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Original Research Article

Clinical and epidemiological study of non-venereal genital diseases in females

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ABSTRACT

Background: Dermatoses which are not sexually transmitted are referred to as non-venereal dermatoses of external genitalia. Venereal and non-venereal dermatoses tend to be confused and it is associated with guilt feeling in affected patients. The aim of the study was to study the incidence of non-venereal lesions of the genitalia and to know the incidence of non-venereal lesions of the genitalia in association with dermatoses of other parts of the body.
Methods: This was a cross-sectional, clinical and observational study in 250 female patients attending dermatovenereology OPD of Vydehi Hospital, Bengaluru with non-venereal genital lesions for a period of 18 months. cases having venereal diseases were excluded from the study.
Results: The study included 250 female patients with non-venereal genital lesions. Twenty-five different types of non-venereal dermatoses were observed. Inflammatory disorders were most common accounting for 128 patients (51.2%). Among inflammatory disorders lichen simplex chronicus was seen most followed by lichen sclerosus. Candidiasis was found to be more common among infections and infestations. Vitiligo was the commonest pigmentary disorder seen in our study. Other cases noted include epidermal inclusion cyst, Bartholin cyst and fibroepithelial stromal polyp. Pre malignant conditions like Bowenoid papulosis and malignant lesions like squamous cell carcinoma are also seen.
Conclusions: This study helps in understanding the importance of diagnosis of non-venereal dermatoses and to differentiate it from venereal causes.

Keywords: Non venereal, Dermatoses, Female genitalia

INTRODUCTION

Dermatoses which are not sexually transmitted are referred to as non-venereal dermatoses of external genitalia.[1]

Fitzpatrick and gentry classified non venereal genital dermatoses into the following categories based on aetiopathogenesis as (a) benign conditions and normal variants (b) congenital anomalies (c) infections and infestations (d) inflammatory conditions (e) premalignant conditions (f) malignant conditions.

Vulvar disease is an orphan disease.[2] Diseases of vulva are not a priority in any of the women's health initiatives. They commonly present to gynaecologists, physicians, urologists and paediatricians, who have had little or no training in dermatovenereology.

Non-venereal genital dermatoses are often confused with venereal dermatoses, causing more stress and guilt

feelings in affected patients. The present study was undertaken to find the incidence of non-venereal dermatoses of external genitalia in females and their pattern. Proper understanding of the non-venereal dermatoses helps in effective management there by relieving the fear of affected patients over sexually transmitted infections.

METHODS

This was a cross-sectional, clinical observational study. The study was done in dermatovenereology OPD of Vydehi Institute of Medical Sciences and Research Centre, Bengaluru for a period of 18 months from March 2018 to August 2019. A total of 250 patients were included in this study.

The inclusion criteria being females of all age groups with non-venereal genital lesions. The exclusion criteria being female patients having venereal lesions.

All consenting patients irrespective of their age who presented with genital complaints were screened for non-venereal dermatoses. Detailed history including demographic data, chief complaints related to skin, its onset, sexual exposure history and associated medical or skin disorders was recorded. The patients were thoroughly examined clinically keeping focus on the external genitalia lesions.

Investigations such as Gram stain and KOH mount were done as and when required. Biopsy, venereal disease research laboratory test (VDRL) and HIV test were done when required to confirm the diagnosis.

Results were tabulated and analysed using SPSS Statistics version 21. Categorical variables were presented as frequency and percentage.

RESULTS

In this study, 250 female patients were observed. The majority of patients belonged to the age group of 21-30 years (24%). Most of the patients were married accounting for 86% (215 patients). 182 patients (72.8%) were from rural area and 68 patients (27.2%) were from urban area.

114 patients (45.6%) were housewives, 92 patients (36.8%) were working, 34 patients (13.6%) were students and 10 patients (4%) were preschool children. The presenting feature was itching 151 cases (60.4%), discoloration 52 cases (20.8%) and swelling 23 (9.2%).

The various non venereal dermatoses of female genitalia were inflammatory disorders (128 patients), pigmentary disorders (28 patients), non-venereal infections (71 patients), benign tumors (12 patients), premalignant lesions (4 patients), malignant tumors (7 patients) (Table 1).

