INTERNATIONAL
AYURVEDIC MEDICAL
JOURNAL

IAMJ

International Ayurvedic Medical Journal, (*ISSN: 2320 5091*) (September, 2017) 5(9)

A SYSTEMATIC COMPARATIVE STUDY OF NIRRUDHAPRAKASH (PHIMOSIS): AYURVEDIC EPICS V/S MODERN MEDICAL SCIENCE

Divya Gakhar

Medical Officer, Nokha, Bikaner, Rajasthan, India

Email: divya.ayurvedindia@gmail.com

ABSTRACT

In *AyurvedicSamhitaNiruddhaPrakash* (phimosis) *vyadhi* (disease) is described to be formed because of vitiated *VataDosha* where constricted *Shishnacharma* (prepuce) covers *Mani* (glans penis). This creates obstructed, slow urine flow and the prepuce could not be retracted. Treatment described in *Ayurvedic* epics is dilatation of *preputial* meatus by *NiruddhaprakashNadiyantra* and *VatadoshShamak* medicated tail (oil) *Parishek* (fomentation). Surgery is advised if this measure fails. *Niruddhaprakash* has similar features to that of phimosis described in modern medical science. Recent researches shows that glans penis and prepuce has common epithelium and its complete separation essential for complete perpetual retraction exposing whole of glans may normally occur up to the age of 17 years. This may lead to wrong diagnosis of phimosis. Circumcision is considered as treatment of choice for phimosis.

Keyword: *NiruddhaPrakash*, phimosis, Circumcision.

INTRODUCTION

Ayurveda is considered as great ancient medical treatise. *Ayurvedic Samhita* describes a *Vyadhi* (disease) *NiruddhaPrakash* having similarity to Phimosis. On account of morbidity and mortality of circumcision operative procedure and anesthesia, the review study of *NiruddhaPrakash* and its treatment described in Ayurveda classics gains much importance. Similarly the study of development and separation of prepuce and conservative treatment also becomes important. Foreskin cutting also called male circumcision is done most commonly worldwide as religious, cultural, medical, personal preference and several other reasons. An estimated one third of males are circumcised globally.[1] Phimosis is the most frequent medical reason for male circumcision where a stricture of the foreskin narrows the opening and prevents it from being retracted to uncover the glans.

AIM & OBJECTIVE:

1. To describe *Niruddhaprakash* according to *Ayurvedic* Epic
2. To describe Phimosis according to Modern Medical Science
3. To compare *Niruddhaprakash*vsPhimosis in detail regarding development and separation of prepuce, non-surgical treatment of phimosis for bypass of surgical and anesthetic complications, and surgical procedure with less complications compared to circumcision

MATERIALS AND METHODS:

Comparative references have been collected from different *AyurvedicSamhita* and their commentaries, modern medical text books, and published research articles. Results and conclusions were made as per our study objectives.

DISCUSSION

***Niruddhaprakash* in Ayurveda classics:**

Sushrutacharya includes *Niruddhaprakash* (Phimosis) in *Kshudraroga.*[2] In *AstangaSamgraha* it is described as *Niruddhamani* and included in *Guhyaroga* (diseases of genitals).[3] *Vatadosha* vitiated *Shishnacharma* (prepuce) covers *Mani* (glance) and occludes *Mutrasrota* (route of urine flow). This creates *Mandadhara* (slowed down urine flow) without pain. Here *Mani* (glans) is always covered with *Charma* (prepuce), this painful disease is *Niruddhaprakash* and is formed because of vitiated *Vatadosha*.[4] *Madhukosha* description says this disease is also formed if scar of *Avapatika* (prepusal tear) disease is not heeled properly.[5] *AstangaSamgraha* describes *Vata* vitiated *Charma* (prepuce) adheres to front of Mani (glans) creating obstruction to urine flow. Here slow urine flow is present without pain and Mani (glans) could not be uncovered, this disease is *Niruddhamani* (phimosis).

