

Clinico-Epidemiological Study of Non-Venereal Male Genital Dermatoses at a Tertiary Care Center in North India

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Abstract

Background: Non-venereal dermatoses of male external genitalia include a spectrum of disease of varied etiology. Any genital dermatoses whether venereal or non-venereal in both sexes is associated with immense stress and anxiety, because of the lack of proper knowledge in the field. This was a cross-sectional study undertaken at a tertiary care center in North India with the hidden view of creating awareness among the patients about the genital lesions and thus trying to reduce its associated social stigma. **Methods:** The study was institution-based cross sectional study conducted over a period of one year. All the male patients with complaints of any genital lesion, attending the dermatology opd were screened for dermatoses of non-venereal etiology. Cases having venereal diseases were excluded from the study. **Results:** Common non-venereal genital dermatoses in males were non-venereal infections and infestations seen in 208 patients, inflammatory dermatoses were seen in 71 patients followed by pigmentary disorders in 14 patients. Normal variants were seen in 10 patients, benign tumor and cysts in 7 patients. Premalignant and malignant lesions were seen in 2 patients each. **Conclusion:** The study reflects various causes of non-venereal dermatoses of male external genitalia commonly encountered in the dermatological opd. Subject is complex and includes heterogenous group of disorders of varied etiology, both sexual & non-sexual.

Keywords: Non-Venereal Dermatoses, Social Stigma, Balanoposthitis, Inflammation, Prepuce, Glance

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Introduction

Dermatoses involving male external genitalia can be grouped into venereal and non-venereal dermatoses. All genital lesions are not sexually transmitted disease, in both males and females. Those which are not sexually transmitted disease are referred as non-venereal dermatoses of external genitalia[1]. Lesions affecting skin and mucosa of male external genitalia are frequently encountered in the dermatology clinics, yet information on them is limited. The diseases fall through cracks of medical education at all levels and in all specialities[2]. There is lack of proper training in Dermato-venereology. General public is not aware of the fact that there is a difference between venereal and non-venereal genital dermatoses. So occurrence of any genital lesion is associated with the feeling of guilt, shame and mental distress, apart from huge psychosexual problems (Male cause of dyspareunia, depression, relationship problems etc)[3].

Non-venereal genital dermatoses include wide array of disease of varied etiology[4]. They can affect either genitalia alone or may affect other part of the body also. Classification of non-venereal dermatoses based on aetiopathogenesis is given in Table-1.

The present study was conducted to find the relative incidence of non-venereal dermatoses of male external genitalia and their relative frequencies, over a fixed period of time at a tertiary care center in

North India. The study was conducted over a period of one year (from December 2019 to December 2020). During the study, proper counselling, and information regarding various venereal and non-venereal diseases were provided to patients with the aim of creating awareness and thus reducing its psychosocial impact in the society.

Materials & Methods

This was an institutional - based cross sectional observational study among male patients attending dermatology OPD with complaints in genital area. All male patients presenting with genital lesion of non-venereal origin were included in the study, after a proper consent irrespective of their age. Detailed history about the following were taken from each patient and recorded: -chief complain, its onset, duration, sexual contact history, recurrence, dysuria, and any other associated skin and medical disorders. All patients were examined clinically with special focus on genital lesions. The diagnosis was then made clinically. Laboratory investigations such as complete blood count, routine examination of urine, HIV, VDRL were done in all the cases for proper exclusion of venereal disorders. Gram stain, KOH, histopathological study was done as and when required. Study was conducted over a period of one year and at the end of study period, data were analyzed.

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Table 1: Classification of non-venereal male genital dermatoses

Normal variants	Pearly penile papule, fordyces spot.
Inflammatory dermatoses	Psoriasis, lichen planus, seborrhoeic dermatitis, lichen simplex chronicus, FDE, bullous disorder, lymphangiomacircumscripta, lymphedema.
Congenital disorders	Median raphe cyst, hypospadias.
Infestation & infection	Scabies, dermatophytosis, candidiasis, furuncle, folliculitis, herpes zoster
Pigmentary disorders	Vitiligo, verrucous epidermal naevus
Benign abnormalities	Angiokeratoma of fordyces, sebaceous cyst, steatocystoma multiplex
Premalignant lesions	Zoons balanitis
Malignant lesions	Squamous cell carcinoma
Misc	Phimosis, paraphimosis,