The inflammatory disorders were lichen simplex chronicus 49 (19.6%), lichen sclerosus 41 (16.4%), lichen planus 12 (4.8%), psoriasis 6 (2.4%), lymphedema 5 (2%), lymphangioma circumscriptum and FDE in 4 (1.6%) each, irritant contact dermatitis and pemphigus 3 (1.2%) each, Bechet's disease 1 (0.4%). The most frequent pigmentary disorder was vitiligo 28 (11.2%).

The non-venereal infections included candidiasis 30 (12%), tinea cruris 12 (4.8%), scabies 9 (3.6%), folliculitis 6 (2.4%). Furuncle 4 (1.6%), herpes zoster 5(2%), vulvitis 3 (1.2%) and hidradenitis suppurativa 2 (0.8%). The benign tumors included epidermal inclusion cyst 4 (1.6%).

Table 1: Genital dermatoses aetiologies.

Categories	Number of patients	Percentage (%)
Inflammatory disorders	128	51.2
Pigmentary disorders	28	11.2
Non venereal infections and infestations	71	28.4
Benign tumors and cysts	12	4.8
Premalignant lesions	4	1.6
Malignant lesions	7	2.8

Table 2: Patterns of genital dermatoses.

S. no.	Categories	Number of patients	Percentage (%)
1	**Inflammatory disorder**	128	51.2
	Lichen sclerosus	41	
	Lichen simplex chronicus	49	
	Lymphedema	5	
	Lymphangioma circumscriptum	4	
	Psoriasis	6	
	Lichen planus	12	
	Irritant contact dermatitis	3	
	Pemphigus	3	
	Bechet's disease	1	
	FDE/SJS	4	

Continued.

S. no.	Categories	Number of patients	Percentage (%)
2	**Pigmentary disorder**	28	11.2
	Vitiligo	28	
3	**Non-venereal infections and infestations**	71	28.4
	Candidiasis	30	
	Tinea cruris	12	
	Scabies	9	
	Folliculitis	6	
	Furuncle	4	
	Herpes zoster	5	
	Vulvitis	3	
	Hidradenitis suppurativa	2	
4	**Benign tumors and cysts**	12	4.8
	Epidermal inclusion cyst	4	
	Acrochordon	2	
	Bartholin cyst	4	
	Fibroepithelial stromal polyp	2	
5	**Premalignant lesions**	4	1.6
	Bowenoid papulosis	4	
6	**Malignant lesions**	7	2.8
	Squamous cell carcinoma	7	

Table 3: Genital lesions in association with lesions elsewhere over the body.

S. no.	Genital lesions	Total number of cases	Extra genital involvement
1	Psoriasis	6	5
2	Lymphedema	5	1
3	Lichen planus	12	7
4	Bullous disorders	3	3
5	FDE	4	2
6	Vitiligo	28	12
7	Tinea cruris	12	8
8	Herpes zoster	5	3
9	Candidiasis	30	4
10	Acrochordon	2	1
11	Scabies	9	6
12	Bechet's disease	1	1

Acrochordon 2 (0.8%), bartholin cyst 4 (1.6%) and fibroepithelial stromal polyp 2 (0.8%). Bowenoid papulosis 4 (1.6%) was the premalignant lesion found. Squamous cell carcinoma was found in 7 patients (2.8%) (Table 2). Various dermatoses on genitalia are associated with lesions elsewhere over the body (Table 3).

DISCUSSION

Non venereal dermatoses have varied presentations. A comprehensive understanding of the various presentations helps the treating physician to effectively manage the condition and also relieves the patient's anxiety. By accurately diagnosing non venereal dermatoses we can rule out venereal diseases which are of primary concern to the patient. There are many studies in male patients, while there are only few studies in female patients. Singh et al have done a study on 70 female patients.[3]

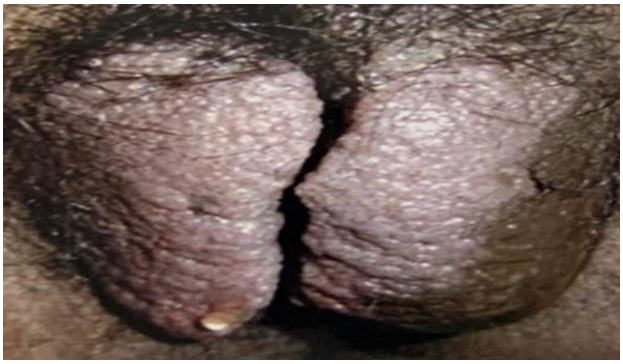

Figure 1: Lymphangioma circumscriptum.