Treatment of *Niruddhaprakash* (Phimosis) as described in *Ayurvedic* classics:

AcharyaSushrut describes *Louhanadi* with openings at both the ends is applied with *Ghrit* to make it smooth, and then to penetrate it slowly in prepusal?? opening. Then *Mani parishek* is done with Vasa, *Majja* of crocodile and pig as well as *Vataghna* medicated *Chakrataila.* After consecutive three days larger *nadi* should be used in sequence. *Snigdhaanna* should be given during this treatment. If this treatment fails then surgery can also be done preserving *Sevani* (frenulum) and it is treated as *Sadyakshata*.[6] *Nibandhasangraha* commentary of *Susrutasamhita* describes *Chakrataila* as *Yantrapidittaila* meaning oil extracted by compressing machine. [7]Similar treatment and surgery if needed is advised in *Astangahridaya* [8]and *Astangasamgraha.*[9]

***Nadiyantra*:** Different types of *Nadiyantra* are described in *AyurvedicSamhita*. These are tube like instrument having opening at one or both the ends. These are used to remove foreign bodies from *Srotasa*, for observation like different speculum, for aspiration, director like fistula director etc. The thickness and length of this instrument is as required for meatus. *Niruddhaprakashyantra* (prepuce and urethral dilator) is described in *Sushrutsamhita.*[10]

Phimosis according to Modern Medical Science: Phimosis is stenosis of the prepitual orifice so that the foreskin cannot be pushed back to expose the glans penis.[11] The physiological adhesion between the foreskin and the glans penis may persist up to the age of 6 years or more. This leads it to be much over

diagnosed. The tight prepuce may cause urinary obstruction. Masking of meatal atresia by tight prepuce causing urinary difficulty with residual urine may be present. This may create backpressure on ureters and kidney. Balanitis Xerotica Obliterans can cause phimosis in later life. In this the foreskin become thickened and will not retract, leading to problem with hygiene and increased susceptibility to carcinoma.[12]

Development and Separation of Prepuce:

In fetus, the prepuce appears at eight weeks as a ring of thickened epidermis growing forwards from the base of glans penis. It grows more rapidly on upper surface than lower leaving the inferior aspect of preputial ring deficient. Pair of outgrowths is pushed out and meet from inferior aspect of the glans. These enclose a tube and become continuous with the existing urethra. The prepuce grows forwards to tip of the glans by 16 weeks. At this stage, the epidermis covering the glans is continuous with the epidermis of deep surface of prepuce and it consist of squamous epithelium. Later the squamous cells arrange themselves in whorls forming epithelial cell nests. The centers of these degenerate that to form series of spaces. These spaces increase in size and link up to form preputial space. The separation of prepuce by the time of birth varies greatly.

Gairdners observation in a series of 100 newborn revels only 4% with fully retractable prepuce, in 54% the glans could be uncovered enough to revel the external meatus, and in remaining 42% even the tip of the glans could not be uncovered.[13]

Work in Kayaba et al, they evaluated 603 Japanese boys 0 to 15 years old and classified preputial status in 5 types: 1 type I - no retraction of prepuce at all, type II - exposure of external urethral meatus only, type III (intermediate) – exposure of glans halfway to the sulcus of the corona, type IV – exposure of glans to above the corona at the site of the preputial adhesion and type V -easy exposure of the whole glans. They defined a tight ring as a stenotic ring that prevented the prepuce from being retracted. They found that before age of 6 months the incidence of types I (completely unretract able) to V (completely retractable) prepuce was 47.1, 21.5, 29.4, 2 and 0% respectively. None of the 111 boys younger than 1 year with a type V prepuce, in the 3 to 4 year-old boy’s types I and V prepuce were in 6.2 and 16.5% respectively. The incidence of types I and II prepuce decreased from 68.6% at ages 0 to 6 months to less than 10% at age 5 years. Of the 11 to 15year-old subjects the prepuce was type V in 62.9%, type IV in 11.4% and type I in none. A tight ring frequently found in infancy but the incidence also decreased with age. [14] Examination of preputial development by Oster in 173 Danish boys 6 to 17 years old, monitored annually for 7 years, reported that the incidence of preputial adhesion decreased from 70% at ages 6 to 7 years to 5% at 16 to 17 years.[15] These findings indicate that incomplete preputial separation is common and normal in neonates and infants, and prepitual separation processes until school age.

