Section: Dermatology

Original Research Article

A CROSS SECTIONAL EVALUATION OF VULVAR DERMATOSES: CLINICAL AND EPIDEMIOLOGICAL PERSPECTIVES

Shaik Naseema[1], Karanam Sai Sreeja[2], Vegesna Suma Sri[2]

[1]*Assistant Professor, Department of Dermatology, Venereology and Leprosy, Mamata Medical College, Rotary Nagar, Khammam, Telangana, India.*
[2]*Post Graduate, Department of Dermatology, Venereology and Leprosy, Mamata Medical College, Rotary Nagar, Khammam, Telangana, India.*

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Corresponding Author:
Dr. Shaik Naseema,
Assistant Professor, Department of Dermatology, Venereology and Leprosy, Mamata Medical College, Rotary Nagar, Khammam, Telangana, India.

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ABSTRACT

Background: Vulvar diseases may present in a variety of ways ranging from the asymptomatic to chronic disabling conditions. They may present with itching, burning, dyspareunia, pain, fissuring, bleeding after intercourse. The importance and frequency of vulvar dermatoses are often underestimated. Prompt recognition and treatment minimizes the duration of symptoms and also helps to avoid damage to self-esteem and sexual relationship. The objective is to observe the different clinical patterns of vulvar dermatoses and the epidemiological factors affecting them.

Materials and Methods: A hospital-based cross-sectional study was conducted in our outpatient department (OPD) from Nov 2023 to April 2024.A total of 304 patients who attended the OPD with vulval lesions were included in the study after taking informed consent. Sociodemographic details, clinical history of the disease, examination findings and investigation findings were noted in the proforma and data analysis is done.

Results: The majority of patients in the study belonged to the 31 –40 years age group (37.83%). Majority of the study subjects were married (78.95%), illiterate (67.76%) and unskilled labourers (33.8%). The most common vulvar dermatoses in our study were infections (60.53%) followed by inflammatory diseases (14.47%). Among infections, fungal infections were more common (33.55%) followed by viral infections (20.07%) and bacterial infections (6.91%). Tinea cruris was observed to be the most common infection (18.42%) followed by candidiasis (15.13%). Among the inflammatory diseases, lichen sclerosus et atrophicus was seen in 6.58% followed by lichen simplex chronicus in 3.29%.

Conclusion: This study highlights the different patterns of vulvar dermatoses and the socio demographic factors affecting them. Infections being the major cause can be prevented by awareness and hygiene. Early diagnosis and proper management is important to prevent complications.

Keywords: vulvar dermatoses, epidemiological factors, lichen sclerosus et atrophicus, Tinea cruris, candidiasis.

INTRODUCTION

Vulvar dermatoses are skin disorders that affect the vulva.[1] The vulva constitutes the external genitalia of the female consisting of labia majora, labia minora, mons pubis, clitoris, vestibule, and Bartholin glands.[2]

Vulvar area is prone to barrier disruption and dermatitis due to varying factors such as anatomical position, occlusion, frequent contact with bodily secretions, estrogen deficiency, friction, and heat.[3]
The prevalence is high in developing countries as compared to developed countries.[1]
Vulvar diseases may present in a variety of ways ranging from the asymptomatic to chronic disabling

conditions.[4] They may present with itching, burning, dyspareunia, pain, fissuring, sometimes bleeding after intercourse, and discomfort.[1] Vulvar dermatitis manifests as erythema, epithelial disruption, erosions, and lichenification associated with pruritus.[3]

For most of them this may be the only one of the many sites involved, while in others it may be predominantly confined to the genitalia.[5] Vulva can also exhibit specific dermatological diseases for which signs can be observed elsewhere on the body, such as in lichen sclerosus or psoriasis. However, vulva can also exhibit signs of a large variety of diseases, such as digestive, hematological, immunological, and endocrine disorders. This leads us to consider any vulvar disorder as a potential expression of a very large panel of diseases.[6] The multifactorial nature of the symptoms and physical expressions of vulvar diseases complicates their management.[4]

