

A CASE REPORT OF PENIS RECONSTRUCTION FOR PARTIAL PENIS NECROSIS FOLLOWING CIRCUMCISION*

*Yücel Erk MD**, Oya Kocabalkan MD****

SUMMARY: Erk Y, Kocabalkan O. (Department of Plastic and Reconstructive Surgery, Hacettepe University Faculty of Medicine, Ankara, Turkey). A Case report of penis reconstruction for partial penis necrosis following circumcision. *Turk J Pediatr* 1995; 37: 79-82.

Circumcision is one of the most common operations performed world-wide and is usually done for religious and social reasons. Although it is a simple procedure, serious complications may result. These complications may range from hemorrhage to total amputation. Reconstruction of a partial amputation of phallus due to circumcision by full-thickness skin grafting is presented in this paper. *Key words:* circumcision, complication, penis reconstruction.

Circumcision is one of the most commonly performed operations in the world. It is a routine practice in some ethnic and religious groups. In Islam, circumcision of a male child is a "must" and is usually performed before puberty with a ceremony called a "circumcision wedding", where all relatives and neighbors witness the boy entering manhood. Usually this procedure is performed by a local man with no medical training. It can be done with a mechanical device such as a cutting ring, and is usually performed without anesthesia. Recently more and more boys in Turkey, especially in large cities, are being circumcised under a doctor's supervision. Although it is a simple procedure, in inexperienced hands it may result in devastating complications in the short-and long-term. Possible complications of circumcision include hemorrhage, edema, infection, meatal stenosis, urethral fistula, unsightly scars, penile curvature, shortness of the shaft skin, and, in the extreme, partial or total penile loss. The true incidence of the complications is not known in Turkey, since in the male-dominant Turkish population it is considered a shame to have any deformity concerning one's penis. Frequently these patients seek medical attention for other health problems. There are few reports about reconstruction of subtotal amputation of the penis due to circumcision. However, several cases and reconstruction methods have been reported for partial and complete penis loss for other reasons²⁻⁵.

* From the Department of Plastic and Reconstructive Surgery, Hacettepe University Faculty of Medicine, Ankara.

** Professor of Plastic and Reconstructive Surgery, Hacettepe University Faculty of Medicine.

*** Research Assistant in Plastic and Reconstructive Surgery, Hacettepe University Faculty of Medicine.

We are presenting a young boy with a partial penis loss following circumcision, which was reconstructed using a full-thickness skin graft in our clinic.

Case Report

A five-year-old boy was taken by his uncle to our clinic with the complaint of having no penis. He was circumcised at age two by a local "circumciser". After the procedure, he experienced edema and vascular compromise and lost most of his penis. On physical examination the child seemed to have no extruding phallus and no palpable corporal tissue within the scarred perineum. During healing, the skin probably pulled the penile shaft and disguised the actual length of remaining penis (Figs. 1a and 1b). A voiding cystography was performed to visualize the length of the urethra distal to the bladder neck. Before the operation

