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# A DESCRIPTIVE STUDY ON THE PATTERN OF NON-VENEREAL DERMATOSES OF MALE GENITALIA AT A TERTIARY CARE TEACHING HOSPITAL

**Dr. Saju A.S.***

*Assistant Professor, Department Of Dermatology, Azeezia Medical College Hospital, Kollam, Kerala, India.

## ABSTRACT

### Background

The majority of dermatological conditions typically affect different parts of the body, including the genitalia. The diagnosis is simple when other sites are affected. The treating physician finds it challenging to distinguish between non-venereal and venereal genital lesions if the lesion is limited to the genitalia.

### Methods

This was a descriptive study of new cases with genital lesions among adult male patients above the age of 12 years, excluding transgender patients and patients presenting with classical sexually transmitted infections, attending a skin and STD outpatient clinic for a period of one and a half years.

### Results

In our investigation, 200 cases of non-venereal genital dermatoses were observed. The age range of 21 to 30 years old accounted for 39.5% of all patients. Scabies was found to be the most common NVGD, occurring in 73 (36.5%) patients. The prevalence of pearly penile papule was higher among benign conditions and normal variants [5 (2.5%)]. Lichen planus and vitiligo were shown to be the most prevalent inflammatory disorders and miscellaneous conditions, respectively. Genitalia alone was found to be engaged in more patients [116 (58%)] out of the four categories categorised by the site of involvement. The penile shaft was the most common site of involvement in male genitalia.

### Conclusion

Not every lesion that develops over the genitalia is sexually transmitted. Over the lifetime, numerous additional non-venereal disorders may manifest. All medical professionals should treat these diseases with the right medications and approach their examination and assessment with an open mind. Understanding the clinical and etiological features of different non-genital dermatoses aids in both making a diagnosis and educating patients about the value of upholding and enhancing social and personal hygiene practices.

**Key words:** Non Venereal, Scabies, Genital Lesions.

## INTRODUCTION

Non-venereal genital dermatoses or NVGD, are frequently mistaken for venereal diseases, which typically worries patients and presents a diagnostic conundrum for doctors. Despite what the general public believes, not all lesions that develop over the genitalia are signs of an STD. Patients who suffer from these non-venereal illnesses may experience emotional discomfort and guilt, thinking they may have contracted an STD.

It can be difficult to identify and establish a diagnosis of the kind of disease because non-venereal genital diseases encompass a wide variety of conditions.
Urologists and gynecologists are frequently consulted first by people with genital lesions; however, there is a risk of misdiagnosis because they might not be aware of the numerous non-venereal genital disorders.[1]
Non-venereal genital lesions can develop in the genitalia by themselves or in conjunction with related lesions in other parts of the body. Therefore, in order to reach a final diagnosis, it is essential to document the important medical history, do a comprehensive clinical examination, and conduct pertinent investigations. It might be difficult for dermatologists to accurately diagnose and treat genital lesions because they can be altered by frequent topical application of local drugs.

## AIMS AND OBJECTIVES

The goal of the current study was to study the clinical pattern of genital dermatoses that are not venereal. Having a thorough awareness of the various presentations aids a doctor in managing patients' problems and reducing their worry.

## MATERIALS & METHODS

This was a descriptive study of genital lesions among males above 12 years of age attending the SKIN & STD outpatient clinic, excluding transgender and patients with classical sexually transmitted infections. Informed consent was taken prior to the examination, from all the patients chosen for the study. Age, occupation, length of illness, site of participation, and history of extramarital or premarital sex were all included in the comprehensive medical history. The entire body was thoroughly examined, both dermatologically and generally.
Where necessary, tests such as KOH mount, Gram's stain, Tzanck smear, histopathology and direct immune fluorescence, immunohistochemistry, and pertinent blood investigations were carried out to confirm the diagnosis and rule out any instances of STDs.

After making the diagnosis of non-venereal genital dermatoses, based on etiology, we classified the conditions into five major divisions, namely,

1) Benign conditions & normal variants
2) Infections and infestations
3) Inflammatory conditions
4) Malignancy
5) Miscellaneous conditions

Depending on the site of involvement, we categorized these conditions into,

1. Genitalia only
2. Genitalia and skin
3. Genitalia and oral mucosa, and
4. Genitalia, skin and oral mucosa involvement.