Though Vulvar diseases are common in the general population, their true importance and frequency are often underestimated. Whether due to ignorance or shame, the vulva is an area of the body that is usually neglected and vulvar disorders are typically associated with significant diagnostic delays, as patients with vulvar symptoms usually take a long time to see a doctor.[7]

However, 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.[8] Dermatologists should be able to recognise the normal anatomical variants of the vulva and differentiate them from benign neoplasms and their pathological mimickers there by reducing anxiety to the patient.[9]

Normal variants • Fordyce spots • Varicosities **Genodermatoses** • Epidermolysis bullosa • Hailey hailey diease • Dariers disease **Eczematous and lichenified disorders** • Contact dermatitis • Lichen simplex chronicus • Lichen planus • Lichen sclerosus • Psoriasis • Plasma cell vulvitis • Reactive arthritis involving vulva • Seborrheic ezema **Ulcers** • Aphthous ulcers • Lipschutz ulcers • Fixed drug eruption • Immunobullous diseases • Behcet's disease **Pigmentary diseases** • Vitiligo • Dowling-Degos disease • Melanocytic naevi • Acanthosis nigricans • Vulvar melanosis **Infections** • Bacterial – staphylococcus, streptococcus, tuberculosis, alakoplakia, • Fungal- candidiasis, tinea cruris • • Viral- molluscum contagiosum, herpes simplex, human papilloma virus	**Benign tumours** • Squamous papillomatosis • Seborrheic keratosis • Sebaceous cyst • Epidermoid cyst • Bartholin gland cyst • Mucinous cyst • Milia • Hemangioma • Pyogenic granuloma • Angiokeratoma • Lymphangioma • Syringoma • Lipoma • Hidradenoma papilliferum **Premalignant lesions** • Vulvar intraepithelial • Neoplasia • Paget's disease **Malignant lesions** • Squamous cell carcinoma • Basal cell carcinoma • Melanoma • Langerhans cells histiocytosis **Miscellaneous** • Trauma • Vulval pain • Hematoma • Graft vs host disease • Necrolytic migratory erythema • • Genital papular acantholytic dyskeratosis

Aims and objectives: The present study aims at observing the different clinical patterns of vulvar dermatoses and the epidemiological factors affecting them.

MATERIALS AND METHODS

Study type: It is a descriptive hospital-based cross-sectional study.

Study setting: The study was conducted in DVL OPD at a tertiary care hospital in Khammam.

Study period: Nov 2023 to April 2024.

Study population: All the female patients who attended DVL OPD with vulvar dermatoses during the study period.

Inclusion criteria

Female patients presenting with any vulvar dermatoses

- Age- all ages
- Those giving informed consent

Exclusion criteria

- Pregnant women
- Patients not willing to give consent
- Patients not willing to undergo confirmatory investigations.

Sample size: A total of 304 patients were included in the study

Data collection procedure and tools: A proforma was prepared to record the collected data.

The proforma includes

1. Sociodemographic details: The details of age, occupation, marital status and literacy were noted.
2. Clinical history: The origin, duration and progress of the disease, history of vaginal discharge, burning micturition, dyspareunia were noted. Other relevant history like drug history, similar complaints in the past, menstrual history, sexual history, application of topical ointment, history of hormonal contraception or replacement therapy, history of associated comorbidities was taken.
3. Clinical examination findings: After taking consent, A comprehensive clinical examination of external genitalia was done under good lighting after ensuring adequate privacy along with vaginal and per speculum examination, and all findings were recorded. Examination of oral mucosa, scalp, hair, nail, flexural areas perineal, and perianal region were done. Presence of any lymphadenopathy is assessed.
4. Investigations: Reports of blood investigations, Potassium hydroxide (KOH) mount, wet mount, Tzanck smear, Grams stain and dark ground microscopy were noted. Dermoscopy and Biopsy were done wherever indicated.

