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Original Research Article

Nonsurgical separation and topical Clobetasol therapy for phimosis

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ABSTRACT

Background: Phimosis is non-retractile foreskin or prepuce over the glans. This is due flimsy adhesions between glans and prepuce. The two types of phimosis, physiological and pathological must be differentiated. The phimosis can be treated by conservative methods by application of topical steroid cream. The objective of this study was to evaluate the efficacy of nonsurgical separation and topical clobetasol propionate 0.05% cream therapy in treatment of phimosis.
Methods: This study was done on 62 patients presenting with symptoms of phimosis were included in the study. The clinical examination prepuce and penis was done. The patients were classified according to Kirkiros classification. In this classification of phimosis, 5 grades have been ascribed according to the retractibility of prepuce.
Results: Out of total 62 patients, the complete response was obtained in 55 (80.71%), partial response in 5 (8.06%) and no response in 2 (3.23%) patients. In patients with partial response the topical clobetasol therapy, the treatment was repeated for another 4 weeks. The phimotic ring disappeared in all the patients after 4 or 8 weeks of topical clobetasol propionate 0.05% cream application. The surgical therapy either circumcision or preputioplasty should be done only in selected cases.
Conclusions: This study concludes that nonsurgical separation and topical clobetasol cream therapy is quite effective for treatment of phimosis.

Keywords: Adhesiolysis, Clobetasol therapy, Non-surgical separation, Non-retractile foreskin, Phimosis, Topical steroid

INTRODUCTION

Phimosis is non-retractile foreskin or prepuce over the glans. This is due flimsy adhesions between glans and prepuce. In a few cases this may be associated with frenulum breve. Majority of newborn males have phimosis at time of birth. As the children grow the incidence of phimosis is reduced to 50% at age of two and age of seven years it is 8%. This incidence is reduced to 1% at age of eighteen years.[1] So the prepuce becomes gradually retractile with age. About 2% of normal adult males continue to have non retractile prepuce.

The phimosis can be divided into absolute phimosis and relative phimosis. In pathological or absolute phimosis or retraction of prepuce over the glans sulcus is not possible while in physiological or relative phimosis retraction of prepuce is possible. It is important to differentiate between physiological and pathological phimosis.[2] The pathological phimosis requires circumcision while physiological phimosis can be treated by conservative methods.[3] With these conservative methods prepuce salvage is possible. Most of surgeons do not differentiate between physiological and pathological phimosis; and are being subjected to circumcision.[4] So circumcisions

performed outnumber the conservative managed patients with phimosis. Due to anxiety the parents of these children may opt for circumcision. In a urological clinic only 8 to 14.4% had phimosis worth circumcision; the rest could be managed conservatively.[5] However prepuce salvage procedure like preputioplasty is recommended instead of radical circumcision.[6] Nonsurgical modalities like topical steroids and adhesiolysis are effective, safe and cheap for treatment of phimosis in children.[7] In view of this nonsurgical modality, the present study was conducted to evaluate the role of nonsurgical separation and topical application clobetasol propionate 0.05% cream in conservative treatment of phimosis.

METHODS

This study was carried out in the outpatient department on the patients presenting with symptoms like pain, itching, pus discharge due to balanoposthitis, ballooning on passing urine and inability to retract prepuce. These symptoms can be due to phimosis and were included in the study. All the patients presenting for treatment of phimosis were included in the study. The clinical examination prepuce and penis was done. The patients were classified according to Kirkiros classification.[8] In this classification of phimosis, 5 grades have been ascribed according to the retractibilty of prepuce.

- In grade 0, there is full retraction of prepuce but may be limited by congenital adhesions
- In grade 1, there is full retraction of prepuce but perpetual ring is tight behind glans
- In grade 2, there is partial retraction of prepuce so glans is partially exposed
- In grade 3, there is partial retraction of prepuce making tip of glans just visible
- In grade 4, only slight retraction of prepuce is visible so that tip of glans is not visible
- In grade 5, there is no retraction of prepuce.

