

A strategy for salvaging shrinkage soft glans penis and impending prosthesis loss in patients with a penile implant

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Key Clinical Message

A shrined soft glans syndrome is expected in patients with penile implantation. We sought to remind surgeons how to prevent soft glans penis. Although avoiding prosthesis extrusion was recommended earlier, inadvertent ignorance is persistent, so the appropriate cylinder position and novel enhancement of the glans penis were reiterated.

Keywords

Penile implant, penile glans enhancement, penile venous stripping, prosthesis extrusion, soft glans syndrome, shrinkage glans penis

INTRODUCTION

In 1998, the first agent of PDE-5 inhibitor was available to treat patients who have erectile dysfunction regardless of varied underlying causes (ED).¹ Subsequently, this type of agent opened the era of medical treatment as the first line of options for these awkward diseases.^{2,3} The second-line varied treatment strategy will be resorted if patients are poorly responsive to the oral PDE-5 inhibitors.⁴ These second-line options include vacuum constriction devices, vasodilator intracorporeal injection, endovascular therapies entailing sclerotherapy, and controversial penile vascular surgery.⁵ Although no sustainable scientific support exists, resulting in none that the Federal Drug Administration has proved in the United States, recent popularity has soared among marketers. There are many, such as extracorporeal shock wave therapy (ESWT) supported by randomized studies,⁶ platelet-rich plasma (PRP) injection, stem cell injection, etc. Still, the penile implant remains a golden solution for those patients whose erection dysfunction has been refractory.⁷

Some complications in this golden standard option appear unavoidable, such as shrined soft glans syndrome, mechanical failure, intracorporeal infection, and prosthesis extrusion, which is the most hazardous.⁸ These issues might suffer psychologically, but not just physically, for patients who underwent a prior penile implant, particularly the most typical issue of soft glans syndrome complained about by their sexual partner. We report an example case of suffering from soft glans syndrome with impending prosthesis loss in his sixth journey of penile implantation. However, he is unaware of an imminent prosthesis loss on the patient's side. Given appropriate housing, a penile implant was published in 1994;⁹ this surgery niche has not been popularly recognized in the urology profession; we sought to report this case in solving the shrinkage soft glans syndrome and implant malposition with a novel enhancement strategy,¹⁰ in addition to repositioning the implant on an ambulatory basis.

2 CASE HISTORY AND EXAMINATION SUPPLEMENTED WITH X-RAYS

A 42-year-old truck driver has suffered soft glans syndrome and glans shrinkage in the last two years after his sixth penile implant performed elsewhere in 2021. Subsequently, he enjoyed the intromission sex per two days afterward. Soft glans syndrome and a shrunk glans size are aggravated gradually, intolerable conspicuous complaints from his female partner. He started his sixth journey with the penile implant at the age of 27 when a penile implant with a three-piece inflatable (AMS 700) type was made in 2008 elsewhere. It was removed because of an early infection followed by a mechanical failure, which made him commit the first suicide attempt. Then, a malleable type (Spectra) penile implant was made in another medical center elsewhere. He consulted us with an incomplete hinge because of uncomfortable pressures resulting from the prosthesis's hinging attempt despite reassurance made for many months by his attending surgeon. An extra extender was disclosed by KUB (Fig. A, B), which was removed by our salvage surgery (Fig. 1 C, D). A malleable implant should be inconvenient for holding heavy boxes during his professional work; he receives an inflatable, malleable, inflatable (Fig. 1 E, F), and a malleable type of implant, respectively, in different medical institutes, from age 36 to 40. In 2021, a suicide attempt sustained and traumatized his left hip joint, which was fixed by three nails. It resulted from no sexual function and fewer job opportunities, which was improved in late 2021. then, a single malleable implant was housed in his right corpus cavernosum; meanwhile, he was told that the left-side corpus was too fibrotic, narrowing to be implanted elsewhere.

3 FURTHER INVESTIGATION AND TREATMENT

In December 2023, he was referred for solving soft glans syndrome and gradual shrinkage of glans diameter, and an impending prosthesis loss was noted during a physical examination (Fig. 2A). He requested never to touch his implant but just the solution for glans enhancement. A glanography was conducted after a # 19 G scalp needle was fixed at the dorsal aspect of the glans penis with Anterior-Posterior (Fig. 2 B) and lateral view X-ray (Fig. 2 C). A venous complex was demonstrated by bulks of the deep dorsal vein (DDV), two cavernosal veins (CVs, curved arrow) complex (curved arrow in inserted right lower), and the corpus spongiosum (double-headed arrow). Under acupuncture-assisted local anesthesia,¹¹ neither electrocautery nor a suction apparatus was used. The salvage surgery was blueprinted with our proper position to the sub-room above the corpora cavernosa (Fig. 2D). Penile venous stripping was made, entailing the DDV and CVs being stripped, during which 29 ligations were made for the retro-coronal plexus using 6-0 nylon at the exit of every emissary's vein, venous ligation was performed at the penile hilum with 5-0 nylon. Then, a 3.5 cm longitudinal tunic incision, corporotomy, was performed along the right corpus cavernosum to relocate the implant appropriately, followed by a tunic fashion with 6-0 nylon.