RESULTS

A total of 304 patients attended our OPD with vulvar dermatoses. The age groups of patients ranged from 9 years to 69 years. The majority of patients in the study belonged to the 31 –40 years age group (37.83%), followed by 21–30 years (34.87%), and 41–50 years (16.45%). The mean age of the patients is 33.8 years.

Majority (78.95%) of the study subjects were married women.206 women (67.76%) were illiterate while majority of the patients (103), that is 33.8% were unskilled labourers by occupation.

Table 1: Demographics and socioeconomic status of patients

	No of patients	%
Age		
<20 years	15	4.93
21-30 years	106	34.87
31-40 years	115	37.83
41-50 years	50	16.45
>51 years	18	5.92
Marital status		
Married	240	78.95
Unmarried	64	21.05
Occupational status		
Employee	70	23.03
Unskilled labourer	103	33.88
Student	45	14.8
Housewife	86	28.28
Literacy status		
Illiterate	206	67.76
Literate	98	32.24
Symptoms		
Itching	173	56.91
Burning sensation	59	19.41
pain	36	11.84
Asymptomatic lesions	21	6.91
others	15	4.93
Duration		
< 1 month	31	10.2
1 - 6 months	149	49.01
> 6 months	124	40.79

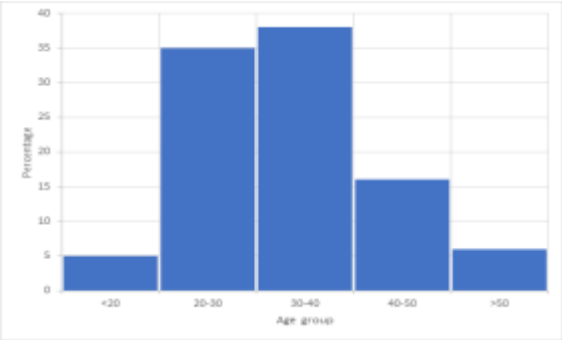


Figure 1: Age group distribution of patients

The most common presenting symptom was itching in 57%, followed by a burning sensation. 78.5 % of patients studied presented directly with complaints pertaining to non-venereal genital lesions. In the others, the genital lesions were an incidental finding during examination for widespread cutaneous lesions.

The most common vulvar dermatoses in our study were infections observed in 184 patients (60.53%) followed by inflammatory diseases in 44 patients (14.47%). Among infections, fungal infections were more common seen in 102 patients (33.55%) followed by viral infections in 61 patients (20.07%) and bacterial infections in 21 patients (6.91%). Tinea cruris was observed to be the most common infection seen in 56 patients (18.42%) followed by candidiasis in 46 patients (15.13%). Among the inflammatory diseases, lichen sclerosus et atrophicus was seen in 20 patients (6.58%) followed by lichen simplex chronicus in 10 patients (3.29%).

Table 2: Distribution of various vulvar dermatoses

Type of disease	No. Of patients	%
Infections	184	60.53
Bacterial	21	6.91
-Staphylococcal	15	4.93
-Bacterial vaginosis	6	1.97
Fungal	102	33.55
-Candidiasis	46	15.13
-Tinea	56	18.42
Viral	61	20.07
-Herpes genitalis	23	7.57
-Molluscum contagiosum	16	5.26
-Genital warts	22	7.24
Ulcer	23	7.56
Apthous ulcer	2	0.66
Immunobullous disease	14	5.59
Fixed drug eruption	1	0.33
Traumatic ulcer	6	1.97
Pigmentary diseases	15	4.93
Vitiligo	15	4.93
Eczema/inflammatory diseases	50	16.45
Contact dermatitis	5	1.64
Lichen simplex chronicus	13	4.28
Lichen planus	6	1.97
Lichen sclerosis et atrophicus	23	7.57
Plasma cell vulvitis	3	0.99
Benign tumours	16	5.26
Epidermoid cyst	2	0.66
Bartholin gland cyst	6	1.97
Seborrheic keratosis	3	0.99
Pyoderma gangrenosum	1	0.33
Milia	2	0.66
Mucinous cyst	1	0.33
Angiokeratoma	1	0.33
Premalignant conditions	2	0.66
Vulval intraepithelial neoplasia	2	0.66
Others	14	4.61
Varicosities	2	0.66
Fordyce spots	1	0.33
Vulvar papillomatosis	3	0.99
Hailey hailey disease	4	1.32
Acrocordons	4	1.32
Sexually transmitted diseases:	61	20.07
Herpes genitalis	23	7.57
Molluscum contagiosum	16	5.26
Genital warts	22	7.24
Non sexually transmitted	243	79.93

