

International Journal of Biomedical and Advance Research

ISSN: 2229-3809 (Online); 2455-0558 (Print)

Journal DOI: <https://dx.doi.org/10.7439/ijbar>

CODEN: IJBABN

Original Research Article

A clinical study of non venereal genital dermatoses of adult in a Tertiary Care CenterGeeta Shinde^{*1} and Sanjay Popere²¹Assistant Professor, Department of Dermatology, LTMMC and LTMGH, Sion, Mumbai, India²Associate Professor, Department of Orthopaedics, RGMC, Kalwa, Thane, India

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Byculla, Mumbai, India - 400008***Article History:****Received:** 14/04/2017**Revised:** 25/04/2017**Accepted:** 25/04/2017**DOI:** <https://dx.doi.org/10.7439/ijbar.v8i4.4111>**Abstract****Aim and Objectives:** To study the clinical pattern, aetiological factors, age/sex wise distribution, and the percentage of various non-venereal genital dermatoses and to assess which dermatoses have a predilection for external genitalia or as a part of generalized involvement.**Methods:** A series of 100 adult patients with non-venereal dermatoses of the external genitalia were screened amongst patients attending skin and venereal disease OPD/IPD at teaching institute in Mumbai. Patients having age below 12 years were excluded from the study.**Results:** The majority of patients (79%) were in age group of 21-50 years and which constitutes about 3/4th bulk of total patients. Non-venereal genital dermatoses were more commonly observed in males (70%) with a male: female ratio of 2.33:1. The commonest presenting symptoms were pruritus (30%), discoloration of skin and mucosa (15%), peeling of skin (17%), sore (12%) and growth (11%). Inflammatory disorders comprised about more than half of the cases (58%), infection and infestation (23%), benign tumors and cysts (11%), pigmentary disorders (7%). The commonest genital dermatoses was psoriasis (17%) followed by superficial dermatophytosis (16%), stevens-johnson syndrome (7%), pemphigus vulgaris (7%), steatocystoma multiplex (5%) and vitiligo (5%).**Conclusion:** The study has been quite useful in understanding the clinical and aetiological characteristics of various types of non-venereal dermatoses in adults.**Keywords:** Aetiological factors, Non-venereal genital dermatoses, inflammatory disorders, Infection and infestation, Psoriasis, Superficial dermatophytosis**1. Introduction**

External genitalia are common site for rashes, itching and minor infection. This area is always warm, moist and occluded and it is frequently exposed to irritating substances like urine, faeces and vaginal secretion. In addition, concerns about hygiene and sexually transmitted diseases prompt some people to use overly vigorous cleaning regimens, deodorants and specialized hygiene products. Abnormalities that, if they occurred elsewhere, would be considered trivial by the patient, suddenly become a complicated by both the local environment and psychological factors. Prompt recognition of the cause or

causes of visible genital abnormalities or uncomfortable sensation not only minimizes the duration of pain or itching but also helps to avoid damage to self-esteem and sexual relationship.

The diseases that affect the external genitalia are unique. They can be divided into two groups: Venereal and non-venereal dermatoses. The diseases, which are not sexually transmitted, are referred as non-venereal dermatoses. Non-venereal genital dermatoses, include a wide array of diseases with varied etiology. They can either effect genitalia alone or may affect other body part also [1].

The non-venereal dermatoses can be classified into five groups based on pathogenesis: Inflammatory diseases (psoriasis, seborrheic dermatitis, lichen planus), infections and infestations (scabies, dermatophytosis), congenital disorders (median raphe cyst), benign abnormalities (angiokeratoma of Fordyce, sebaceous cyst), premalignant and malignant lesions (erythroplasia of Queyrat, Squamous cell carcinoma) [2]. These lesions that occur at the external genitalia have varied etiology and it causes anxiety in patients and therefore they should be explained the true nature of disease and this require knowledge about non-venereal genital dermatoses [3]. Hence the identification of diseases is quite challenging.

The present study was undertaken to know about non-venereal genital dermatoses in detail as this topic is neglected as compared to venereal genital dermatoses.

2. Material and Methods

The current study was undertaken on patient attending the skin and venereal disease OPD/IPD attached to teaching institute in Mumbai. A total of 100 cases were studied. They showed clinical features of external genital involvement. The adult presented with complaint related to non-venereal genital dermatoses, sexually transmitted disease, genital examination revealing co-existing lesion unrelated to sexual act, dermatoses involving other part of body either generalized or localized with incidental genital lesion. Non-venereal genital lesions were observed in several patients in this group. Patients having age below 12 years were excluded from the study.