We separated the aforementioned conditions into two groups, namely single and multiple sites of involvement, according to the sites of involvement in genitalia.

## RESULTS

In this study, patients with non-venereal genital dermatoses ranged in age from 13 to 75. Additionally, the average age was 31.32. The majority of patients (79) were between the ages of 21 and 30.

| Age Categories | Frequency | Percentage |
|---|---|---|
| < 20 years | 44 | 22.0 |
| 21 - 30 years | 79 | 39.5 |
| 31 - 40 years | 29 | 14.5 |
| 41 - 50 years | 29 | 14.5 |
| 51 - 60 years | 9 | 4.5 |
| > 60 years | 10 | 5.0 |
| Total | 200 | 100.0 |

***Table 1: Age Distribution of Cases***

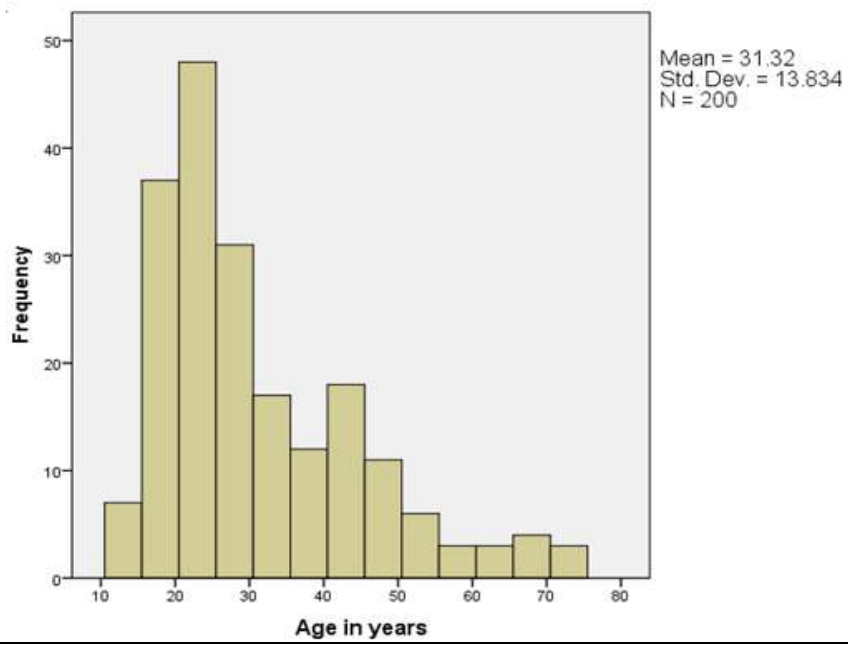



***Figure 1: Age Distribution of Cases***

**Genital Dermatoses Observed in the Study**

Out of 200 instances, scabies was the most prevalent non-venereal genital dermatosis, occurring in 73 (36.5%) of the patients. Vitiligo (33 instances) and balanoposthitis (29 cases) came next. The below table shows the frequency of various lesions observed.