Results

A total of 319 patients were included in the study. Total 11560 male patients attended the dermatology Out-Patient department at a tertiary care hospital of north India over a period of one year. Those who refused to give consent and those in whom diagnosis could not be confirmed were excluded from the study. Relative incidence rate of non-venereal genital dermatoses (319) among male patients attending the OPD (11560) was found to be 27.59 per 1000. Age of the patients in the study ranged from 6 yrs to 70 yrs. Majority of the patients belonged to age group 25-40 yrs- 140(43.8%) followed by 40- 55yrs,55-70 yrs and5-25yrs respectively. Penis 187(58.62%) was most common site to be involved followed by scrotum 106(33.22%). whereas in 26(8.15%) patients both scrotum and penis were involved. Most common presenting clinical feature was itching seen in 151 cases (47.33%). Other complaints were pain, burning, white discoloration.About 21 different types of male non venereal genital

dermatoses were diagnosed among 319 patients over a period of 1 year (table-2).These dermatoses were categorized into 8 categories based on their aetiopathogenesis (table-3).Balanopostheitis - 97(30.4%) was found to be the leading cause of NVGD (about 75% cases of balanopostheitis were found to be candidal).Other causes in their decreasing order of frequencies were-tinea cruris-60 (18.8%), genital scabies- 43(13.47%),scrotal dermatitis due to various causes-38(11.91%), vitiligo glans-14 (4.38%),lichen simplex chronicus-11(3.44%), lichen planus-7(2.19%). Psoriasis, balanitis, pearly penile papule each included 6 cases (1.88% each). Fixed drug eruption and steatocystoma multiplex -5 cases each (1.56%). 4(1.25%) cases of fordyces spot were noted. Less common cases were folliculitis over scrotum, lymphangioma circumscriptum, zoons balanitis, squamous cell carcinoma, angiokeratoma of fordyces each 2 cases (0.62%). Also, there were 2 case of scrotal filariasis (0.62%), one patient had rare presentation with a giant scrotal swelling. Miscellaneous group included-phimosis 3(0.94%) & paraphimosis 2(0.62%) cases.

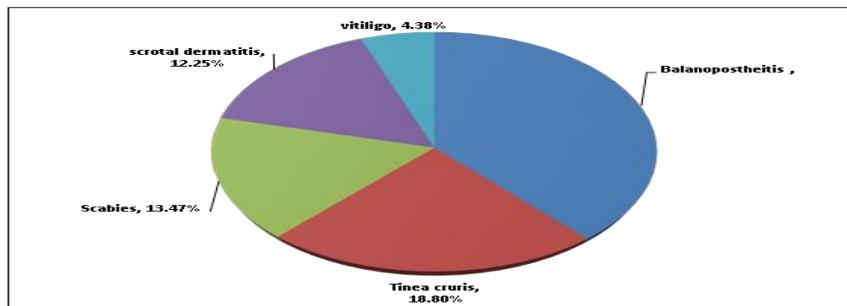


Fig 1: Leading causes of male non-venereal genital dermatoses among study population

Table 2: Various categories and types of genital dermatoses

Categories	Types	N(%)
1. Normal variants	Pearly penile papule	6
	Fordyces spot	4
2.Inflammatory disorders	Scrotal dermatitis	38
	Lichen sclerosis chronicus	11
	Lichen planus	7
	Psoriasis	6
	Fixed drug eruptions	5
	Lymphangiomacircumscriptum	2
	Scrotal filariasis	2

3.Benign tumor and cysts	Steatocystoma multiplex	6
	Angiokeratoma of fordyces	2
4.Non –venereal infections and infestations	Balanopostheitis	97
	Balanitis	6
	Tinea cruris	60
	Scabies	43
	Folliculitis	2
5.Pigmentary disorders	vitiligo	14
6.Premalignant lesions	Zoon’s balanitis	2
7.Malignant lesions	Squamous cell carcinoma	2
8.Miscellaneous	paraphimosis	2
	phimosis	3