Detail history including age, occupation and marital status as well as origin, duration and progress of the disease were noted. Special stress was laid on symptoms bearing on the genital lesion, probing for them if not spontaneously given. History of recurrence, drug ingestion, application of topical ointment treatment was taken. Enquiry was made with regard to history of exposure. Preliminary general and systemic examination was carried

out with special emphasis on (a) mucosal lesions (b) lymphadenopathy and (c) any system particularly relevant to the case concerned. Physical examination was done to see any associated lesions elsewhere in the body. The external genitalia were examined, and findings were noted. Investigations such as Gram-stain, KOH mount, venereal disease research laboratory test, ELISA test for HIV I or II and histopathological examination were done as and when required establishing the diagnosis. A proforma was prepared to record the relevant details of patient, examination, investigations and diagnosis.

3. Observations and results

A series of 100 adult patients with non-venereal dermatoses of the external genitalia were screened amongst patients visiting this hospital. The age of the patients ranged from 13 to 80 years, with the majority falling in 2nd to 5th decade of life. Of the total 100 patients, 70 patients were males and 30 patients were females with a male: female ratio of 2.33:1. 75% of patients studied presented directly with complaints pertaining to non-venereal genital lesions. In the others, the genital lesions were an incidental finding in the course of examination for widespread cutaneous lesions. The commonest presenting symptoms were pruritus (30%), discoloration of skin and mucosa (15%), peeling of skin (17%), sore (12%) and growth (11%).

The inflammatory disorders comprised about more than half of the cases (58%), infection and infestation involved 23% of cases, benign tumors and cysts consists of 11% and pigmentary disorders include 7% of cases. Under these classifications, a total of nineteen different types of non-venereal dermatoses were noted in this study, (Table 1). The most common disorder was psoriasis present in 17 cases, followed by superficial dermatophytosis, which accounted for 16 cases. The other disorder encountered included Stevens - Johnson syndrome in 7; pemphigus vulgaris in 7, steatocystoma multiplex and vitiligo in 5 cases each etc, (Table 1).

Table 1: Distribution of Various Genital Dermatoses Studied

Types of Dermatoses	Dermatoses	Number of cases			% of Whole n=100
		Male	Female	Total	
Inflammatory					
	Psoriasis	10	7	17	17%
	Seborrheic Dermatitis	3	2	5	5%
	Reiter's Disease	3	0	3	3%
	Lichen Planus	2	0	2	2%
	Neurodermatitis	3	0	3	3%
	Pellagra	4	0	4	4%
	Intertrigo	2	4	6	6%
	Pemphigus Vulgaris	5	2	7	7%
	Stevens Johnson Syndrome	7	0	7	7%
	Lichen Sclerosis Et. Atrophicus	0	4	4	4%
	Total	38	20	58	58%

Table 1 continues.....					
Non-venereal infections and infestations:					
	Scabies	4	0	4	4%
	Candidiasis	1	2	3	3%
	Superficial Dermatophytosis	8	8	16	16%
	Total	13	10	23	23%
Benign tumor and cysts					
	Angiokeratoma of Scrotum	3	0	3	3%
	Pearly Penile Papule	3	0	3	3%
	Steatocystoma Multiplex	5	0	5	5%
	Total	11	0	11	11%
Malignant tumor					
	Squamous Cell Carcinoma of Penis	1	0	1	1%
	Total	1	0	1	1%
Pigmentary disorders					
	Vitiligo	5	0	5	5%
	Acanthosis Nigricans	2	0	2	2%
	Total	7	0	7	7%

4. Discussion

Genital diseases may be associated with severe psychological trauma and fear in the mind of patients. Therefore, it is of immense importance to diagnose these non-venereal dermatoses to relieve the patient from the stigma of sexually-transmitted diseases and cancer phobia even in benign conditions. There are very few comprehensive studies on the pattern of non-venereal dermatoses from India, [4,5]. Thus, the present study was carried out on 100 cases of clinically diagnosed non-venereal genital dermatoses with the view of studying the clinical pattern, aetiological factors, age/sex distribution and the percentage of cases studied constituted by the particular dermatoses.

Majority of our patients belonged to age group of 21-50 years. Maximum incidence (30%) of non-venereal dermatoses was observed in 21-30 years age group, 29% in 31-40 years, 20% in 41-50 years, i.e. total 79% in 21-50 years which constitutes about 3/4th bulk of total patients. Males (70%) outnumbered females (30%) and male: female was 2.33:1.