FOLLOW-UP X-RAY

An uneventful postoperative course exists, and he presents us with gratifying glans enhancement diameter. The postoperative glanography was performed (Fig. 2 E, F). An increment of the diameter of the glans penis was 25.0%, diameter from preoperative 30.0mm to postoperative 37.5mm. He drove himself home immediately postoperatively with an uneventful course. He was gratified and shifted from a tractor-trailer driver to a bus driver profession with no necessity of weight withholding and enjoying his harmonious family life.

5 DISCUSSION

Given human erection is a natural hydraulic phenomenon, insufficient erection rigidity might also be a natural course in a male's life if erectile dysfunction (ED) is strictly defined as over 25 % of sustaining an ability to attain or maintain a rigid erection for satisfactory coitus. Particularly, the primary impotence will ruin one's life psychologically and physically, as in this case.¹² It, unfortunately, conspicuously does so in a young man while active sex is granted.¹³ In primary ED, the penile implant remains the final and golden solution for ED men. A penile implant is an old strategy for providing necessary rigidity that sustains no weaning, even in the era of oral medication for treating elusive ED.¹⁴ As in the De Novo penile fibro-vascular assembly, the sinusoids of the glans penis are independent of that of the corpus spongiosum;¹⁵ after that, a ligation of its marked drainage veins is a natural way for glans enhancement.

Given just evidence can speak volumes and only practice can test the truth, should medical practice be

exceptional? Both penile venous stripping and factual enhancement of the glans penis are not above controversy; along with prostrated research, both strategies seem to sustainably long-term benefits. In addition, the innovative penile fibrous anatomy was explored several decades ago. This was an anatomy-based penile implant that could prevent the traditional soft and shrinkage glans penis.¹⁶ A further reiteration appears necessary, conspicuously in the exclusively natural method, without the necessity of artificial materials for enhancement purposes.

6 CONCLUSION

Despite this, it is expected to encounter shrinkage soft glans syndrome in patients who have undergone penile implants. It is preventable intraoperatively and treatable if soft glans syndrome exists. So does an inappropriate location of penile prosthesis.

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CONFLICTS OF INTEREST

None of the contributing authors have any conflict of interest, including specific commercial interests, relationships, and affiliations relevant to the subject matter or materials discussed in the manuscript.

AUTHORS CONTRIBUTION

G L Hsu: surgery, study concept, data collection, data interpretation, authoring the full manuscripts. C H Chung: working on the above issues, including acquisition, and recruiting the imaging. C H Hsieh: data collection, analysis, interpretation, acquiring, and then composing the photos. T C Lin: Surgery fellowship in playing assistant role. J SC Chueh: Edited the paper and led the team.

DATA AVAILABILITY STATEMENT

The data for this case report were taken from the case clinical records and anonymized. Written patient consent was gained for this case report.

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Legends

Figure 1. X-ray imaging on penile implant journeys of this 42-year-old truck driver. A. The penis was putting downward; an Anterior-Posterior pelvic film disclosed an extender of the penile prosthesis was left in the right corpus cavernosum (dark arrow in the inserted film, right bottom), which obscured the clear space between two cylinders, its medial location implicated why incomplete hinging malleable implant, resulting from eliciting pain by compression. B. Further film disclosed the extender (arrow in the inserted film) making a space competition on his penoscrotal region while the penis was directed upward. C. After salvaging surgery, an AP view showed no more extender; note the film comparison with that in A. D. Again, it showed no extender compared to the film in B. E. In his fourth penile implant with three pieces of inflatable type, the pump activator was ready to erode the scrotal skin (inserted left) and the proximal tip of the implant (dark asterisk in inserted right). F. Similar finding was noted when the penis was filmed in a lateral position for comparison with that in E.

Figure 2: Photo and imaging evidence with surgery illustration of anatomy blueprint in this 42-year-old man. A. Photo of the implementing prosthesis extrusion via urethral meatus (white arrow). Note patient's fingers were holding his penis. B. While the penis was positioned downward, via a 19G scalp needle (curved arrow) inserted in the left lateral aspect of the glans penis, a glanography was conducted via contrast medium injection (white cross), then an Anterior-Posterior pelvic film disclosed a single malleable penile prosthesis was shown in the right corpus cavernosum (white arrow) and three nails for treating his traumatic hip joint resulting from a suicide attempt (hollow arrow). C. Glanography was obtained in a 30-degree right oblique view while the contrast medium was injected. Note the erection-related venous plexus was distributed on the dorsal aspect of the corpora cavernosa, and the corpus spongiosum (curved double arrow). The implant (white arrow) was ready to extrude through the urethral meatus. D. The anatomy illustration for reinsertion of the mislocated implant, salvaging the penile implantation, was made following the novel strategies for glans enhancement. E. In a 30-degree right oblique view, appropriate implant location and significant glans enhancement after the penile venous stripping. Note that the erection-related venous plexus was no longer seen and, meanwhile, the corpus spongiosum (curved double arrow) was playing a more significant

role of venous drainage route, compared to those in the C. F. As the penis was downward, in the glanography in injecting (white cross), the sustainable implant and significant glans enhancement in physiologically hemodynamic, compared with those in B.