Patients older than twenty years of age were excluded from the study as these patients opted for surgical treatment. Patients selected for conservative treatment are treated on outpatient basis. A verbal consent was taken for this treatment.

The procedure of prepuce retraction and topical clobetasol propionate 0.05% cream is demonstrated to the parents of patients. The adhesions between glans are separated by gentle retraction of the prepuce. Forcible retraction of prepuce prohibited otherwise it would result in cracking of prepuce. After washing the prepuce with warm water, the method for local application of clobetasol propionate cream 0.05% is explained to the patient or parents. Retraction of prepuce is to be done many times in morning and evening followed by local application of clobetasol propionate cream. This retraction of prepuce and topical application of clobetasol propionate cream is continued for one month. After one month of treatment at home the clinical examination was done again and results were assessed according to retractibility of prepuce.

RESULTS

This study was done on a total of 62 patients with age varying from 6 months to 20 years. All the patients were clinically suffering from physiological type of phimosis. These patients were considered for nonsurgical separation of prepuce and topical clobetasol propionate 0.05% cream application. These patients presented with smegma collection under the prepuce, balanitis, ballooning of prepuce and urinary tract infection. Many patients presented with combination of symptoms. The response of treatment on prepuce retractibilty is reassessed after one month. Achievement of retractibility can be complete, partial and no response. Table 1 depicts the distribution of patients and response to topical clobetasol propionate 0.05% cream therapy. The distribution of patient is shown according to the Kirkiros grades for phimosis in Table 1.

Table 1: Group wise distribution of patients and results.

grade	Patient	Complete response	Partial response	No response
0	05	05 (100%)	0	0
1	10	10 (100%)	0	0
2	12	12 (100%)	0	0
3	19	16 (84.21%)	3 (15.79%)	0
4	14	12 (85.71%)	2 (14.29%)	0
5	02	0	0	2

Out of total 62 patients, the complete response was obtained in 55 (80.71%), partial response in 5 (8.06%) and no response in 2 (3.23%) patients. In patients with partial response the topical clobetasol therapy, the treatment was repeated for another 4 weeks. The phimotic ring disappeared in all the patients after 4 or 8 weeks of topical clobetasol propionate 0.05% cream application. No local or systemic side effects were observed in any of the patients.

DISCUSSION

The prepucial skin is adherent to glans in initial years of life so it is non-retractile. With increasing age it separates from glans and becomes retractile. Prepucial skin has protective, immunological and erogenous functions. This skin contains fine touch receptors in abundance while glans has pressure receptors only. Prepucial glands produce secretions which has lubrication, antibacterial and antiviral functions. Circumcision removes the prepucial skin and these functions in an adult.[9]

It appears to be essential to save the prepuce. When a patient seeks advice for non-retraction of prepuce, the first thing a clinician has to decide whether the phimosis

is physiological or pathological. In both types prepuce salvage should be advised. In physiological type conservative treatment using a combined approach of non-surgical separation and topical steroid application is recommended.[10] In pathological type of phimosis, dorsal or lateral pre-putioplasty is the procedure of choice. If the morbid conditions do not permit a prepuce salvage procedure only then the conventional circumcision should be advised.

Most of parents are anxious about phimosis in a child; reassurance that this condition can be treated with nonsurgical method will raise the confidence of parents. Camille et al stressed that parents should be taught about cleansing the prepuce and glans with warm water and gentle retraction during bathing and urination. These instructions may have to be repeated at regular intervals.[11] Lim et al used a eutectic mixture of local anaesthesia prior to release of perpetual adhesion. No anaesthesia was used for non-surgical adhesionlysis in our study.[12] Various studies using topical steroid creams for conservative treatment of phimosis have yielded excellent results with 65% to 95% efficacy rate.[13] The exact action of topical steroid cream application in relieving phimosis is not known but it is presumed that local anti-inflammatory immunosuppressive action plays the main role.[14] The repeated topical steroids also cause atrophy and thinning of skin thus increasing stretchablility of prepucial skin. This mechanism makes the prepucial ring loose.