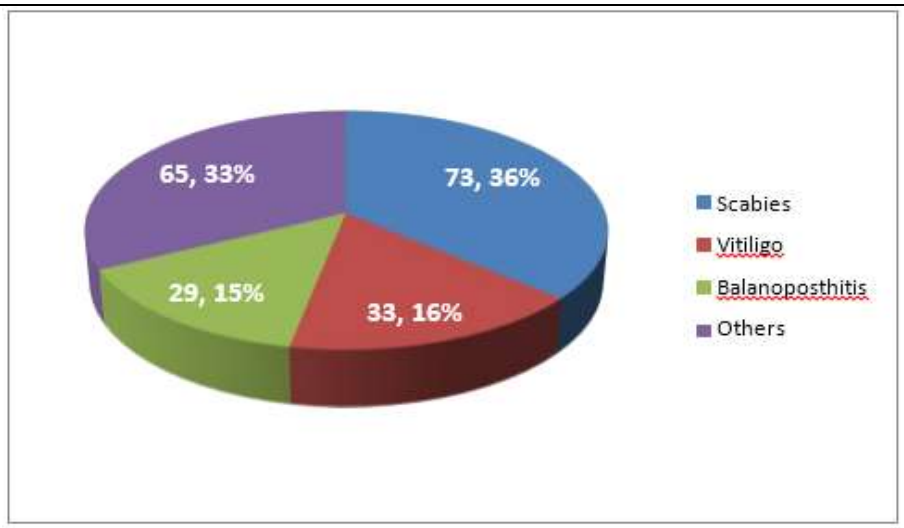
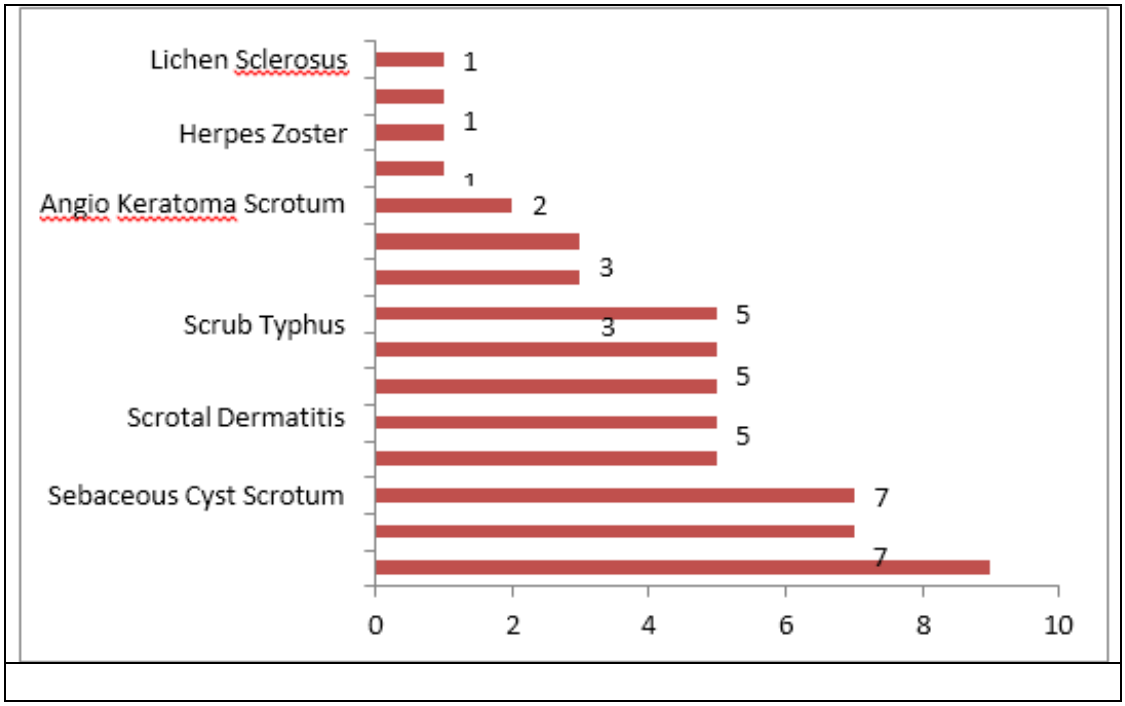



***Figure 2: Major Diagnosis of Genital Lesions***

| Diagnosis of Genital Lesion | Frequency | Percentage |
|---|---|---|
| Angio Keratoma Scrotum | 2 | 1.0 |
| Balanoposthitis | 29 | 14.5 |
| Cellulitis Penis | 1 | 0.5 |
| Dermatophytosis | 7 | 3.5 |
| Fixed Drug Eruption | 5 | 2.5 |
| Herpes Zoster | 1 | 0.5 |
| Lichen Nitidus | 1 | 0.5 |
| Lichen Planus | 9 | 4.5 |
| Lichen Sclerosus | 1 | 0.5 |
| Paederus Dermatitis | 1 | 0.5 |
| Pearly Penile Papules | 5 | 2.5 |
| Psoriasis | 5 | 2.5 |
| Scabies | 73 | 36.5 |
| Scrotal Dermatitis | 5 | 2.5 |
| Scrotal Warts | 1 | 0.5 |
| Scrub Typhus | 3 | 1.5 |
| Sebaceous Cyst | 3 | 1.5 |
| Sebaceous Cyst Scrotum | 7 | 3.5 |
| Sebopsoriasis | 5 | 2.5 |
| Squamous Cell Carcinoma Penis | 1 | 0.5 |
| Tineacruris | 1 | 0.5 |
| Vitiligo | 33 | 16.5 |
| Zoons Balanitis | 1 | 0.5 |
| Total | 200 | 100.0 |

