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Key Words

Cavernosal vein
Para-arterial vein
Deep dorsal vein
Tunica albuginea
Penile anatomy

Distribution of Erection-related Veins in the Human Penis

ABSTRACT

The human penile venous system has been widely studied, but cavernosograms show excessive veins. This astonishing finding calls into question its accepted anatomic description. We sought to refine our anatomic knowledge from cadaveric confirmation. Six patients with erectile dysfunction underwent intraoperative cavernosography after the deep dorsal vein system was removed. There were at least 2 smaller venous systems remaining in each patient. Therefore 9 male cadavers were carefully dissected and examined. The deep dorsal vein receives drainage from the corpora cavernosa via numerous small emissary veins and from the corpus spongiosum through fewer circumflex veins. Of 9 cadavers, a cavernosal vein was found coursing along each corpus cavernosum distal to the glans in 7, in contrast to its reported description as a short segment at the penile hilum. Six cadavers were found to have independent cavernosal drainage directed to Santorini's plexus. All cadavers had 2 sets of para-arterial veins sandwiching the dorsal artery. Seven lateral para-arterial veins had their own circumflex vein, whereas the medial one communicated with the cavernosal vein. Overall, our surprising cadaveric findings of a long, independent cavernosal vein and an independent set of para-arterial veins may be important for the drainage of erectile sinusoids.

(N. Taipei J. Med. 2001; 3:245-252)

INTRODUCTION

The venous system of the human penis has been widely studied. The deep dorsal vein with its lateral branches and the cavernous vein with its short segment are well described.¹⁻⁶ Clinically we had followed the published description of the venous distribution in surgery⁷⁻⁹ until an intraoperative cavernosogram disclosed at least 2 venous systems other than the deep dorsal system in May 2000. In this film, each corpus cavernosum

was seen to have its own cavernosal vein running almost the entire length of the corresponding corpus. This surprising finding, confirmed in serial cavernosograms of other new patients, prompted us to further investigate penile anatomy through human cadaveric dissection.

PATIENTS AND METHODS

In 6 patients who underwent venous stripping sur-

Received: October 31, 2001
Accepted: December 7, 2001

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