Abstract. It is well known that the nonlinear mechanical properties and the ordering of the muscular fibres of the media and the adventia restrict the expansion of the vascular wall under an intraluminal pressure. On the young persons, the surrounding tissues of the blood vessels also play a part in the effect of these two layers. Particularly, for the veins of the upper and lower limbs, the skin plays a no unimportant part in the restriction of this expansion. With the age, the tissues may become distended or reduce their thickness and clearly allow to show some vessels which then are less restrained by the surrounding tissues like the skin. The deformation of a vein under the influence of intraluminal pressure modifies the cross-section of its vasa vasorum and thus can alter its irrigation. The nonlinear elasticity of the vein depends, as a first approximation, basically on two structural parameters. In some cases, even a small variation of the parameters (behaviour or composition of the wall) can provoke the flattening of the vasa vasorum and thus lead to a local ischemia. Thus, one can think that a vicious cycle could be initiated. Firstly, a permanent overpressure causes a modification of the local mechanical property of the vein, which, if it is not restrained by the surrounding tissues, leads to a large expansion of the vessel wall and enhance the decrease of the irrigation. Secondly, the irrigation being insufficient, the vein wall looses its elasticity, becomes progressively rigidified and keeps its maximum deformation