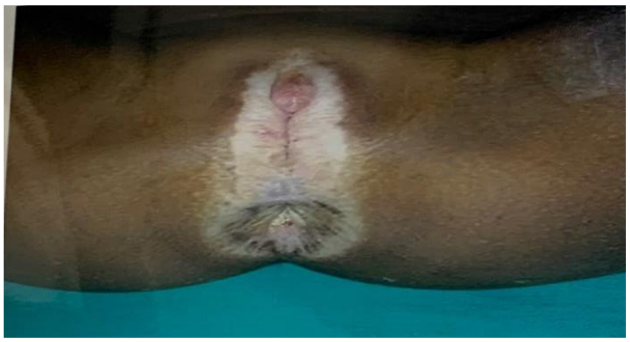

Figure 2: Lichen sclerosus with figure of '8' appearance.

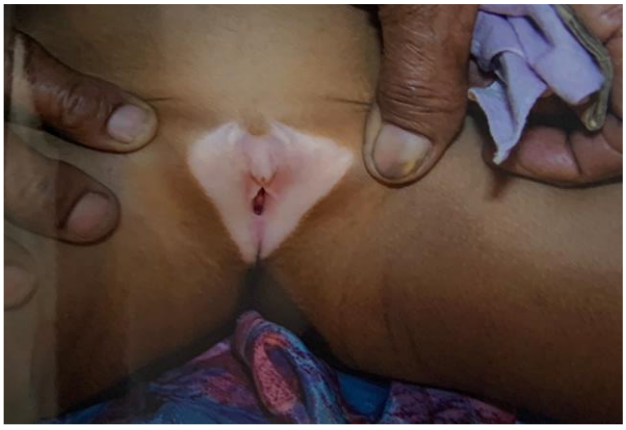

Figure 3: Vulvar vitiligo in a child.

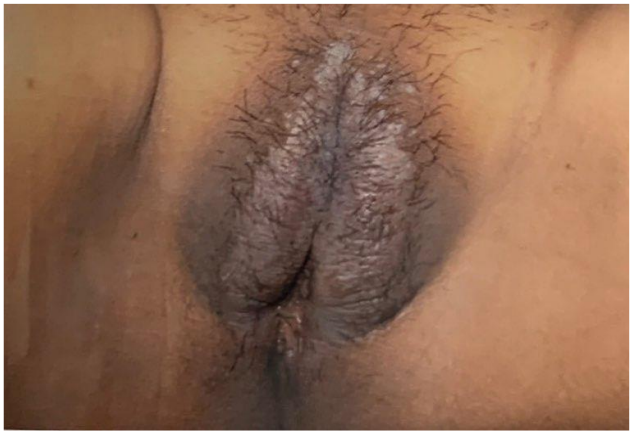

Figure 4: Lichen simplex chronicus leading to hypertrophy of labia minora.

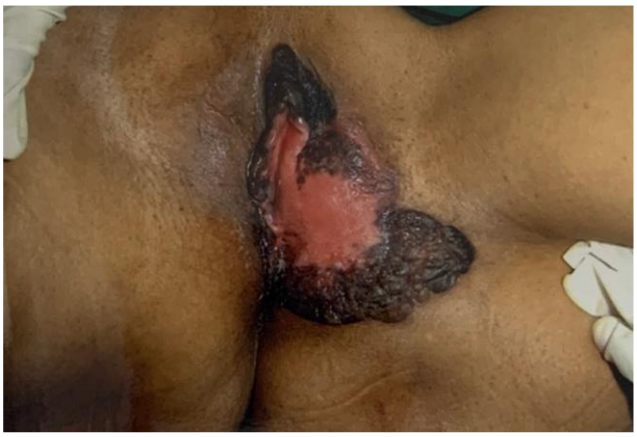

Figure 5: Squamous cell carcinoma presenting as verrucous plaque over labia majora, minora and clitoris.