***Table 2: List of Genital Dermatoses Observed***




**Categorization According to the Site of Involvement**

We classified non-venereal genital dermatoses into four categories according to the site of involvement. These included genital involvement alone, genital involvement and skin, genital

involvement and oral mucosa, and genital involvement and skin. While 116 (58%) of the people in our study had genital-only conditions, these conditions were more common and did not occur in the third or fourth category.

| Category - Site of Involvement | Frequency | Percentage |
|---|---|---|
| Genitalia only | 116 | 58.0 |
| Genitalia & skin only | 84 | 42.0 |
| Total | 200 | 100.0 |

***Table 3: Classification According to the Site of Involvement***

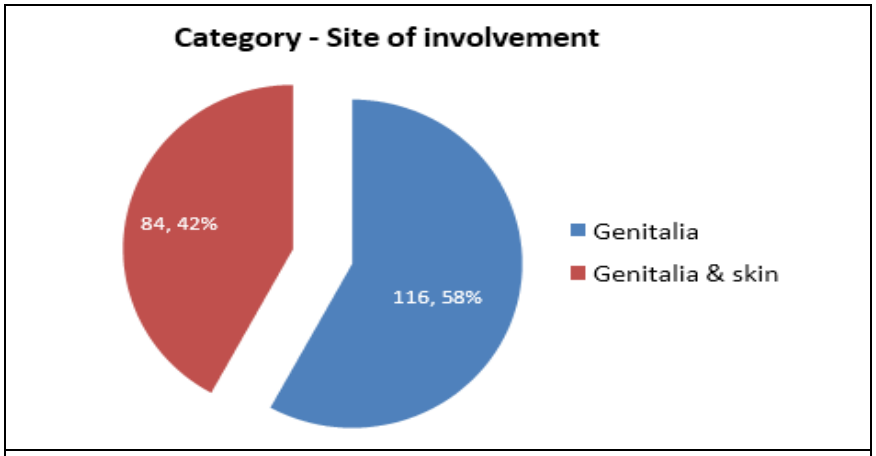



***Figure 3: Categorization According to Site of Involvement***

**Classification According to Sites in Genitalia**

The penile shaft was the most common site of involvement in the male patients. The majority of the patients had lesions on multiple sites in the genitalia.

| Groups Sites in Genitalia | Frequency | Percentage |
|---|---|---|
| Single site | 92 | 46.0 |
| Multiple site | 108 | 54.0 |
| Total | 200 | 100.0 |