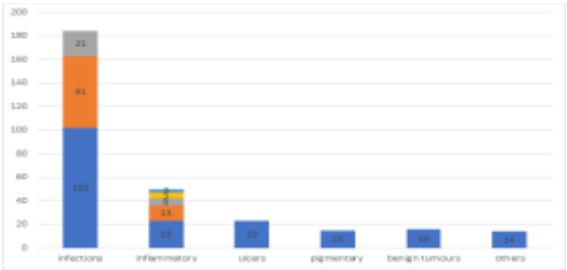


Figure 2: Bar graph showing frequency distribution of various vulvar dermatoses

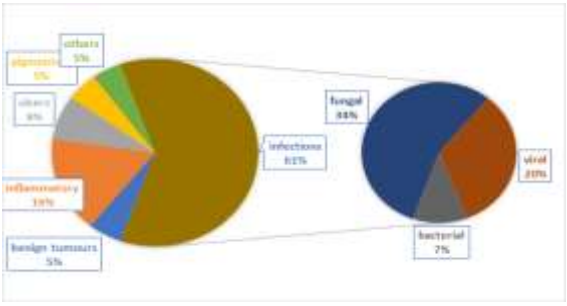
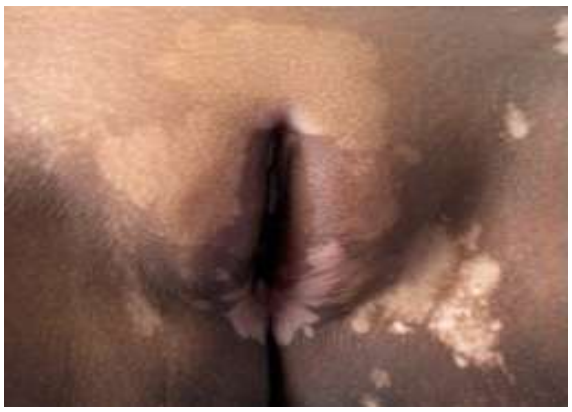