Various topical steroids used in conservative treatment of phimosis are betamethasone, hydrocortisone, triancinolone, mometasone and clobetasol. Topical steroid creams are applied twice a day. Betamethasone is the most common steroid cream used. Regular preputeal retraction and Betamethasone cream 0.05% applied twice a day for 4 week period has consistently shown good results.[15] If there is no balanitis the success rate is stated to be higher with topical betamethasone application. Dewan et al used 1% hydrocortisone cream for this purpose and found it to be efficient in 65% of patients.[16] Studies carried out in younger children have also yielded good results.[17] The age of the patient, type and severity of phimosis, proper application of the ointment, compliance with treatment and necessity of pulling back on the foreskin on a regular basis contribute to either success or failure of medication. Other steroids tried and found to be effective in phimosis include clobetasol proprionate 0.05%, 0.1% triamcinolone and mometasone dipropionate. Studies carried with these steroids in patients with phimosis have also shown consistently good results.[18]

Adverse effects with topical steroids are rare and mild and include perpetual pain and hyperaemia. No significant side effects were reported in this study. Topical steroids therapy cost is much less than circumcision.[19] The nonsurgical separation and topical steroid therapy avoid psychological stress of circumcision. The retractiblity of prepuce may reduce with time and phimosis may tend to reoccur. In such cases a second course of topical steroid therapy is definitely useful.[20] The period of application of topical steroid application varies in different studies. But most studies recommend 4 weeks treatment with topical steroid cream as safe.[21] If a patient has concomitant balanitis or balanoposthitis, depending on etiology, he may be treated with topical antibiotics or antifungals.

In this study a total 62 patients, the complete response was obtained in 55 (80.71%), partial response in 5 (8.06%) and no response in 2 (3.23%) patients. In patients with partial response the topical clobetasol therapy, the treatment was repeated for another 4 weeks. The phimotic ring disappeared in all the patients after 4 or 8 weeks of topical clobetasol propionate 0.05% cream application. These results are better than other studies done with clobetasol propionate cream. In another study effect of skin stretching and topical corticoid cream application for non-retractable foreskin and phimosis in pre-pubertal boys, long term results were satisfactory.[22]

Another study for conservative treatment of phimosis using a combination therapy with skin stretching and topical steroid application excellent results were obtained as compared to skin stretching without topical steroid application.[23] Iken et al in a prospective study to evaluate the efficacy of topical application of 0.05% clobetasol propionate cream in 108 children with phimosis. The cure rate was 92% with this therapy. No local or systemic adverse effects related to clobetasol propionate application was seen and no recurrence was observed.[24] Lee and Lee done a study in pre-pubertal boys with severe phimosis showed that topical application of 0.05% clobetasol propionate cream and skin stretching is a safe, simple and effective procedure with no significant side effects. They recommended skin stretching and topical clobetasol propionate 0.05% cream can be treatment of first choice instead of circumcision for boys with severe phimosis.[25]

Study results are comparable to these studies. Our study confirms the efficacy of topical clobetasol propionate 0.05% cream and nonsurgical stretching in conservative treatment of phimosis.

CONCLUSION

The two types of phimosis physiological and pathological need to be differentiated. The choice of procedure for both types should be prepuce salvage. Nonsurgical separation and topical steroid therapy with clobetasol is good alternative to preputioplasty or circumcision for treatment of phimosis in selected cases.