***Table 4: Categorization According to Sites in Genitalia***

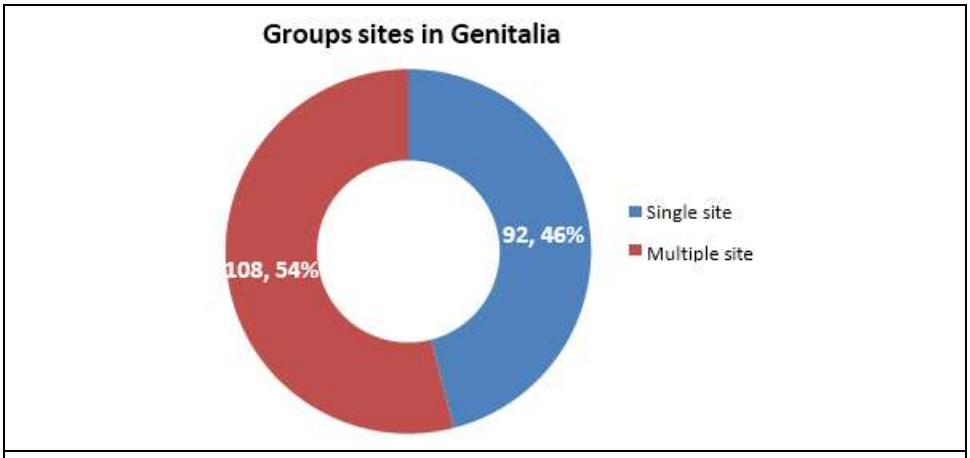



***Figure 4: Categorization According to Sites in Genitalia***

**Classification of Non-Venereal Genital Conditions based on Etiology**

Most of the diagnosed NVGD fell under the infections and infestations etiology (115 cases i.e., 57.5%) and only 1 diagnosis was found under the malignancy category among the study population.

| Division – Etiology Basis | Frequency | Percentage |
|---|---|---|
| Benign conditions and normal | 7 | 3.5 |
| Infections and infestations | 115 | 57.5 |
| Inflammatory conditions | 33 | 16.5 |
| Malignancy | 1 | 0.5 |
| Miscellaneous conditions | 44 | 22.0 |
| Total | 200 | 100.0 |

***Table 5: Etiological Classification of Genital Dermatoses***

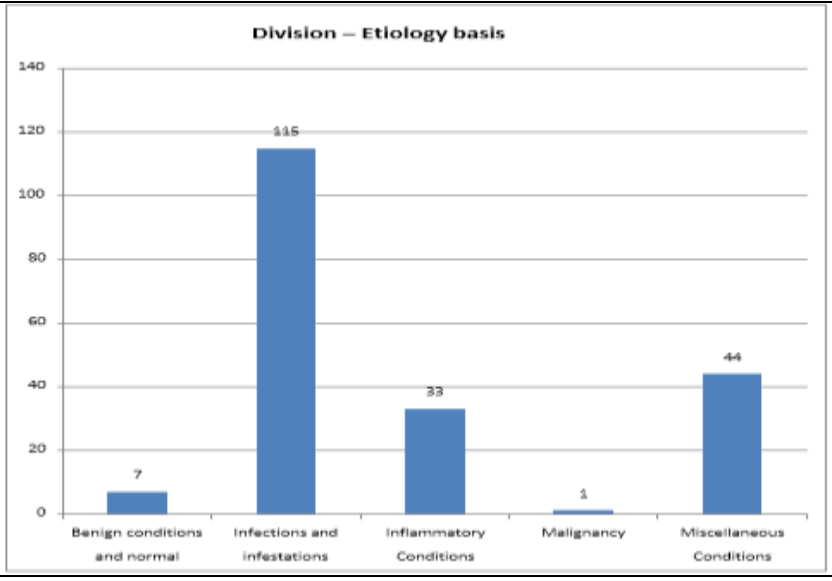



***Figure 5: Etiological Categorization of Genital Dermatoses***

## DISCUSSION

The age group most frequently impacted in this study was 21–30 years old. The study population's average age was 31.32 years, with a standard deviation of 13.83. This observation was similar to the study by Saraswat et al., wherein 40% belonged to the age group of 21-30 years.[2] The majority of patients (79%) in research by Shinde G et al. were between the ages of 21 and 50.[3] The most patients in the Rajakumari et al. study were from the age groups 21-30 and 31-40 years.[4] In a study by Karthitheyan K et al., non-venereal dermatoses were commonly seen in the 21-40 years age group.[5]

The most common NVGD diagnosed in this study was scabies (36.5%), followed by vitiligo (16.5%) and balanoposthitis (14.5%). P. K. Saraswat et al. did a study to find the pattern of non-venereal genital dermatoses among male patients. They discovered that vitiligo was the most frequently diagnosed non-venereal genital dermatosis (18%), followed by lichen planus (9%), fixed drug eruptions (12%), scabies (10%), scrotal dermatitis (9%), and pearly penile papule (16%).[2] In a study by Shinde G et al., the most common genital dermatosis was psoriasis (17%), whereas in our study the presence of psoriasis was present only in about 2.5% of the study population.[3]

In a study by Ashok S. Hogade et al., among the 50 male patients studied, the most common non-venereal genital dermatoses were vitiligo (20%), followed by fixed drug eruptions (16%) and scabies (14%). In our study, fixed drug eruption was present in 2.5% of the study population,

whereas scabies and vitiligo were present as the top two most common presentations.[6] The most prevalent non-venereal dermatoses in males, according to a study by Neerja Puri et al. that examined the pattern of non-venereal genital dermatoses patients in North India, were scrotal dermatitis (16.6%), which was followed by vitiligo (14.3%). Ten percent of patients each had pearly penile papules, fixed drug eruptions, and scabies.[7]

With regard to site of involvement, the genitalia were affected in 58% of the study population, and the rest (42%) were affected in the sites of genitalia and skin.

