

Long Term Complications of Hypospadias Repair

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Abstract

Despite advances, hypospadias repair remains one of the challenging operations in urology. Its long term complications like micturition problems, psycho-social development, sexual dysfunction, fertility, hairy urethra and Balanitis xerotica obliterans (BXO) have been discussed. Reliable information on these complications are scarce in the literature.

Keywords: Long term complications, Hypospadias repair.

Introduction

Hypospadias is the second most common malformation of the male external genitalia. Several repairs of hypospadias have been discussed in the literature. Reports of complications of these corrective operations focus on voiding and appearance of penis like urethrocutaneous fistula, urethral stricture, diverticulum, meatal complications and persistent chordee but there are very few studies which deal with psychosocial, sexual and fertility aspects in the long term follow up of these patients. Little attention is directed to the end results in adults. BXO, hairy urethra and micturition problems have also been under reported.¹⁻³ With advances in techniques and the consistently lower complication rates being achieved in specialist hands, attention is now focusing more on subjective measures. A poor cosmetic result is the commonest complication often related to irregular scars with skin blobs and excess of ventral skin.

Assessing the cosmetic results of hypospadias surgery is an inherently subjective exercise. Cosmetic outcome may be judged from a series of postoperative photographs to give an element of objectivity. TIP repair was rated as giving significantly better cosmetic result for the meatus, glans, shaft and overall appearance. Comprehensive scoring systems encompassing meatal shape, location, urinary stream, straightness of erection & occurrence & complications has been devised to assess long term results.

The long term psychosocial and psychosexual sequelae of hypospadias and its treatment are the most difficult aspects of outcome to quantify.

Recent studies are therefore beginning to lend weight to the belief that modern procedures performed in first year or two of life will result in fewer psychological sequelae in adult life.

Discussion

Micturition Problems: Defects of micturition are frequent and troublesome and is the patient's main complaint quite often. Some find it difficult to aim the stream into a normal WC and several habitually sit

down to micturate. A few spray their trousers and shoes and occasionally the shoes of the man standing next to them. Others manage to control their stream by manipulation of the fore-skin. A few have difficulty with the commencement or the force of stream. Some have terminal dribbling. Deflection of stream is probably related to the shape of meatus, presence of a trough, skin web or angle of the glans. Spraying of urinary stream occurs in over two – third patients and is related with meatal size. Larger the meatus, more severe the spraying.⁴

Psychosocial Problems: Influence of concern of the parents about the child's malformations, repeated trauma of hospitalization and operations at a vulnerable age on the psychosocial development needs to be further studied.⁵

Hypospadias adults are usually less qualified professionals. They tend to be less competitive socially in their choice of profession, but overall they have a socially stable life. One third of these are sufficiently self conscious of their deformity to change publicly and half are anxious during adolescence about their future sexual function and fertility. Nevertheless, biological sexual maturation occurs in normal time Majority regard their penis as abnormal and thus suffer impairment of a most important part of their body image of eg. voiding function, cosmesis, psychosexual outcomes and patient/parental satisfaction.

There is some evidence of emotional disturbances. They are less secure in their maleness with preference for more feminine roles and cross gender behaviour, though no increase of overt homosexuality has been reported. These patients are more inhibited in forming sexual relationship as they fear or anticipate ridicule or rejection because of their penile deformity.

Sexual Function: Sexually hypospadias adults are relatively normal despite adolescent anxiety. Establishment of sexual life may be retarded. First erotic kiss is delayed, first intercourse is significantly later and numbers of coital partners are less as

compared to the normal adults (limited sexual relationship).⁶ There is no significant difference in sexual desire and overall they have a happy sexual life. No significant difference was noted in IIEF – 15 score, overall sexual satisfaction level. Serum testosterone level do not differ significantly. Rarely a patient describes difficulty in penetration due to chordee or smallness of penis or both. There might be some pain on intercourse due to abnormal skin tethering. Forceful ejaculation may be absent, dribbling or passing semen after the intercourse may be present. Anejaculation in these patients may be due to underdeveloped prostate & seminal vesicle structures, ureth-obstruction or diverticulum, hypoplastic corpus spongiosum with failure of urethral peristalsis or other factors.⁷ Diminished penile sensation could be present.

Fertility: There is no significant difference in fertility when both the testicles are present normally, though associated undescended testis or hermaphroditism may affect the fertility. Saccular dilatation of the reconstructed urethra may cause retention of semen and infertility.