In our study 25 types of non venereal dermatoses were noted whereas Singh et al reported 19 types.[3] The most common non-venereal dermatoses in females was lichen simplex chronicus 49 (19.6%) followed by lichen sclerosus 41 (16.4%), candidiasis 30 (12.0%), vitiligo 28 (11.2%) patients, Lichen planus 12 (4.8%), Bowenoid papulosis 4 (1.6%). Sullivan et al found the most frequent initial clinical diagnosis as lichen sclerosus 35 (26%), vaginal candidiasis 21 (16%), vulvodynia 16 (21%), lichen simplex chronicus 13 (10%) and Bowenoid papulosis 13 (10%).[4] Cheung et al carried out a retrospective study on 200 patients and observed the most common condition being lichen sclerosus 39%, followed by eczema/lichen simplex 30.5%, lichen planus 11.5%, pain syndromes 10.5% and others 8.5%.[5] Singh et al evaluated 120 patients over a period of 22 months and observed lichen sclerosus 26 (21.7%), vitiligo 19 (15.8%), lichen simplex chronicus 16 (13.3%), vulval candidiasis 11 (9.2%).[3]

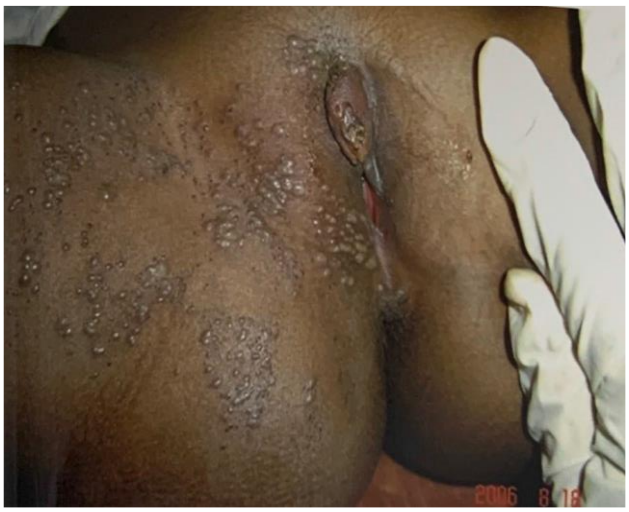

Figure 6: Herpes zoster involving L1, L4 and S3 dermatoses with genital involvement.

In prepubertal girls, the most common non venereal dermatoses observed were vitiligo 15 cases, followed by scabies 8 cases and vulvitis 3 cases. Fischer and Roger evaluated 130 prepubertal girls over a period of three years. They found atopic or irritant dermatitis in 41 cases (33%), lichen sclerosus in 23 cases (18%), *psoriasis* in 21 cases (17%), vulvar lesions in 15 cases (12%) and *Streptococcal vulvovaginitis* in 13 cases (10%).[6] *Vulvovaginal candidiasis* was not recorded in prepubertal girls in our study as well as by Fisher and Roger.

Lichen sclerosus (LS) is a chronic inflammatory dermatosis associated with substantial discomfort and morbidity.[7] Anogenital LS is characterised by porcelain white atrophic plaques that may become confluent extending around vulval and perianal skin in a figure of eight configuration. Women complain of intractable itching, irritation, soreness, dyspareunia, dysuria, and urinary or faecal incontinence. Our study observed only one peak of presentation i.e. among postmenopausal women, although two peak ages of presentation is observed, the one being prepubertal and the other being postmenopausal.[8] In a study of 350 cases of women with lichen sclerosus by Thomas et al, the mean age of presentation was 56 years and the mean duration of symptoms was 10.5 years.[9] Extragenital LS was seen in 15-20% of the cases.[10] Powell et al calculated the

prevalence and annual incidence rate of lichen Sclerosus among post-menopausal women to be 1 in 660 women and 51.9 per 100000 respectively.[8] Lichen simplex chronicus (LSC) is characterised by skin thickening, hyperpigmentation and increased skin markings resulting from repetitive rubbing or scratching or by picking the skin.[8] In a study by Rajalakshmi et al the frequency of anogenital LSC was 1.44 per 1000 population.[11] LSC may be primarily arising from normal appearing skin or secondary (superimposed on other underlying disease).[12] It was observed in 49 cases (19.6%) in our study. All cases were primary. The mean age of patients was 49.9 years.[9] Lynch observed that it occurred in 0.5% of the western Europe and America.[12]