Figure 3: pie diagram of vulvar dermatoses

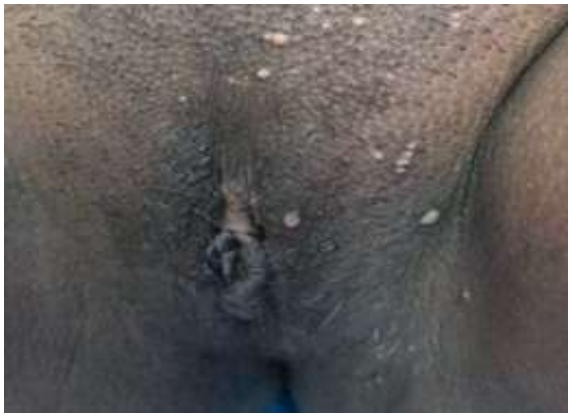
Herpes genitalis

Candidiasis

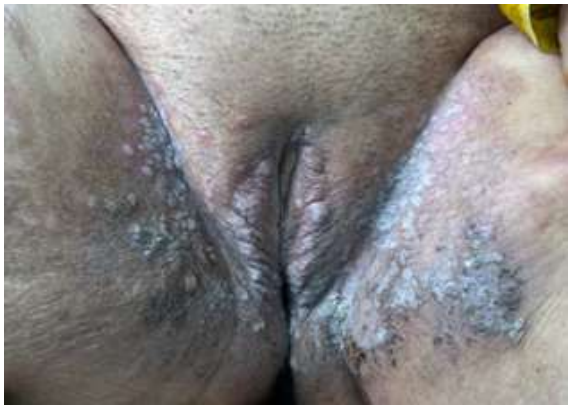


Vitiligo

Tinea



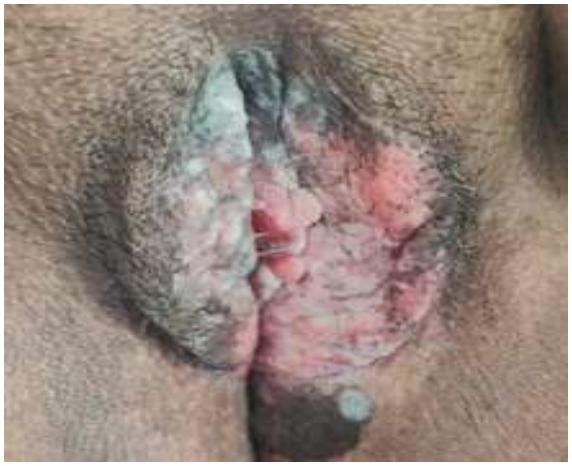
Molluscum contagiosum



Hailey hailey disease

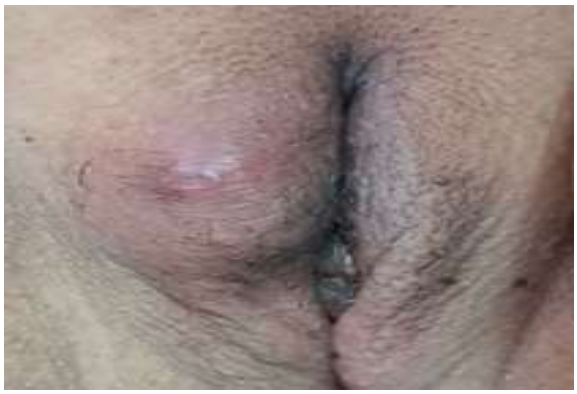
Warts

lichen sclerosis et atrophicus



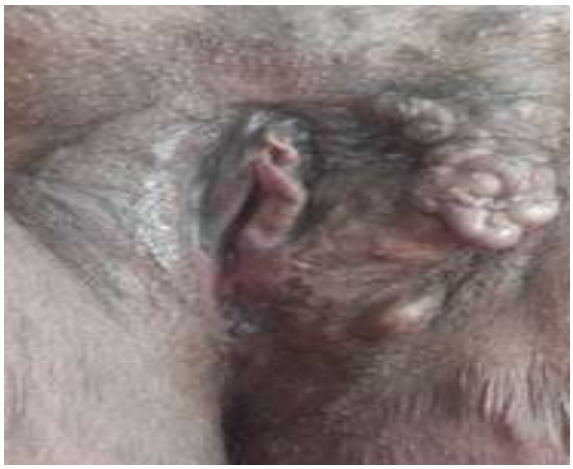
Vulval intraepithelial neoplasia

Acrocordon

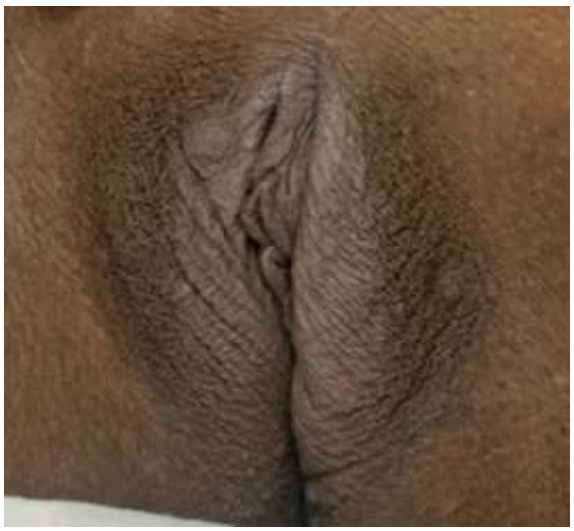


Furuncle

Contact dermatitis



Varicosities



Lichen simplex chronicus

DISCUSSION

In our study out of 304 patients, majority belonged to 31-40 years age group (37.83%) followed by 21-30 years age group (34.87%).