Psoriasis of genitalia occurs in all age groups from infancy to the elderly. Genital psoriasis was observed in 17 cases of which only 5 cases had purely genital lesions. The others had some evidence of extra-genital disease. Out of 17 cases of genital psoriasis, 10 were males and 7 were females with the age group between 13-65 years out of which 5 were alcoholic, 3 were diabetic and 3 were infected with HIV disease. These findings correlates with the observations of Faber and Nall L *et al* [6] who observed genital psoriasis occurs with higher frequency in males than in females. In the genital region, in males the glans penis and the root of penis were most commonly involved in 3/10 i.e. 30% male (Figure 1a) and in females, monpubis with labia majora was involved in 2/7 i.e. 28.5% females (Figure 1b). In one case, psoriasis of the shaft of penis coexisted

with vitiligo of glans penis. Such an association of vitiligo with psoriasis has been previously reported by Menter A *et al* [7].

Pemphigus vulgaris affects all races and both sexes. It is a disease of middle age, which affects children rarely [8]. It accounts for around 70% of all cases of pemphigus and may be the commonest autoimmune blistering diseases. In this study, pemphigus vulgaris involving the genitalia was observed in 7 cases of which 5 were males (Figure 1c) and 2 were females (Figure 1d) in which 2 were diabetics. The age of onset was between 3rd or 6th decade. These findings correspond to the findings of Korman NJ *et al* [9] who also observed the similar findings.

Stevens Johnson Syndrome is precipitated by drugs such as sulphonamides, antibiotics, anticonvulsant, non-steroidal anti-inflammatory drugs etc. Stevens Johnson Syndrome occurs in all age group with males predominating. We observed 7 males with Stevens Johnson Syndrome with cutaneous and mucosal involvement (Figure 1e and 1f). All had history of drugs ingestion, out of which 4 had history of ingestion of co-trimoxazole, 2 had taken anti-TB drugs i.e. ethambutol and pyrizinamide and 1 had taken brufen. Out of 7 cases 4 were infected with HIV diseases. This was agreement with the study of Huff FC, Weston WL *et al* [10].

Reiter's disease is a triad of urethritis, arthritis and conjunctivitis. This may be post urethritic or post dysenteric. In our study out of 3 male patients, all were infected with HIV disease and age of onset was between 3rd to 4th decades. Patients presented with urethritis followed by arthritis, skin and mucosal lesions in form of red, moist, erosion with some marginal erythema on shaft of penis and mucosal aspect of prepuce (Figure 1g). The disease was very severe all 3 patients which correlates with the findings of Davic M. *et al* [11].

Neurodermatitis of genitalia is associated with psychogenic stress and atopic-diathesis. In males it involves scrotum, crural crease, upper and inner thigh. In females it involves vulva and labia majora. We observed 3 male patients in our study with neurodermatitis of scrotum with underlying atopy in the age group between 30 to 50 years in which 1 was diabetic (Figure 1h). These findings of atopic dermatitis with neurodermatitis were concomitant with the finding of Singh G. *et al* [12], who also noticed similar association.

Four cases of Lichen sclerosus et atrophicus in females were seen in present study with the age of onset between 4 to 6th decades showing ivory coloured atrophic plaque at the vulva (Figure 1i). One had superimposed

candidiasis and was diabetic (Figure 1j). Similar findings have also been reported by Barker LP *et al* [13]. Pellagra was observed in four male patients and all were alcoholic and one was infected with HIV diseases. All patients had dermatitis occurring symmetrically on the face, neck, wrist, back of the hands and scrotum showing erythema and maceration (Figure 1k). This finding was in concordance with the study of Horn TD *et al* [14]. In Lichen Planus, shiny flat topped, polygonal, violaceous pruritic papules are seen. Two male patients were seen in our study who had generalized involvement including genitalia, with age of onset between 2nd to 3rd decades (Figure 1l). These findings correlate with findings of Schmidt H *et al* [15] who also observe that males are affected more than women.



Figure 1 a) Psoriatic plaques on glans penis and groin, b) Psoriatic plaques on vulva, groin and perineum Figure 2 c) Pemphigus vulgaris involving glans penis, groin and pubic region, d) Pemphigus vulgaris involving vulva, e) Fixed drug eruption on glans penis, f) Stevens Johnson Syndrome, g) Reiter's disease, h) Neurodermatitis of scrotum with ulceration, i) Lichen sclerosus et atrophicus involving vulva, j) Lichen sclerosus et atrophicus superimposed with candidiasis, k) Pellagroid lesion on scrotum, perianal region and lower extremities, l) Lichen planus involving genitalia

