Facing challenges in penile prosthesis implantation
Mahmoud, O.K.Z.

Citation for published version (APA):
Penile prosthesis implantation is the most important measure for the management of erectile dysfunction resistant to pharmacological treatment. Despite the notable advancement in implants and implantation techniques, the procedures still has its limitations and unresolved obstacles that may undermine feasibility and outcome. This work presented solutions for some of those long-standing obstacles. The next step forward should involve enhancing public and medical community’s awareness of the preventable causes of those obstacles as well as the therapeutic options presented in case those obstacles have set in, enhancing and transferring experience with the therapeutic options in dedicated tertiary care reference centers for penile implantation and developing the instruments required for effective execution of the proposed treatment measures. Finally, individualized therapy (tailor made treatment) is an entity that we think should be added to the counseling protocol of ED patients and to their therapeutic options.

It has been illustrated that penile prosthesis implantation is now more feasible in cases of penile fibrosis than before\(^{22,23,38}\). Nevertheless, a preventive approach is important as regards penile fibrosis, avoiding its occurrence in some cases and ameliorating its extent in others. Public awareness is essential in populations with high prevalence of sickle cell anemia such as in Central and West Africa as to the entity of priapism, medical and surgical options available, and the necessity of early implantation in case of frequent incidents before severe fibrosis sets in. Since tissue damage in priapism is time-bound and is accordingly considered as a medical emergency, it is therefore of value to educate the public about this entity (regardless the origin), much in the same way as education about safe sex and sexually transmitted diseases, possibly through sex education programs widely available in schools. Unawareness has resulted in many cases presenting late with consequent fibrosis. Rarity of the condition is no excuse for letting priapism victims suffer the consequences.

Family physicians and general practitioners should be made aware of priapism, its urgent primary management by resolution or urgent implantation of a penile prosthesis in refractory cases\(^{39}\), and the tertiary referral centers that can handle delayed cases. On the part of urologists,
vigorou anti-infection measures should be adopted upon prosthesis implantation to avoid infection, extrusion and the difficult re-implantation thereafter when fibrosis has set in. Along the same line, diabetic patients should be well controlled prior to surgery. New lines of antibiotic coated implants should also help avoid infection. More urologists should be trained to handle challenging and difficult implantation, the basic skills of which are already acquired by the majority as part of common procedures such as transurethral resection of the prostate and visual urethrotomy. (or should we recommend to have difficult cases treated in a highly selective number of centers to obtain enough expertise)

In cases candidate for penile implantation, ultrasonographic scanning of the corporal tissue for fibrous transformation should help in planning for the procedure, to avoid facing unanticipated difficulty in dilatation, even when case history and clinical examination do not point to fibrous transformation of cavernous tissue.

Upon handling a case with corporal fibrosis, for the purpose of infection control, a dedicated resection set should be available in centers practicing implantation surgery, not to be used transurethrally, reserved for penoscopy. Preferably, ethylene oxide should be the method of sterilization. Alternatively, and if penoscopy is not available, ultrasound resection should be, where ultrasound equipment is widely available. There is no need for a dedicated intra-operative sonography device since any device can be used for guided resection by draping the probe in sterile surgical gloves and sterile drapes.

As regards cases of Peyronie’s disease, there is need for a custom designed TCI blade. Contrary to visual urethrotomy where incision is along the urethra, TCI of Peyronie’s deformity is preferably performed sideways, across the plaque rather than along it. Currently, this is only available by using the diathermy needle electrode. Ideally, it should be performed by a custom made transverse cutting blade, which is where manufacturers of endoscopic instruments should come into action.
As regards distal extrusion of penile prosthesis, the implanter should not be tempted into replantation without repair of the distal defect, otherwise, re-perforation is highly likely. This requires dissemination of this principle among implanters. More importantly, the condition can be prevented at large through implantation of inflatable rather than semirigid penile prosthesis, particularly in predisposed patient such as diabetics and those with spinal cord injuries. Unfortunately, inflatable implants are not available / unaffordable in many developing countries around the world. Even worse, implantation is not covered by health insurance. It is therefore that semirigid rods are implanted on the widest scale regardless patient needs. This can be an opportunity for manufacturers to offer a middle-of-the-road affordable solution for developing countries. We believe that manufacturers could be interested in such an opportunity out of patient safety considerations as well as to exploit the potentially large target market.

Finally, as regards supersizing the penis following implantation\textsuperscript{27}, we believe that patients should be made clearly aware of the consequent change in size following surgery and consent to it, but in the same time be made aware of the solutions including the use of phosphodiesterase inhibitors to enhance complementary erection, and as a last resort, surgical augmentation, tailored / individualized therapy for those eventually dissatisfied with penile dimensions following implantation. Yet, there are other domains to be explored including the use of synthetic materials for girth augmentation, as we have so far used autologous tissue. The utility of synthetic material has the virtues of no-donor-site, and lower operative time that may reflect on morbidity.
References


