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Penile fasciocutaneous flap urethroplasty for the reconstruction of pediatric long anterior urethral stricture

Background

Though pediatric urethral stricture is an uncommon urological problem, it is a challenging urological one. The causative factors are iatrogenic, traumatic, and inflammatory. In the current study, the authors report their experience of the treatment of pediatric long anterior urethral stricture using penile circular fasciocutaneous flap.

Patients and methods

The study included 23 pediatric patients who had long anterior urethral strictures, which were repaired using circular penile fasciocutaneous flap. The flap was elevated through a subcoronal circumferential incision and then it was split ventrally. The strictured portion of the urethra was sharply incised ventrally, extending to 1 cm into normal urethra. The flap was sutured to the urethral plate over silicone catheter of suitable size, which was removed after 3 weeks. The follow-up was scheduled every 3 months for the first year and then yearly thereafter.

Results

The urethroplasty was successful in 20 cases (86.96%). There were two cases complicated by stricture recurrence, which was managed by visual internal urethrotomy. Fistula formation was reported in one case and was repaired by simple excision and closure. Penile skin necrosis was reported in only one patient and was managed by frequent dressing.

Discussion

During the last five decades, there was a substantial advancement in the reconstruction of long or complex anterior strictures due to the use of grafts and flaps. During pediatric urethral stricture repair, particular attention must be paid to the differences between adults and children anatomy, e.g. the small urethral lumen and tissue delicateness. McAninch introduced the reconstruction of complex anterior urethral strictures utilizing circular penile fasciocutaneous flap. The technique of penile fasciocutaneous flap urethroplasty takes long time and requires meticulous dissection. Therefore, it should be restricted for long or complex anterior urethra strictures. Success rate in this study was 86.96%, which is in the same league as that reported in literature as regard adults penile fasciocutaneous flap urethroplasty. Whitson et al. reported success rates of 84% and 79%

in the 5th and 10th years, respectively. In another study, Kim et al. revealed a success rate of 68.9%. In this study, complications incidence was 21.6%, which is consistent with reported incidence of complications of adults penile fasciocutaneous flap urethroplasty (8%e20%).

Conclusion

According to the outcomes of this study, penile fasciocutaneous flap urethroplasty is a reasonable modality for the reconstruction of long anterior urethral stricture in pediatric patients especially after circumcision.