Vitiligo is an acquired pigmentary disorder characterised by loss of melanocytes resulting in depigmentation. In a study by Agarwal et al, incidence of 3.4% of genital mucosal vitiligo is noted.[13] The incidence in our study was 28 (11.2%). While the other Indian studies reported the incidence ranging from 0.46% to 8.8%.[14] Tinea cruris is a superficial fungal infection of the groin. It is seen most commonly in males than females. It manifests as itchy, erythematous, scaly annular lesions with well demarcated borders. In our study 12 cases (4.8%) were observed. Candidal vulvovaginitis is more common in women who are sexually active. Risk factors include oestrogen use, elevated endogenous oestrogens (from pregnancy or obesity), diabetes mellitus, immunosuppression (i.e. patients with chemotherapy or HIV infection or transplant patients) and broad-spectrum antibiotic use. Candidal vulvovaginitis is caused by infection with *Candida* species, most commonly *Candida albicans*. It presents with itching, burning, dyspareunia and curdy white discharge.

Lymphedema is swelling attributed to accumulation of lymph in tissue. It is associated with inadequate drainage. It can be primary due to intrinsic abnormality of lymph conducting pathways, or secondary due to acquired obstruction and obliteration of lymphatic channels. Five cases of lymphedema were observed. Three cases belonged to the age group 50-65 years secondary to radiotherapy. Two cases were secondary to filariasis and lymphadenitis. Two cases had lymphangioma circumscriptum. Psoriasis of genital area is characterised by absent silvery scaling but intense erythema with a well-defined margin. In our study 6 cases (2.4%) were observed.

Folliculitis of the vulva is usually caused by *Staphylococcus aureus*. It is often associated with diabetes and immunosuppression (pregnancy, HIV, broad spectrum antibiotics). Epidermal inclusion cysts were observed in four cases. These are the most common, asymptomatic, small cystic tumors of the vulva, commonly seen over the labia majora. Vulvar lichen planus (LP) usually presents as violaceous or erythematous plaques (or) annular plaques (or) erosions with/without lacy white borders. In our study, five patients had purely genital LP and seven patients had LP associated with cutaneous lesions. Acrochordons are pedunculated fibroepithelial polyp seen in intertriginous areas, mainly seen over labia majora and minora.[15] It was seen in two cases, associated with obesity in our study.

Bartholin duct cyst and abscess occur during the reproductive years (20-29 years) of age. It was observed in 4 cases in our study. These are the most common cystic growths of the vulva.[16] Contact dermatitis (CD) over vulva could be either irritant or allergic which could be acute or chronic. Irritant CD usually occurs in females who excessively wash, use hygiene products (or) wear tight clothing.[17] In our study 3 cases were noted, one was due to antiseptic solution usage. Allergic CD of the Vulva is less common then irritant dermatitis. It manifests as pruritis vulvae. 3 cases of bullous disorders were noted. They are due to pemphigus vulgaris. Bullae are present elsewhere over the body also. Hidradenitis suppurativa is a chronic, disabling, suppurative disease characterised with deep tender subcutaneous nodules, complicated by fibrosis and extensive sinuses affecting the apocrine gland bearing areas. Fibroepithelial stromal polyps are benign lesions of vagina, rarely found over the vulva, endometrium and cervix. It was observed in two cases in our study.

Vulval carcinoma was found in seven cases (2.63%), belonging to postmenopausal age group with mean age of 55 years. Squamous cell carcinoma of vulva is predominantly a disease of post-menopausal women.[18] Vulval carcinoma is relatively rare with an incidence of 1-2/100000 women per year.[19]

CONCLUSION

This study highlights the importance of diagnosing non-venereal dermatoses and differentiate it from venereal dermatoses. All genital lesions are not venereal; thus, clinicians need to think of possibility of non-venereal lesions in patients with genital lesions. This study helped in understanding the clinical patterns of various non venereal dermatoses of female genitalia. Dermatovenerologists who are well trained in management of various dermatological disorders are vital for treatment of non-venereal dermatoses. In our study inflammatory disorders are most common. Proper education and counselling are needed along with treatment for effective genital care.

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Conflict of interest: None declared
Ethical approval: The study was approved by the institutional ethics committee

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