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REFERENCES

1. Malone P, Steinbrecher H. Medical aspects of male circumcision. BMJ. 2007;335:1206-9.
2. Shahid SK. Phimosis in children. ISRN Urology. 2012;Article ID 707329:6.
3. McGregor TB, Pike JG, Leonard MP. Phimosis - a diagnostic dilemma. Can J Urol. 2005;12:2598-602.
4. Kumar P, Deb M, Das K. Preputial adhesions - a misunderstood entity. Indian J Pediatrics. 2009;76(8):829-32.
5. Steadman B, Ellisworth P. To circ or not to circ: indications, risk and alternatives to circumcision in the paediatric population with phimosis. Urologic Nursing. 2006;26(3):181-94.
6. Barber NJ, Chapell B, Carter PG, Britton MD. Is preputioplasty effective and acceptable. J R Soc Med. 2003;96:452-3.
7. MacKinlay GA. Save the prepuce: painless separation of preputial adhesions in the outpatient clinic. Br Med J. 1988;297(6648):590-1.
8. Kikiros CS, Beasley SW, Woodward AA. The response of phimosis to local steroid application. Pediatr Surg Int. 1993;8:329-32.
9. Sorrells ML, Snyder L, Reiss MD. Fine touch thresholds in the adult penis. Br J Urol International. 2007;99(4):864-9.
10. Cooper GC, Thomson GJL, Raine PAM. Therapeutic retraction of foreskin in childhood. Br Med J. 1983;286(6360):186-7.
11. Camile CJ, Kuo RL, Wiener JS. Caring for the uncircumcised penis: what parents and you need to know. Contemporary Pediatrics. 2002;11:61.
12. Lim A, Saw Y, Wake PN, Croton RS. Use of a eutectic mixture of local anaesthetics in release of preputial adhesions: is it a worthwhile alternative. British J Urology. 1994;73(4):428-30.
13. Monsour MA, Rabinovitch HH, Dean GE. Medical management of phimosis in children: our experience with topical steroids. J Urol. 1999;62(3):1162-4.
14. Kragballe K. Topical cortisteroids: mechanism of action. Acta Dermato Venereologica. 1989;69(151suppl):7-10.
15. Palmer LS, Palmer JS. The efficacy of topical betamethasone for treating phimosis: a comparison of two treatment regimens. Urology. 2008;72(1):68-71.
16. Dewan PA, Tieu HC, Chieng BS. Phimosis: is circumcision necessary. J Paediatr Child Health. 1996;32(4):285-9.
17. Elmore JM, Baker LA, Snodgras WT, Dewan P. Topical steroid therapy as an alternative to circumcision for phimosis in boys younger than 3 years. J Urol. 2002;168(4suppl):1746-7.
18. Ashfield JE, Nickel KR, Siemens DR, MacNeily AE, Nickel JC. Treatment of phimosis with topical steroids in 194 children. J Urol. 2003;169(3):1106-8.
19. Berden D, Sauze L, Ha-Vinh P, Blum-Boisgard C. Cost effectiveness analysis of treatments for phimosis: a comparison of surgical and medicinal approaches and their economic effect. British J Urol Inter. 2001;87(3):239-44.
20. Chu CC, Chen KEC, Diau GY. Topical steroid treatment for treatment of phimosis in boys. J Urol. 1999;162(3):861-3.
21. Jorgensen ET, Svensson A. The treatment of phimosis in boys, with a potent topical steroid clobetasol propionate 0.05% cream. Acta Demato Venerologica. 1993;73(1):55-6.
22. Ghysel C, Vander K, Bogaert GA. Long term efficiency of skin stretching and a topical corticoid cream application for unretractable foreskin and phimosis in prepubertal boys. Urol Inter. 2009;82(1):81-8.
23. Zampieri N, Corroppolo FS, Camoglio L, Ottolenghi A. Phimosis: stretching methods with or without application of topical steroids. J Pediatr. 2005;147(5):705-6.
24. Iken A, Ben Mouelli S, Fontaine E, Quenneville V, Thomas L, Beurton D. Treatment of phimosis with locally applied 0.05% clobetasol propionate: prospective study with 108 children. Proq Urol. 2002;12(6):1268-71.
25. Lee CH, Lee SD. Effect of topical steroids 0.05% clobetasol propionate treatment in children with severe phimosis. Korean J Urol. 2013;54:624-30.

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