Anatomy of Prepuce:

Mucosal epithelium: The mucosal epithelium of male prepuce is same as mucosal epithelium covering glans penis. The inner prepuce and glans penis share a common, fused mucosal epithelium at birth. **Lamina propria of preputial mucosa-** it has loose collagen and it is very vascular leading to common haemorr-

hagic complications associated with circumcision. **Dartos Muscle-** The delicate attenuated penile dartos muscle surrounds the shaft of the penis from the prepuce and is continuous with scrotal dartos muscle. It is temperature dependant and allows for the volume changes required for erection. Circumcised penis shows altered response to temperature changes. **Dermis of prepuce-** The dermis of the prepuce consists of connective tissue, blood vessels, nerve trunks, Meissner corpuscles within the papillae, and scattered sebaceous glands. **Outer epithelium (Skin of the prepuce) -** The outer epithelium of the prepuce consists of keratinized stratified squamous cells. Melanocytes, Langerhans cells and Merkel cells are also present. **The Preputial Sac-** It is colonized by Cornybacterium, Gram-negative anaerobes (especially Bacteroidesmelamnogemcus), Enterococci, Enterobacteria and coagulase-positive Staphylococci.[16]

Function of prepuce: The prepuce completely covers the glans during the years when the child is incontinent. It protects the glans from injury by contact of wet clothes or napkin. It prevents meatal ulceration. The prepuce enhances sexual pleasure due to presence of nerve receptors.

Treatment of Phimosis: Circumcision: Baileys and Love's Short practice of surgery book advocates Treatment of phimosis by Circumcision. Pediatricians opinion follow generally more current evidence than those of surgeons, possibly resulting in many unnecessary circumcisions. [17]

Topical Steroid: Osrola, in his study of conservative treatment of phimosis in children instructed both the parents and the patients (when they were old enough to understand) to apply a thin layer of 0.05% betamethasone cream on the prepuce twice a day (in the morning and evening) for 4 weeks. After the fifth day of treatment, they were asked to gently retract the foreskin several times after applying the cream. They were also encouraged to retract the foreskin when they voided and during their daily bath. This shows 82% successful result, 12% partial response after 5 weeks of treatment. After second course and 6 months of follow up 90% had a retractable prepuce without recurrence of phimosis.[18] A study of Treatment of phimosis with topical steroids and foreskin anatomy with use of 0.05% betamethasone ointment on dorsal aspect of prepuce twice daily for a minimum of 30 days and a maximum of 4 months shows successful result in 94.2% of patients irrespective of the type of foreskin anatomy.[19] Pharmacoeconomic study shows that topical treatment of phimosis can reduce cost by 27.3% in comparison with circumcision. Therefore indicate consideration of topical treatment of phimosis prior to the decision to perform surgery.[20]

Preputialplasty:

Prepuce protects the sensitive skin of the glans, provides additional lubrication and allows greater freedom of movement during sexual intercourse. Prepitualplasty is a quick and safe method of preserving prepitual function in patients needing surgical relief of a tight but unscarred foreskin.[21]

CONCLUSION

Niruddhaprakash is caused by vitiated *Vatadosha* where *Charma* (prepuce) is constricted and cannot be retracted to uncover the glans. Treatment with *Vata dosh shamak* medicines is advised. Dilatation of prepusal meatus is

done with Niruddhaprakashnadiyantra having opening at both the ends.

Medical science shows that epidermis of deep surface of prepuce and the epidermis of glans penis are initially fused. Separation of prepuce from glans penis may not be complete and its extent could be much variable at time of birth. Complete separation of prepuce from glans penis enabling its complete retraction exposing whole of glans may normally occur up to age of 17 years. These facts must be considered during diagnosis of phimosis. Circumcision is considered as treatment for Phimosis.

Conservative treatment of phimosis with topical steroid using 0.05% betamethasone shows complete preputialretractability upto 90-94%. Topical steroid treatment is cost effective as well as surgical and anaesthetic complications are bypassed. In those cases where surgical procedure becomes necessary prepitualplasty can be considered as good alternative with few complications and the prepuce can be preserved.