Nyati A et al., in their study, concluded that the most common non-venereal dermatoses were tinea cruris and incognito (109 cases, 30.70%), followed by lichen simplex chronicus (96 cases, 27.04%), followed by lichen sclerosus et atrophicus (65 cases, 18.30%) and vitiligo (20 cases, 5.63%).[8]

With regard to the number of sites of involvement, the single site was affected in 46% of the study population, and in the rest, 54%, multiple sites were involved. With regard to the etiology, infections and infestations were most common, affecting 57.5% of the study population. This was followed by inflammatory conditions in 16.5% of the subjects. In a study by Shinde G et al., inflammatory disorders were present in more than half of the cases (58%), followed by infection and infestation (23%). The presence of benign tumors and cysts (11%) and pigmentary disorders (7%) was witnessed in about 10% of the patients.[3] In a study by Rajakumari et al., the presence of candidal balanoposthitis was most common, with 41.6% of the patients, followed by pearly penile papules, genital vitiligo, and scabies.[4]

In a study by Nagireddy Himaja et al., out of 100 adult males present in their study population, infective dermatoses were present in 62% of patients, and non-infective dermatoses involving genitalia were present in 38% of patients. They went on to say that adult males were more likely to have infectious diseases, including fungal infections, which is indicative of poor personal cleanliness, low socioeconomic level, and poor health.[9]

100 male patients with non-venereal dermatoses of external genitalia were studied by Karthikeyan et al. Sebaceous cysts of the scrotum were discovered in 13% of patients, while genital vitiligo was the most prevalent condition, accounting for 16% of cases. Nine percent of the patients had scabies among the illnesses and infestations. Whereas, in our study, sebaceous cysts were present in 1.5% of the cases.[5] Common genital dermatoses among male patients visiting a public clinic for sexually transmitted diseases were studied by Khoo LS et al.[10] According to the study, of the 467 patients examined, 67 had pearly penile papules [14.3%], 16 had sebaceous hyperplasia [3.4%], 32 had Tyson's glands [7%], and 13 had penile melanosis [2.8%]. However, their study findings cannot be compared with our study population, as our population and pattern may differ due to differences in the various factors affecting the diseases.

Out of the 125 patients in a retrospective study conducted by Balakrishnan Thenmozhi Priya et al. to examine the incidence of NVGD, 75 patients (40 men and 35 women) were found to have non-venereal genital dermatoses. During their review, they found 14 distinct non-venereal dermatoses. In their study, people between the ages of 30 and 40 were the most frequently impacted. They further found that the most common non-venereal dermatosis found in females was lichen sclerosus. And among males, the most common presentations were FDE (Fixed Drug Eruptions), followed by pearly penile papules.[11]

## CONCLUSION

NVGD is a dermatological condition frequently encountered among young males, with scabies being the most common condition. Pearly penile papule was most common among the benign conditions, and lichen planus and vitiligo among inflammatory conditions.

Sexual transmission is not always the cause of all genital lesions. Over the lifetime, numerous additional non-venereal disorders may manifest. All medical professionals should treat these diseases with the right medications and approach their examinations with an open mind. An unbiased approach will give the patients more confidence to come forth for medical help, in the absence of which, they may have shyness and fear to consult the physician when they have genital lesions. Identifying the common non-venereal genital conditions and reassuring the patients will help to remove venerophobia.

A better diagnosis and raising patient awareness of the value of better personal hygiene when appropriate can be achieved with knowledge of the clinical and etiological features of different NVGD. More privacy, education, and care are needed for patients who are fearful and lack information.

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