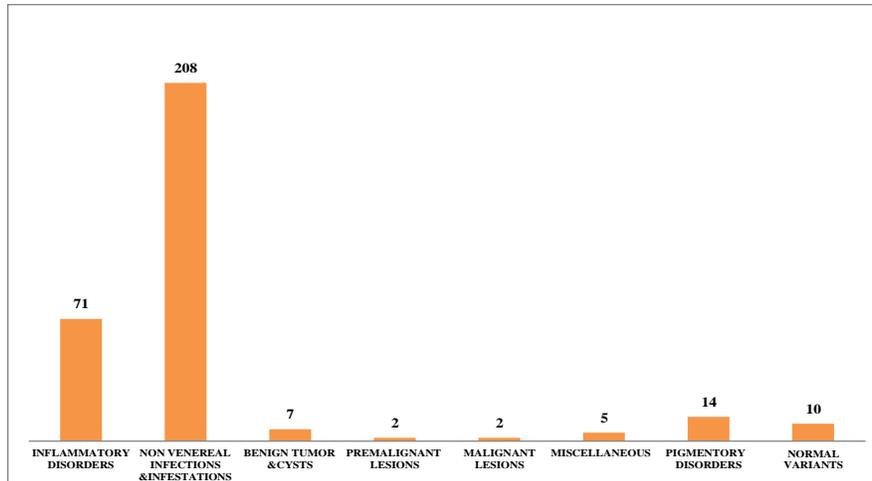


Fig 2 : No. of cases in various categories

Discussion

Most of the patients with any kind of genital lesion are at immense mental stress and guilt. There is lack of proper knowledge in this field ,not only among the general public but also among most of the health professionals. Male patients with non-venereal genital dermatoses usually presents to genito-urinary experts and physicians where the training and expertise are not oriented to adequate dermatological diagnosis and treatment[5]. Genital lesions often becomes more confusing as the normal characteristics of common disease is lost or modified due to history of application of over- the-counter topical drugs. Relative Incidence of non-venereal genital dermatoses in our study was 27.59 per 1000 male patient. Number of patients in our study was 319. Acharya et al[6] had done a study on 200 patients with genital lesions of non-venereal origin. Karthikeyan et al[7]had done a study on the pattern of non-venreal dermatoses on male external genitalia from south India. Khoo & cheoon et al[8]had done a similar study on male patients of Singapore. The age ranged from 6years to 75 years in our study with mean age of 31.6 years. However, age ranged from 9 years to70 years with mean age of 33.7 years in study by Karthikeyan et al[7]A total of 21 different types of non-venereal dermatoses were noticed in our study on male external genitalia. Karthikeyan et al[7] observed 25 different non-venereal dermatoses in their study. Saraswatet al[9] observed 16 different non-venereal dermatoses in their study.The most common non-venereal dermatoses in our study was Non venereal infections and infestations [Balanopostheitis 97 (30.4%), Tinea cruris-60 (18.8%), scabies-43 (13.47%), balanitis 6 (1.8%), folliculitis-2 (0.62%)]. Among which balanopostheitis was the leading cause and most cases were due to candidal infection. About 36 (37.11%) with balanopostheitis were found to be diabetic. Most of the patients were from the lower socio-economic group with poor personal hygiene. Hence diabetes and

poor personal hygiene were found to be important risk factor for balanopostheitis in our study. However, Acharya et al. observed scabies as the most common non- venereal genital lesion in their study[6].Scrotal dermatitis was another important cause for non-venereal genital dermatoses accounting for 38(12.25%) cases. Mamtha P et al[9]observed 16 (6.45%) cases in her study. Saraswat et al [10] observed 9% cases of scrotal dermatitis in their study. Karthikeyan et al[7] had 13% cases of scrotal dermatitis in their study which was almost comparable to ours. Usually, the allergic and irritant contact dermatitis presents as scrotal dermatitis. Scrotal dermatitis is characterized by severe itching, erythma, scaling and lichenification of the scrotal skin. Predisposing factors are tight undergarments, friction, overwashing, application of any herbal or ayurvedic preparations, concomitant anorectal and anogenital diseases, atopy. Acharya et al[6] in their study did not report any cases of scrotal dermatitis. Vitiligo was found to be another important cause in our study with 14 cases (4.38%). This was almost comparable to study by Mamtha P et al[9] where they reported 12 (4.85%) cases of vitiligo. Saraswat et al[10] reported genital vitiligo as most common disorder accounting for 18%. Vitiligo was found to be common in prepubertal and young boys in our study same as reported by Mamtha P et al[9].All cases of genital vitiligo in our study were idiopathic. However, Moss et al[11] carried out study in 54 patients and observed 38 cases of genital vitiligo, the etiology being occupational and chemical induced.Lichen sclerosis is chronic inflammatory dermatoses which are associated with substantial discomfort and morbidity with unknown etiology[12].It is also known as Balanitis Xerotica obliterans. The disease has varied presentation from being asymptomatic to itching, burning, urinary discomfort and sexual dysfunction. It is also a risk factor for squamous cell carcinoma (4-9.5%). 11 (3.44%) cases were observed