Balanitis Xerotica Obliterans (BXO): BXO is a late complication that may be seen in up to 4% of hypospadias repairs. A long unexplained H/o recurring or later onset strictures should immediately raise suspicion of BXO (Lichen-sclerosus). Clinical findings of an indurated neourethra with typical white discoloration and fibrosis around the meatus make the diagnosis almost beyond doubt. BXO is one of the most important yet often unrecognised cause of late hypospadias failure.

Meatal stenosis tends to recur in patients with BXO who have undergone meatoplasty or dilatation. It may be treated with topical corticosteroids. Many will require excision of the involved area and reconstruction with healthy tissue (buccal / bladder muosa). Dilatation and urethrotomy do not cure BXO. Substitution with genital skin leads to early restructure.

Hairy Urethra: If hair-bearing skin is used for the repair the patient may eventually experience complications related to hair in the urethral lumen. In the most severe form hair may protrude from the meatus, presenting as a urethral beard. It can occasionally result in encrustation, stone formation or recurrent urinary tract infection. In severe cases, the affected neourethra is best excised and repaired with hairless skin. Methods of scrotal depilation include shaving, superficial radiotherapy, electrolysis of hair root and photocoagulation with a NdYag Laser, urethral instillation of a depilatory cream.

Conclusions

Many of the newer operations even if they are one stage and produce few fistulae, have still to be tested by this sort of review in the future. There is no doubt that in hypospadias surgery more than most, only the end justifies the means. It is suggested that most emphasis should be given to the final result in the adult when hypospadias surgery is being assessed. Need for active follow up through to genital maturity is essential.

Future lies in new innovative operations like Tissue engineered urethral reconstruction consisting of Collagen matrices seeded with urothelial cells to repair urethral defects and changes in professional attitude i.e. emergence of Hypospadiologist - a surgeon committed to excellence in hypospadias surgery with a case load sufficient to develop and maintain a high level of specialist expertise. The era of occasional hypospadias surgery is fast disappearing.

References

1. Eric A Jones, Andrew L Freedman, Ehrlich RM: Complications of urologic surgery. Ch-02, third edition, W.B. Saunders & Company, 2001;592-601.
2. Kelalis P, Benson CR and Culp OS: Complications of single and multistage operations for hypospadias: a review. *J Urol* 1977;118:657.
3. Farkas LG, Hyme J: After effects of hypospadias repair in childhood. *Postgrad Med* 1970;47:103.
4. Sommerlad BC: A long term follow up of hypospadias patients. *Brit J Plast Surg* 1975;28:324.
5. Robertson M, Walker D : Psychological factors in hypospadias repair. *J Urol* 1975;113:698.
6. Berg R, Svensson J and Astrom G: Social and sexual adjustment of men operated for hypospadias during childhood: A controlled study. *J Urol* 1981;125:31-316.
7. Nelson CP, Bloom DA, Kinast R et al: Patient reported sexual function after OMG Urethroplasty for hypospadias urology. 2005;66:1086-90.
8. Bubanj TB, Perovic SV, Milicevic RM, et al: Sexual behaviour and sexual function of adults after hypospadias surgery, a comparative study. *J Urol* 2004;171:1876-79.
9. Mureau MA, Slijper FM, Mijman RJ, et al. Psychosocial adjustment of children and adolescents after different types of hypospadias surgery: a norm related study. *J Urol* 1995;154:1902-07.
10. Kenawi MM: *Sexual function in hypospadiacs Br J Urol* 1975;47:883-90.
11. Mureau MA, Slijper FM, Slod AK et al: Satisfaction with penile appearance after hypospadias surg. *the patient and surgcon view Jura* 155 – 703-706, 1996.
12. Vander Werff. Long term follow up of hypospadias repair. *Plastic & Reconstr. Surg.* 105, 2, 600-608, 2000.
13. Mondrani N., Panchiotti R, Bonfe M et al. Hypospadias incidence and effects on psychosexual development as evaluated with the MMPI test in a sample of 11,649 young Italian men. *Urol. Int.* 2002; 68, 81-85
14. Sandberg DE, Meyer HF, Hensle TW et al. Psychosocial adaptation of middle childhood boys with hypospadias, after genital surgery. *J. Paediatr. Psychol.* 2001, 26: 465-75.