Penile veins play a pivotal role in erection: the haemodynamic evidence

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摘要

Abstract

Although penile venous surgery has almost been abandoned and the venous factor eliminated as a contributing factor to erectile dysfunction, new concepts of erection-related veins has recently been described and reported in literature. We sought to conduct a haemodynamic study on human cadavers in order to elucidate to what extent penile veins act in erection, and to explore the possible role of erection-related veins as an important contributor to impotence. From November 2002 to December 2003, seven fresh human cadavers of men who had no sexual activity for at least 6 months prior to death, and in whom the penis was intact were used for this study. Infusion cavernosometry was carried out with an induction flow of 150 mL/min before and after the erection-related veins were removed. A rigid erection was attained in all subjects, lasting significantly longer ($p = 0.043$) after removal of erection-related veins. Similarly, there were significant differences in the maintenance flow ($p = 0.043$), Tmax ($p = 0.043$), Vmax ($p = 0.043$), and pressure loss ($p = 0.043$). In cadaveric penises, a rigid erection could be maintained in spite of the fact that the low flow rate of 21 mL/min is much lower than the average arterial perfusion rate observed in cases of arterial insufficiency. We therefore concluded that penile veins may play a significant role in attaining sufficient erection, and further research is required to study this possible clinical implication