Anatomy and dissection of the Hunter's canal: its role in the outlet compression syndrome of the femoral vein

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Introduction: "Adductor canal syndrome", or "Jogger's syndrome" has been described as an unusual cause of acute arterial occlusion in younger men. It is also been identified as a cause of compressive neuropathy of the saphenous nerve. Nevertheless, femoral vein compression in the canal has never been described.

Our aim is to describe the anatomy and physiology of Hunter's canal, and to show that the femoral vein is much more exposed than the artery to compression inside the adductor hiatus, particularly at the outlet [1].

Material and methods: Fifty fresh cadavers were used to surgically expose the adductor hiatus for anatomical study. A series of 200 phlebographies and 100 CT venographies were also used to study the 3D morphology of the adductor hiatus.

Results: Anatomically, in all cases we found that an abnormal musculotendinous band arose from the adductor magnus muscle, and joined the adductor tendon to the vastus medialis. The femoral vein is located more posteriorly and is frequently narrowed at this level : the edge of the vasto-adductor membrane. This was particularly true when the artery was calcified.

Different types of anatomical compression of the femoral vein could be described, but the main is in the Hunter's outlet: the edge of the vasto-adductor membrane.


The resultant anatomical structure creates a notch with venous stenosis frequently occurring at the lower part of the hiatus, well seen in the cast of a femoral vein injected with latex and on the phlebographies

In a majority of cases where such a stenosis was found, it was at the lower part of the canal, 13 to 15 cm above the femoral condyle. Compression by the artery or higher inside the canal could also be identified, but they are often ignored.

Discussion and conclusion: Physiological hypothesis: The cadaveric simulations showed that contraction of the adductor longus closes the hiatus, and the adductor magnus opens it. Our hypothesis is that Hunter's canal prevents femoro-popliteal axis reflux by synchronizing with calf pump ejection during ambulation.

So in clinical practice, USD investigation should be a routine, seeking for a dilatation of the derivative routes, particularly the arcades of the semi-membranosus muscle:

Compression of the femoral vein in the adductor canal is an underestimated cause of venous obstruction and deep vein thrombosis. Ultrasound investigation of both limbs should systematically be carried out at this precise level to prevent future venous obstruction from occurring here.

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