Circumcision : A Time to Rethink

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Abstract

Background: Circumcision is one of the most routinely done surgery world over but has no scientific basis to enforce it on all patients. Of late, the operation has been criticized, non-operative methods have been tried and operations preserving the skin of prepuce have been recommended. The presence of physiological phimosis, which is self-correcting by the age of 15 years in children, needs to be differentiated from the pathological variety.

Method : The child population reporting to Surgery OPD was taken as sectional representative of the Indian communities and socioeconomic strata. A simple protocol was adapted to differentiate true phimosis from the physiological one and data collected. An observational study was done and data collected for last six years.

Result: 566 children were referred to the hospital and only 212 were subjected to circumcision. Of these, 169 were cases of true phimosis, 7 had paraphimosis and the rest included 9 ritual circumcisions.

Conclusion: The incidence in this study is much less as compared to the series from the west. Though rare, this simple surgery is often fraught with complications. A refined approach has been planned for referring cases and selection for surgery thereby reducing unnecessary referrals and circumcisions.

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Key Words : Circumcision; Phimosis

Introduction

Phimosis is commonly construed to be the inability to retract prepuce over glans. However, there has been a debate over the exact entity that should be labelled as “phimosis”. Recent articles suggest that non-retraction of prepuce is physiological in children and the incidence of the same decreases with age till 17 years, when incidence is less than 1%. It is also opined that the term ‘phimosis’ should be reserved only for the clinical entity called ‘balanitis xerotica obliterans’ or BXO.

Circumcision is the commonest pediatric surgical operation and the commonest indication, apart from the religious cause, is phimosis. A retrospective study was carried out to determine the incidence of phimosis in the defence population and the indications of circumcisions carried out in the drainage hospital, from Jan 1996 to Apr 2002. The prepuce conserving approach in children has also been highlighted in the same study.

Material and Methods

Statistics were collected from the outdoor departments and operation registers of Urology, Pediatric Surgery and General Surgery from Jan 1996 to Apr 2002. Total number of adult circumcisions and pediatric circumcisions were noted along with their indications including ritual circumcision. The male adult and child population was gathered from Station

Health Organizations of Navy, Army and Air Force. The data collected was tabulated.

Results

The male child population in the population group (age < 12 yrs) averaging over 6 years was 12180 a year, while the male adult population (age > 12 yrs) over the same period averaged 44260. Total number of references to the specialist OPD with phimosis as the referring diagnosis was 566 in children and 33 in adults. A total of 212 children underwent circumcision (Table 1). Of these, 169 cases were diagnosed as phimosis preoperatively according to the criteria adopted at this center. For every case of ‘true phimosis’, approximately there were two references of ‘phony phimosis’. Recurrent

Table 1

Total number of circumscions performed-year wise distribution

Year	Adult	Children
Jan-Dec 1996	10	38
Jan-Dec 1997	08	32
Jan-Dec 1998	08	35
Jan-Dec 1999	08	23
Jan-Dec 2000	07	30
Jan-Dec 2001	09	42
Jan-Apr 2002	03	12
Total	53	212

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Table 2**Indications in adults**

Indication	Number of cases	%
Phimosis	33	62%
Paraphimosis	04	08%
Recurrent balanitis	11	21%
Difficulty in intercourse	04	08%
Lichen planus prepuce	01	02%
Total	53	

episodes of balanoposthitis and para phimosis were other common causes (Table 3). Zipper injury to the prepuce was an indication for emergency circumcision in three cases. The incidence of phimosis in children was 2.3 per 1000. In adults, a total of 53 circumcisions were carried out. Phimosis was the commonest indication in this subgroup too with 33 cases (62%). All 33 of these were referred with a diagnosis of phimosis. Recurrent balanitis, paraphimosis and difficulty in intercourse were other indications (Table 2). Incidence of phimosis in this group was only 0.23 per 1000 population. The findings also support the fact that correct diagnosis of phimosis is much easier in adults than in children and therefore unnecessary circumcisions are practised in children. Further, we believe that those with balanitis and paraphimosis must have been in an early phase of BXO, which after some time could have developed to true phimosis. Due to lack of histopathologic evidence this needs to be further evaluated in a prospective study.

Discussion

Circumcision remains one of the commonest paediatric surgical procedures and is performed in one out of every six male newborns worldwide [1]. Of all the references, two thirds are 'phony phimosis'. Many surgeons often perform the operation unthoughtfully. Besides the physiological needs, the prepuce is supposed to have some erogenous zones and is required for sexual gratification [2]. American Academy of Pediatrics condemns this operation in the strongest of words. Besides causing mental agony to the mother and the child it is also well known that it has many complications ranging from minor ones like postoperative infection and haematoma to serious ones like meatal injury, glans injury, septicemia and death. The general trend emerging all over the world is to perform circumcisions only in required cases and wherever possible to perform a prepuce conserving surgery like prepucioplasty, V-Y plasty etc. [3]. Some centers, in an early stage of BXO, have also tried topical application of steroids like clobetasol dipropionate or betamethasone valerate and claim gratifying results to the tune of 70-90% [4,5,6]. In our series, it was noticed that incidence of circumcision carried out in pediatric age group was 2.3 per 1000 population. This incidence is much less than those reported by other series and is probably accounted for

Table 3**Indications in children**

Indication	Number of cases	%
Phimosis	169	76%
Paraphimosis	07	04%
Recurrent Balanitis	21	10%
Zipper injury	03	02%
Recurrent UTI	02	02%
Re-do circumscision	01	01%
Ritual	09	05%
Total	212	

by the fact that incidence of religious or ritual circumcision is much lesser in our population series accounting for mere 9 cases (5%) and even in these cases it was performed after infancy, indicating that parents are opting for ritual circumcision at a later age.

