Reconstruction of the penile skin loss due to “radical” circumcision with a full thickness skin graft

Rekonstrukcija gubitka kože penisa zbog radikalne cirkumcizije kožnim graftom pune debljine

Ivan Ignjatović*, Predrag Kovačević†, Nina Medojević*, Milan Potić*, Vladimir Milić*

Clinical Center Niš, *Clinic of Urology; †Clinic for Plastic and Reconstructive Surgery, Niš, Serbia

Abstract

Background. Excessive resection of penile skin is a rare but important complication of circumcision. Penis “trapping” under the skin and consequent sexual dysfunction occur as a result. Case report. Excessive circumcision with complete resection of the penile skin is shown. Penis, trapped under the skin, was deliberated and skin defect was substituted with the full thickness skin graft. One year after the surgery penis has a good cosmetic appearance, adequate size and sexual function. Conclusion. Full thickness skin graft is a good option for augmentation of the penile skin loss in cases with intact hypodermal tissue and extensive skin loss, for the reconstruction in a single act.

Key words: circumcision, male; treatment outcome; reconstructive surgical procedures; postoperative complications; skin transplantation.

Introduction

Adult phymosis is uniformly treated by circumcision. Surgery is simple and complication rate is low, but it is usually performed by relatively inexperienced surgeons. Incidence of complications varies from 0.2% and may reach up to 85% from relatively simple up to catastrophic ones. Excessive excision of the penile skin that results in the so-called „trapped” penis can severely compromise both voiding and sexual performance of a patient. A case with excessive resection of the penile skin and reconstruction with the full thickness skin graft is discussed.

Case report

Fifty five years old, sexually active male underwent a circumcision due to difficulties during sexual intercourse. Infection of the penile shaft skin developed after the circumcision. The final result was the penis completely sinked into the prepubic fat, with only a glans protruding outside even in erection. The operation was performed in general anesthesia. The penis was completely deliberated, during the secondary surgery, and almost complete defect of the penile skin was evident (Figure 1). Full thickness skin grafts were taken from the non-hirsute area of inguinal region and the penis was covered (Figure 2).
A graft was fixed in place with several sutures, and non adherent compressive wound dressing was performed. The penis was fixed in a dorsal position and dressing was removed after five days. One year after the surgery the penis has a good cosmetic appearance with the satisfactory sensation and adequate sexual activity (Figure 3).

Discussion

The goal of the treatment, after extensive loss of the penile skin, is to achieve good cosmetic appearance of the penis and restoring adequate sexual function.

Multistage operations with a significant time delay can lead to secondary sexual dysfunction due to psychological phenomena so, less aggressive approach performed as a single act surgery is preferable 3.

Submersion of the penis under the scrotal skin is a simple and reliable method for skin substitution 3. However skin is hirsute, that is permanent problem, as well as multiple scars that occur after second stage of the surgery. Local flaps from the abdominal skin have almost the same disadvantages and less success rate 3.

Other alternative is a skin grafting from the non-hirsute area with the full thickness or split thickness skin graft. Skin grafting of the penile shaft is generally less successful and strictly depends on surgical technique and infection prophylaxis 4, 5. The most important prerequisite for graft survival is well vascularized “bed”, appropriate tension, as well as firm compression of dressing over it 4, 5. Skin graft could be harvested from non-hirsute skin, that has adequate elasticity to enable function of the penis in the flaccid and erect state, as well as, tactile sensation 6, 7. Graft from the scrotum is the most similar but the skin is hirsute, unsuitable for the excessive skin loss. Split thickness skin graft is used in numerous reports successfully, but with the expressed shrinkage of the graft and sensitivity to infection 8. Full thickness skin graft was a successful technique and keeps elasticity of the skin better 4. In elective cases with “trapped” penis, hypodermal tissue is kept in situ, so the circumstances for graft survival are substantially better than in cases with traumatic degloving of the penis, in whom skin with hypodermal tissue are removed and Buck’s fascia exposed. So, opportunities for graft survival are fairly improved. Keeping in mind elasticity of the skin as very important for postoperative sexual function, semi erect state was used during the surgery in order to tailorize graft appropriately. Postoperative vacuum devices are sometimes advised to keep adequate length of the penis especially when the excessive amount of suprapubic fat is present 6, 9.

Conclusion

Full thickness skin graft from groin region could be suggested as preferable way for the skin substitution of the penile shaft due to low contraction rate, hairlessness and good elasticity. It remains to be a good option, for the single act surgery, in selected cases with extensive skin loss in genital region.
REFERENCES


Received on March 12, 2009.
Revised on November 19, 2009.
Accepted on December 11, 2009.