Current Practice

Fiddling with the foreskin

B A D Jayawardhene[1]

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Introduction

The foreskin of the penis or prepuce in the male child has caused a lot of concern to child care medical personnel and parents the world over. While it is somewhat controversial as to whether the foreskin predisposes to increased incidence of urinary tract infection[1], it appears that most medical personnel are so worried about the consequences of a non retractile prepuce in the infant, that they think it necessary to do some intervention to make the foreskin retractile in order to prevent various "ill effects". These interventions vary from forceful dilatation to neonatal circumcision, although the latter is mainly done for religious reasons. It appears that a lot of unnecessary interventions are being done due to misunderstanding of the natural development of the foreskin.

Proper management of the problems of the foreskin needs understanding of both foreskin embryology and it's natural development after birth. In the fetus, genital differentiation takes place between gestational weeks 9 and 13. The gonadal tubercle forms the glans penis with a prepuce which is adherent to it's surface. This attachment persists through gestation. Thus, the foreskin cannot be retracted in newborns without disrupting the natural adhesions which attach the epithelial layers of the inner prepuce and the glans[2]. Glanular secretions and sloughed epithelial debris accumulate beneath the foreskin elevating it from the glans penis and eventually facilitating separation. This natural process seems to be misunderstood by most parents and medical practitioners alike. This build up of smegma can cause collection of this under the foreskin as visible and palpable lumps; these also are considered pathological and some clinicians even consider these as growths requiring surgical excision.

Definitions

Phimosis really means a situation where the foreskin cannot be retracted after it has separated off the glans and is freely mobile over the glans but cannot be retracted due to narrowing caused by a fibrous band of the preputial opening.

Paraphimosis is partially stenotic preputial ring retained at the coronal sulcus proximal to the corona.

Balanoposthitis is inflammation of the glans and foreskin together but it is commonly referred to as balanitis.

Clinical situation

One major problem relating to foreskin occurs during the first few months of life, the parents bringing their infants because of straining and crying on micturition, sometimes associated with ballooning of the foreskin. The rational thing to do here is to exclude urinary tract infection by way of a urine culture and to use ultrasound as a screening test to exclude posterior urethral valves. If both are negative, it is best to leave the foreskin alone and reassure the parents that the crying episodes are due to common colics in early infancy rather than to the small preputial opening and that crying results in spontaneous passage of urine due to increased intra abdominal pressure. The tendency of preputial dilatation, as practised by some practitioners, should be discouraged as this does more harm than good in the long term as forceful dilatation leads to fibrosis of the preputial opening. This will later cause true phimosis needing circumcision.

If the preputial opening is so tight that the meatal opening is not visible at all, application of 0.5% hydrocortisone locally on the preputial skin, once or twice a day, for a period of 4 to 6 weeks, will help the preputial opening to open up so that ballooning of the foreskin on micturtion, which most parents and medical practitioners worry about, will improve. In fact, some articles have suggested topical application of steroids as the best non-surgical option even for some cases of true phimosis3.

[1]*Consultant Paediatric Surgeon, Lady Ridgeway Hospital, Colombo.*

Another problem is the presence of lumps under the foreskin which are the collected smegma. These collections of smegma are visible as well as palpable as tiny "lumps" under the foreskin around the base of the glans. Most parents and medical practitioners think that these are abnormal growths needing surgical excision and seek surgical removal which is really not necessary. All that needs to be done is reassurance for natural separation to take place over time. Sometimes these collections of smegma start coming out through the preputial opening as white sticky material which some mistake for purulent material coming through the urethra due to a urinary tract infection. Here again reassurance is all that is necessary.

Some children with crying episodes on micturition have a positive urine culture with a normal urinary tract on ultrasound examination. The problem then arises as to whether the positive culture is due to mild vesico-ureteric reflux (VUR), not detected on ultrasound, or whether it is due to contamination of the urine due to foreskin organisms and here clinical judgment can decide whether to proceed with the voiding cystogram (VCUG), the next line of investigation, or to leave the child alone. If in doubt, it would be better to proceed with the VCUG to exclude VUR so that unnecessary long term prophylactic antibiotic treatment can be avoided. The other option is to use local application of steroids to get the preputial opening to become slightly bigger so that urine samples are unlikely to be contaminated; a positive urine culture after that will be an indication for a VCUG.

Some pre school children who have recurrent attacks of redness and swelling of preputial skin, almost always due to local infection of collected smegma, can be managed with good local hygiene using warm water and application of local antibiotic for a few days. A urine culture, done in the acute stage, will be positive as the urine will be contaminated with preputial organisms and some of these patients are unnecessarily investigated and kept on long term antibiotics. Although not a definite indication for circumcision, it may be done to make him free of recurrent positive urine cultures in order to allay the anxiety of parents and clinician.

True phimosis, which can ocuur only after adhesions between the glans and inner preputial skin have separated, is a good indication for circumcision. This situation has to be assessed before considering the operation and a child less than 3 to 4 years is very unlikely to have true phimosis as only about 90% of children will have adhesions between inner prepuce and glans separated by that age[4]. Waiting till the child is at least 5 years old may be a good option.

Summary

In summary, almost all infants will not need any surgical intervention to correct a non-retractile foreskin. Most pre-school children with foreskin problems can be managed with local application of steroids for a short period or no treatment at all. Preputial dilatation of any sort should be condemned. Surgical intervention should be limited to children with true phimosis which is very unlikely to be present in children below 5 years. Paraphimosis is uncommon in children but is an indication for circumcision to prevent recurrence. Recurrent balanitis is a relative indication for circumcision.

References

1. Winberg J, Bollgren I, Gothefors L. The Prepuce: A mistake of nature? *Lancet* 1989; **1**: 598-9.

2. Brown M R, Cartwright P C, Snow B W. Common office problems in paediatric urology and gynaecology: *Paediatric Clinics of North America* 1997; **44**: 1091.

3. Dewan P A, Tieu H C, Chieng B S. Is circumcision necessary? *J Paediatric Child Health* 1996; **32 (4)**: 285-9.

4. Anderson G F. Circumcision. In Ashcraft K W, Holder T M, editors. Paediatric Surgery. Philadelphia; Saunders, 1993; 715.