76% of cases in our series were accounted for by phimosis. The term 'phimosis' has been used for only a select group of patients amongst all the cases of non retractability of prepuce examined in our OPD. Phimosis has been described as a foreskin that is 'too long' (hypertrophic phimosis), a foreskin orifice that is not as expandable as the foreskin of most adults (often called 'true phimosis'), or a foreskin that has not yet completed the developmental process of physiological detachment from the glans (congenital phimosis) [7].

Phimosis is now defined as a stricture of the prepeucial orifice caused by lichen sclerosus et atrophicus (LSA), also known as balanitis xerotica obliterans (BXO), a rare dermatological condition of unknown etiology. In Britain, Rickwood et al have successfully argued that the definition of phimosis should be divested of any notions of prepeucial non-retractability, physiological balanopreputial attachment or prepeucial length [8]. The new definition of 'true phimosis' refers to a condition where 'the tip of the foreskin is scarred and indurated and has the histological features of BXO' [9].

In our experience, there is a general misconception prevalent in medical community, including our surgical colleagues, that non-retractability of prepuce is synonymous with 'phimosis'. Infact only one out of the three referred cases ultimately required circumcision. Embryologically, the foreskin and glans develop as one tissue. The foreskin is firmly attached, really fused to the glans. At birth less than 5%, male neonates demonstrate retractable prepuce. Over time, this fusion of the inner surface of the prepuce with the glans skin begins to separate by a process of epitheliolysis, vacuolation and desquamation forming 'keratin pearls'. Eventually, sometimes as long as 5,10 or more years after birth, full separation occurs and the foreskin may then be pushed back away from the glans towards the

abdomen. This is called foreskin retraction.

Gairdner demonstrated that in young boys non-retractability of the foreskin is a normal finding and is due to the persistence of developmental adhesions between glans and prepuce. 10% of boys have a non-retractable foreskin at the age of 3 years. These break down spontaneously with the passage of time and without interference, full retractability of the foreskin can be expected in almost all boys by their early teens [10]. Oster, who examined almost 2000 school children between the ages of 6 and 17 years, in whom no medical or surgical intervention had taken place, provided additional information. In the 6-7 year age group 91% of boys had retractable prepuce, a similar figure to that of Gairdner. The incidence of spontaneously retractable foreskin increased yearly until by 17 years only 1% remained non-retractable [11].

In a similar series by D Griffith and JD Frank, of the 120 boys referred as phimosis over a 12-month period to a pediatric urologist for circumcision, 64 boys (53%) had a retractable foreskin, 25 boys (21%) had a partially retractable foreskin, 25 boys (21%) had a non-retractable foreskin and 6 boys (5%) with BXO, had the diagnosis confirmed histologically after circumcision. In his series only one quarter of the patients required a circumcision [12].

The protocol adopted at our centre in evaluating all cases of non-retractability is that attention is paid specifically to the prepuceal aperture. Irrespective of its size; the elasticity or stretchability of the prepuceal aperture is checked. If prepuceal aperture is inelastic, has evidence of fibrosis or healed cracks or history of ballooning of prepuce on micturition (second bladder formation), no attempt is made to dilate the prepuce and child is advised circumcision as inelasticity is irreversible and indicates BXO. In such cases circumcision is the only answer as a prepuceoplasty in a fibrotic prepuce is bound to give disheartening results and is very much against the basic principles of surgery of retaining a diseased tissue. Nonretractability due to other causes responded well to conservative, non-destructive, non-traumatic and less costly treatment [13]. However, in all those with an elastic aperture, parents are reassured and taught to maintain hygiene and the child is kept on regular follow up.

Phimosis continues to be the commonest referral to any surgery OPD. Circumcision remains the commonest pediatric surgical operation conducted world over. Most prepuces have been found normal on histopathology examination. To discourage unnecessary circumcisions a clear distinction needs to be made between physiological and pathological non-retractability. First contact physicians (Medical Officers at Medical Inspection rooms & family clinics) need to be made aware of this important distinction to avoid unnecessary referrals causing inconvenience and anxiety to the patients and parents. Furthermore, surgeons receiving such referrals are also to give a second thought in the above light before deciding for a circumcision. They can reassure anxious parents and avoid unnecessary surgery. Surely it is time for all of us to rethink and give a justifying thought before withering away the prepuce.

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