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ANALYSIS OF THE LATEST METHOD OF PENILE VENOUS STRIPPING SURGERY IN PATIENT WITH VENO-OCCLUSIVE DYSFUNCTION

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A penile venous stripping has been effective for treating erectile dysfunction (ED) since 1986. We conduct a retrospective analysis to those who received the latest method of surgery on an ambulatory basis. From 2009 to 2016, 452 patients had a diagnosis of veno-occlusive dysfunction (VOD). Of these, 283 men underwent the latest method of penile venous stripping. They were divided into young (n=46, younger than 30 years) and older (n=237) group respectively. The surgery begins with a circumferential incision followed by identification and management of the deep dorsal veins (DDV) 1.5~2.5 cm proximal to the retro coronal sulcus. It was then thoroughly stripped and ligated with 6-0 nylon sutures with a pull-through maneuver. The cavernosal veins (CVs) were managed in a similar manner. The para-arterial veins (PAVs) were only segmentally ligated. A median longitudinal pubic incision was then made to relay the stripping of the DDVs and CVs proximally to the infrapubic angle. Finally, the pubic and circumferential wounds were fashioned. A postoperative cavernosography was made immediately. The operative times were 4.1±0.7 and 4.0±0.6 hr. respectively. The follow-up period ranged 1.2~7.2 (5.3±1.2) years. Differences in erectile function were significant between the groups of young and older group in term of preoperative IIEF-5 (n=33, 10.2±3.6 vs. n=212, 9.7±3.8) scores compared to either one-year postoperative (n=46, 19.1±3.2 vs. n=237, 16.4±3.0) ones or two years postoperative (21.3±1.7 vs. 18.2±3.2) respectively (both p<0.003). Overall, 92.3% (261/283) of the patients reported improvements. On the preoperative and postoperative cavernosograms, it was unexceptionally enhanced from weaker to stronger radiopacity by this penile venous stripping. This latest method of penile venous stripping appears to be a viable option which achieves favorable outcomes with negligible morbidity for treating ED secondary to VOD.

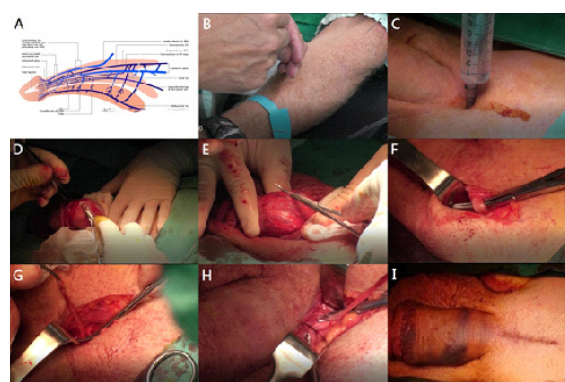


Figure 1: Schematic illustration and blueprint and ongoing penile venous stripping. (A) This is the blueprint for the latest method of penile venous stripping. It entails the new insight into erection-related veins which require being ligated at the tunical level to each emissary vein. In between the tunica albuginea and Buck's fascia, there is one deep dorsal vein (DDV), a couple of cavernosal veins (CVs) and two pairs of para-arterial veins (PAVs), in contrast to conventional one – just one single DDV. DDV is consistently in the median position and receives the blood of sinusoids of the glans penis and the emissary veins from the corpora cavernosa and of the circumflex vein from the corpus spongiosum. (B) Acupuncture is made on the acupoints of Shou San Li (LI10) Hegu (LI4) Quchi (LI11) and Waiguan (SJ5). (C) Local anesthesia is fulfilled via proximal dorsal nerve block crural block and peipenile infiltration. (D) The stripping surgery is initiated with a circumferential incision followed by degloving those tissues superficial to the Colles' fascia. The visibility of the DDV can be enhanced by squeezing the corpora cavernosa. (E) Using a pull-through maneuver, opening on Buck's fascia is made to treat the emissary vein 5-6 times until the penile base. Likewise, the CVs are managed. (F) A longitudinal pubic incision is made to relay the procedure. (G) The DDV and CVs are treated respectively. (H) As a rule there are 6-9 and 5-8 big branches to DDV and CVs respectively. (I) In our experience, a total of 76-132 ligature sites are required to finish the penile venous stripping. Both wounds are fashioned

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Recent Publications

1. Hsu G L, Molodysky E, Liu S P, Chang H C, Hsieh C H and Hsu C Y (2013): Reconstructive surgery for idealizing penile shape and erectile functional restoration on patients with penile dysmorphism and erectile dysfunction. *Arab Journal Urology* 11:375–383.
2. Hsu G L, Hill J W, Chen H S and Huang S J (2014) Novel pilot films providing dispensable information in pharmaco-cavernosography. *Translation Andrology and Urology* 4:398-405.
3. Hsieh C H, Huang Y P, Tsai M H, Chen H S, Huang P C, Lin C W and Hsu G L (2015) Tunical outer layer plays an essential role in penile veno-occlusive mechanism evidenced from electrocautery effects to the corpora cavernosa in defrosted human cadavers. *Urology* 86: 1129-1136.
4. Hsieh C H, Tai H C, Hsu G L, Chen C C and Hsu C Y (2016) Herb formula enhances treatment of impotent patients after penile venous stripping, a randomized clinical trial. *Andrologia* 48:754-760.
5. Hsieh C H and Hsu G L (2016) Current role of vascular surgery (Arterial and venous) in erectile dysfunction. In: *International book of erectile dysfunction*, 1st ed. edited by Djordjevic M L and Martins F E, New York: Nova Publisher, ISBN: 978-1-63485-271-5.

Biography

Since 1986, Geng-Long Hsu, formerly a clinical professor at China Medical University, has developed and refined a series of penile reconstructive surgeries, including penile venous surgery, corporoplasty and penile implantation, in tandem with advanced the penile anatomy and erection physiology. In 1993, he was promoted to the first Chair of Urology at Taiwan Adventist Hospital; he held that position until 1997 and then served as vice-superintendent of Po-Jen General Hospital until 2001. From 2001 to 2003, Dr. Hsu was a director of microsurgery potency reconstruction at Taipei Medical University Hospital. Afterward, he established his private practice—Hsu's Andrology—which serves as both a clinical practice and research center. In 2012, Dr. Hsu's latest method of penile venous stripping, administered via an ambulatory basis, was granted a USPTO patent. He hopes this surgery will be studied and practiced worldwide. I, Chun-Kai Hsu, am pleasurable to conduct this report in fellowship.

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