Seborrhoeic dermatitis was seen in 5 cases, out of which 3 were males and 2 were females. The age of onset was between 2nd to 4th decades. One was infected with HIV disease. Thus the above observation correlates with the finding of Goodman DS *et al* [16], who also observed seborrhoeic dermatitis as a cutaneous marker of early HIV infection. Scabies affects all races and both sexes equally and is not age specific [17]. It can be confined to genitalia

only or may be generalized. Present study comprised of 4 male patients who had genital involvement in form of nodules and excoriated papules on the scrotum and shaft of penis (Figure 2a) with persistence of lesions in 2 and recurrence in 2 of them. Non of them had history of exposure and all had family members affected with the similar complaints. These findings were in concordance with the study of Ayres S, Anderson SP *et al* [18], who

found persistent nodules in scabies. *Candida albicans* infects the mouth, nail folds, genitals and intertriginous skin. It is more frequently seen in diabetics than in non diabetics. In our study, out of 3 cases, 1 was male and 2 were females (Figure 2b). Male patient was diabetic and had phimosis and thus recurrence was seen in him. These finding compared with the finding of Huntley AC *et al* [19], who studied cutaneous manifestation of diabetes mellitus and found that candidiasis was the commonest finding noted. Superficial dermatophytosis (Figure 2c) involves inguinal and pubic areas. In current study out of 16 patients equal distribution was seen in both sexes and was not age specific, out of which 2 were diabetics. However, these findings correlated with the findings of Huntley AC *et al* [19], who studied cutaneous manifestation of diabetes mellitus.

Pearly penile papules (Figure 2d) are angiofibromas characterized by small, dome shaped or hair like papules involving the penile corona. They occur at any age after puberty, but commonly seen in between 2nd to 5th decades. In the study, 3 male patients had similar lesions with the age group ranging between 2nd to 4th decades. This finding compared with the observation of Ackerman AB *et al* [20]. Steatocystoma Multiplex (Figure 2e) is asymptomatic, round, firm cystic nodules 1-3 cm in diameter arising from pilosebaceous apparatus usually widespread but can be limited to the scrotum. In our study

out of 5 male patients one presented in 2nd decade, one in 3rd decade, two in 4th decade and one in 6th decade. Angiokeratoma of scrotum (Figure 2f) are asymptomatic, hyperkeratotic, vascular skin lesions seen with increasing frequency with age. 3 cases were seen in our study, age group ranging from 41-50 years and this was correlates with Imperial R, Helwig EB *et al* [21], who found that it is seen in middle age group. In vitiligo (Figure 2g), depigmented macule and patches are seen which affect both sexes equally, usually with generalized distribution and with family history in 30%. It is associated with autoimmune disease like thyroid disorders, diabetes mellitus, Addison's diseases and atopic dermatitis. In our study all 5 patients were male in which 1 had diabetics and 2 were alcoholic. All had concomitant genital and generalized involvement. One had diabetic and this correlates with study of Gould RS and Gray *et al* [22], who also found the association of vitiligo in diabetic mellitus. Squamous cell carcinoma (Figure 2h) of genitalia is rare. However, we observed only one uncircumcised male patient of squamous cell carcinoma with age 63 years with history of painless genital ulcer with induration and everted edges of 5 to 6 months duration. This correlates with the study of Burgers and Yeager JK *et al* [23,24], who observed Squamous cell carcinoma in old age group.



Figure 2 a) Nodular scabies on shaft of penis and scrotum, b) Vulval candidiasis, c) intertrigo, d) Pearly penile papule, e) Steatocystoma Multiplex, f) Angiokeratoma of scrotum, g) Vitiligo on shaft of penis, h) Squamous cell carcinoma of penis

5. Conclusion

The present study found that most of the patients of non-venereal dermatoses were in age group of 21-50 years and males had predominance over females in a ratio

of 2.33:1. The total nineteen different disorders of varied etiology were seen; in which the most common dermatosis was psoriasis after that superficial dermatophytosis with predominance in males. Contrary to normal belief all the

lesions on genitalia are not sexually transmitted. It is very important to distinguish between venereal and nonvenereal genital dermatoses, as these nonvenereal disorders are a considerable concern to patients causing mental distress and feeling of guilt. Also, these nonvenereal disorders are quiet difficult in making a diagnosis by the treating physicians. A comprehensive understanding of the various presentations, their etiology is, therefore, essential. This study was quiet useful in understanding the epidemiological, clinical and etiological characteristics of various nonvenereal genital dermatoses. However, further studies with increased number of cases are required to study their aetiopathogenesis and related aspects.

Acknowledgement

The authors sincerely thanks the Department of Dermatology, other staff and administration of Grant Medical College and Sir J.J. Group of Hospitals, Byculla, Mumbai for permission to study and providing facility to carry out the work.

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