in our study and none of the cases were associated with phimosis. While only 2 cases of lichen sclerosus reported by Karthikeyan et al[7]Chalmers et al[13]observed 14 cases of lichen sclerosus in hundreds of prepubertal boys who were referred to medically indicated circumcision. In a study conducted by Gaslite Research Institute, Geneva, Italy found lichen sclerosus common in patients with phimosis[14]. Lichen planus was present in 7 (2.19%) cases in our study that is in contrast with Puri and Puri[15]where it was seen in 6.6% cases and Karthikeyan et al[7] where it was seen in only 1 case.

We reported 6 (1.88%) cases of genital psoriasis. 5 cases were associated with lesions elsewhere in the body and one 6-year boy had isolated genital lesion of psoriasis (fig:5). Diagnosis of genital psoriasis is often difficult due to moist skin there and relatively less scaling. Saraswat et al[10]reported 3% cases in their study. Pearly penile papule are normal variants and unrelated to sexual activity. PPP is a common disorder found in 50% of men. It causes anxiety to patients and are wrongly assumed to be sexually transmitted disease. It is typically located on the sulcus or corona of glans penis.6 (1.88%) cases were noted in our study, all belonging to age group 25-40 years. 8 (3.12%) cases of pearly penile papules, belonging to age group of 15-30 years were found in the similar study by Mamtha P et al[9]. Steatocystoma multiplex is a hamartomous malformation of the pilosebaceous duct junction[17]. It is characterized by numerous small, skin coloured or yellowish, cutaneous cysts anywhere in the body but most commonly in the areas where pilosebaceous gland are

well developed such as trunk, neck, axilla, inguinal regions, scalp and the proximal extremities.

We reported 5 (1.56%) case of steatocystoma multiplex of scrotum in this study. It was second most common finding (14%) by Karthikeyan et al[7]. They were observed in only 3.7% cases by Khoo & cheong[8]. All cases were asymptomatic. Fordyce spot are ectopically located sebaceous gland.4 (1.25%) cases were found in the present study. Mamatha P et al[9] also had similar result as ours with 4 cases (1.61%). Saraswat et al[10] reported 3% cases in their study. Fixed drug eruption if severe there is extensive ulceration whereas in less severe cases there is red swollen plaque sometimes associated with blister erosion and ulceration. We had 4 cases of fixed drug eruption and all the cases were due to NSAIDS. Ozkaya et al[16] carried out study on 105 patients with established fixed drug eruption and found cotrimoxazole, the most frequent drug to induce genital mucosal lesions. Karthikeyan et al observed only 3 cases of FDE and all of them by cotrimoxazole[7].

Other less common causes of non-venereal genital dermatoses in our study were found to be, scrotal filariasis, zoon balanitis, squamous cell carcinoma, angiokeratoma. 2 (0.62%) cases of each were reported during 1 year of our study period. Zoon balanitis is an idiopathic, chronic, benign, inflammatory mucositis of the genitalia that clinically presents as solitary, shiny, well-defined erythematous plaque on the glands[18].It is also known as balanitis circumscripaplasmacellularis or plasma cell balanitis of zoon[18]. Both the case in our study involved both prepuce and glans.



Fig 1: Pearly penile papule in a 30 year male



Fig 2: Lichen planus in a 54 years male



Fig 3: Angiokeratoma of the scrotum in a 48 years male



Fig 4: Giant scrotal lymphedema in 56 years male



Fig 5: Genital psoriasis in 6 years boy



Fig 6: Nodular genital scabies



Fig 7: A rare presentation of unilateral lymphangioma circumscriptum of scrotum in 12 years boy

Conclusion

The study was conducted to create awareness among patients about the types of genital lesions, its avoidable causes and thus trying to clear the common misconception that all genital lesions are venereal in origin. The study highlights the pattern of various non-venereal genital dermatoses commonly affecting male patients. Not only the dermatovenerologists but all clinicians should know the possible common causes of non-venereal genital dermatoses. Proper counseling and education in this field is very important.

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