The majority of patients were married (78.95%), unskilled labourers (33.88%) and illiterate (67.76%). This is attributed to poor hygiene and lack of education being the contributory factors.

The most common vulvar dermatoses in our study were infections seen in 60.53% patients.it is similar to studies by Shaik et al,[2] Sivayadevi et al,[5] Pathak et al,[4] and Singh et al.[9] Study by Sullivan et al,[10] showed more inflammatory dermatoses than infections. They were found to be more common in 20-40 years age group which can be attributed to more sexual activity in that age.

Among the infections, fungal infections were found to be more common in 102 patients (33.55%) followed by viral infections in 61 patients (20.07%) and bacterial infections in 21 patients (6.91%). Among the fungal infections, tinea was found to be the commonest in 56 patients (18.42%) followed by candidiasis in 46 patients (15.13%). This may be due to improper hygiene, tight clothing and increased sweating. This also highlights the fact that proper education and awareness may help in preventing majority of vulvar dermatoses. Fungal infections were found to be the commonest in studies by Shaik et al,[2] Singh at al,[9] and Pathak et al,[4] while the study by Gokdemir et al,[11] reported viral infections to be the commonest.

Among the viral infections, herpes genitalis was found to be the commonest in 23 patients (7.57%) followed by warts in 22 patients (7.24%) and molluscum contagiosum in 16 patients (5.26%).

The second most common vulvar dermatoses were inflammatory dermatoses seen in 50 patients (16.45%) with lichen sclerosis et atrophicus being the commonest seen in 23 patients (7.57%). This is similar to studies by Shaik et al,[2] Sivayadevi et al,[5] and Pathak et al,[4] while Geetha et al,[8] reported

psoriasis as the most common inflammatory dermatosis. It is important that lichen sclerosis is differentiated from vitiligo. Lichen sclerosis et atrophicus is followed by lichen simplex chronicus (4.28%) and contact dermatitis (1.64%). Contact dermatitis needs early diagnosis and avoidance of the irritant/allergens most commonly antibiotics (neomycin, bacitracin etc.), antiseptics, female hygiene products, detergents, sanitary napkins, spermicides etc.

Among the pigmentary disorders, vitiligo was reported in 15 patients (4.93%). Majority of the patients also have cutaneous involvement, and they didn't complain about vulvar depigmentation which was found only on examination. This highlights that asymptomatic vulvar dermatoses may be under reported as patients usually don't seek treatment.

Non herpetic ulcers contributed for 6.58% while benign tumours for 5.26%. There were 2 cases of vulvar intraepithelial neoplasia. They should be differentiated from erosive lichen planus, pagets disease and squamous cell carcinoma. Few normal variants and miscellaneous vulvar disorders like vulvar papillomatosis, acrocordons, varicosities, hailey-hailey disease constituted 4.61%.

CONCLUSION

Vulvar dermatoses are very common and are associated with high morbidity. This study highlights the different patterns of vulvar dermatoses and the socio dermographic factors effecting them. Infections being the major cause can be prevented by awareness and hygiene. Early diagnosis and proper management is important to prevent complications and psychological sequele.

Recommendations: There is need for proper education and awareness regarding vulvar dermatoses and their prevention among general population and also need for proper training of dermatologists and venereologists in dealing the different patterns of vulvar dermatoses.

Limitations of the study: As it is a hospital based study with a sample size of 304, findings may not reflect the general population to full extent.

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