REFERENCES

1. Joint United Nations Programme on HIV/AIDS (UNAIDS) and World Health Organization (WHO) Male circumcision: global trends and determinants of prevalence, safety and acceptability. Geneva; UNAIDS/WHO; 2007.
2. Ambikadatta Shastri. Susruta Samhita (purvardha), Varanasi, chaukhamba Sanskrit pratisthan, 2005(Reprint edition), p.281-282.
3. KavirajAtrideva Gupta. AstangaSamgrahaVol 2, Varanasi, Krishnadas Academy; 2002 p.331.
4. Ambikadatta Shastri. Susruta Samhita (purvardha), Varanasi, chaukhamba Sanskrit pratisthan, 2005 (Reprint edition), p.281-282.
5. P.G. Athavle. Drushthhartha Madhavnidan (part 2), Nagpur, Drushthartha Mala Prakashan; 1996 p.191.
6. AmbikadattaShastri. Susruta Samhita (purvardha), Varanasi, chaukhamba Sanskrit pratisthan, 2005 (Reprint edition), chikitsasthana p.95.
7. Vaidya Yadavji Trikamji Acharya, Narayan Ram Acharya Kavyatirtha. Susrutasamhita, Varanasi, Chaukhamba Surbharati Prakashan, 2008 p.480.
8. Dr Ganesh Krushna Garde. Sartha-Vagbhat, Pune, Proficient Publishing House; Reprint 2010 p.520521.
9. Kaviraj Atrideva Gupta. Astanga SamgrahaVol 2, Varanasi, Krishnadas Academy; 2002 p.335.
10. Kaviraja Ambikadatta Shastri. Susrutasamhita part 1, Varanasi, Chaukhamba Sanskrit Sansthan; reprint 2011 sutrasthan p. 34.
11. Donald Venes, Clayton L Thomas. Tabers Cyclopedic medical dictionary, Philadelphia, F. A. Davis Company; Edition 19, 2001 p. 1576.
12. R. C. G. Russel, Norman S Williams, Christopher J K Bulstrode. Bailey & Love’s Short Practice of Surgery, London, Holder Education, 24th Edition, 2004, p.1397.
13. Gairdner D. The fate of the foreskin. Br Med J 1949; 2: 1433.
14. Kayaba H, Tanimura H, Kitajima S, Fujiwara Y, Kato T, Kata T. Analysis of shape and retractability of the prepuce in 603 Japanese boys. J Urol 1996; 156: 1813-5.
15. Oster, J.: Further fate of the foreskin. Incidence of preputial adhesions, phimosis,

and smegma among Danish schoolboys. Arch. Dis. Child., 43: 200, 1967.
16. Cold C.J. and Taylor J.R. The prepuce. BJU Int 1999, 83: suppl 1:34-44.
17. Z Farshi, K R Atkinson, R Squire. A study of clinical opinion and practice regarding circumcision. Arch. Dis. Child., 2000;83:393-396.
18. Orsola A, Caffaratti J, Garat JM. Conservative treatment of phimosis in children using a topical steroid. Urology 2000;56(2):307-10.
19. Tatiana C Marques, Francisco J B Sampaio, Luciano A Favorito. Treatment of phimosis with topical steroid and foreskin anatomy. International Braz J Urol,2005; 31(4):370-374.
20. Yuri D. Nobre, Ricardo G. Freitas, Maria J Felizardo, ValdemarOrtiz, Antonio Macedo Jr., To circ or not to circ: clinical and pharmacoeconomic outcomes of a prospective trial of topical steroid versus primary circumcision. International Braz J Urol, 2010;36(1):75-78
21. Peter M. Cuckow, Gerald Rix, Pierre D.E. Mouriquand. Preputialplasty: A good alternative to circumcision. Journal of Pediatric Surgery, 1994; 29(4): 561-563.

Source of Support: Nil
Conflict Of Interest: None Declared

How to cite this URL: Divya Gakhar: A Systematic Comparative Study Of Nirrudhaprakash (Phimosis): Ayurvedic Epics V/S Modern Medical Science. International Ayurvedic Medical Journal {online} 2017 {cited September, 2017} Available from: http://www.iamj.in/posts/images/upload/3522_3527.pdf