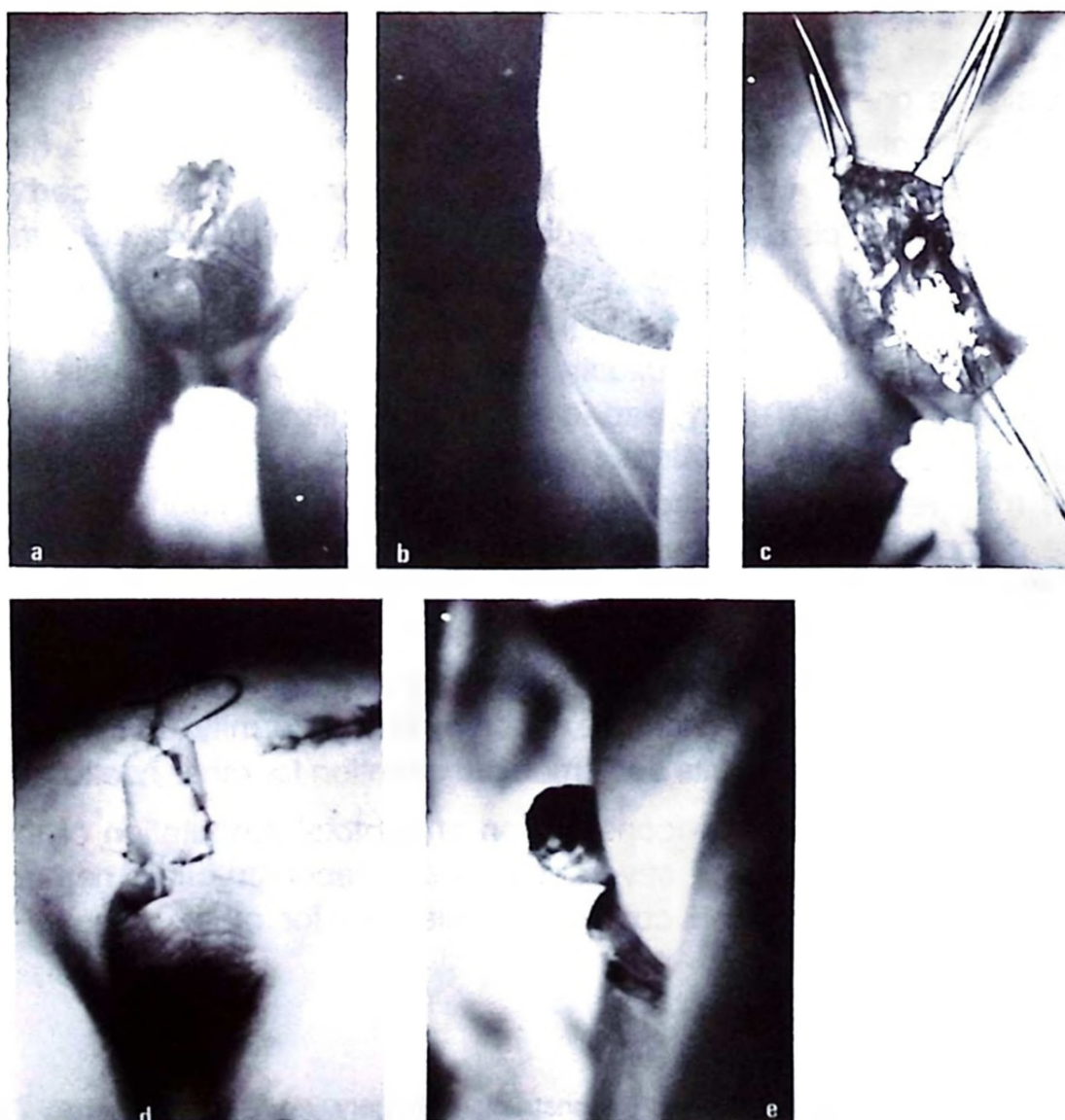


Fig. 1. Child's penis from (a) anterior and (b) lateral view. Corporal bodies dissected down to the pudental neurovascular bundle (c) Full-thickness skin graft harvested from left thigh applied over penis shaft (d) Post-operative week three with uneventful healing (e).

a silicon feeding tube was inserted as a stent into the urethra in order to drain urine so as not to soil the dressing. A circumcision type of incision was employed around the urethral meatus with more than 1 cm of skin left on the urethral side. Surprisingly, after dissecting the scar and the soft tissue, corporal bodies were encountered. An artificial erection was provided by saline injection into the corporal bodies using a No: 23 needle. This was done to allow easy dissection of the corporal bodies (Fig. 1c). The corpora cavernosa and the corpus spongiosum were dissected over the tunica albuginea, and the corporal bodies were stripped down to the pudental neurovascular bundle; thus, release of the suspensory attachments was accomplished. During the dissection the internal pudental neurovascular bundles which provide dominant blood and nerve supply to the penis and scrotum were located and preserved in order to provide a functional and viable penis. Unnecessary mobilization of the corpora was avoided in order not to displace the penis further below the symphysis. The stretched penile length was considered to be within the normal limits for the patient's age. In order to match the skin color, a 12 x 3 cm full thickness skin graft was harvested from the left inguinal region with a number 10 surgical blade. 6/0 chromic catgut sutures were used to suture the graft around the penis (Fig. 1d). The suture lines were kept to the ventral aspect of the penis in order to improve the aesthetic appearance. The penile shaft skin was sutured down to the base of the penis, and the suprapubic skin was sutured to the rectus fascia with 6/0 prolene sutures. Post-operatively the skin graft healed with no complications (Fig. 1e).

Discussion

Various studies supporting or opposing circumcision have been published^{6,7}. Some authors recommend circumcision for its medical advantages, while others consider both the pain and possible psychological effects of circumcision as reasons not to perform routine circumcision. Religious, cultural and traditional factors remain the primary determinants in the parents' decision as to whether the child will be circumcised.

Possible complications of circumcision include hemorrhage, edema, infection, meatal stenosis, urethral fistulas, unsightly scars, penile curvature, shortness of shaft skin, and, in the extreme, partial or total penile loss. If circumcision is done, it must be performed by experienced medical personnel in order to minimize possible complications.

Skin grafts, local flaps or distant flaps can be used for reconstruction of partial penis amputation following circumcision. Because in our case the shaft length was within normal limits, we preferred skin grafting the remaining corporal bodies instead of recreating a penis with other techniques.

Full-thickness skin grafts give durable and aesthetic results in penis reconstruction, and a skin graft from the inguinal region matches the color of the penile skin. Also, full-thickness skin grafts appear to grow at the same rate as the patient. Baran and Horton⁷ have experimentally demonstrated this parallel growth in minipigs. We expect the child's penis will grow in accordance with his total body growth, resulting in a functional penis size.

REFERENCES

1. Bhanganada K, Chayavatana T, Pongnumkul C, et al. Surgical management of an epidemic of penile amputations in Siam. *Am J Surg* 1983; 146: 376-382.
2. Donovan JF, Kaplan WE. The therapy of genital trauma by dog bite. *J Urol* 1989; 141: 1163-1165.
3. Horton CE, Jordan GH, Spindel MR, Reconstruction of male genital defects: acquired. In: McCarthy JG (ed). *Plastic Surgery*, Vol.6. Philadelphia: W.B. Saunders Co; 1990: 4180-4202.
4. Horton CE, Dean JA. Reconstruction of traumatically acquired defects of the phallus. *World J Surg* 1990; 14: 757-762.
5. Sterenberg N, Golan J, Ben-Hur N. Necrosis of the glans penis following neonatal circumcision. *Plast Reconstr Surg* 1981; 68: 237-239.
6. Weiss GN. Neonatal circumcision. *South Med J* 1985; 78: 1198-1200.
7. Baran NK, Horton CE. Growth of skin grafts, flaps and scars in young minipigs. *Plast Reconstr Surg* 1972; 50: 487-496.