Original Article:

Vulvovaginal Pruritus: An Etiological Profile

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Abstract

Background: Vulvar pruritus is an uncomfortable sensation and a common symptom associated with many dermatological conditions, including infectious, inflammatory and neoplastic dermatoses affecting women's genitals. It can lead to serious impairment in quality of life, affecting sexual function, relationships, affecting sexual function, relationships, sleep and self-esteem. **Objectives:** This study was designed to evaluate the prevalence and pattern of vulvar pruritus and associated underlying causes among female patients from Mitford Hospital. **Materials and Methods:** The study was a prospective observational study done from January 2022 to June 2022 in the skin outpatient department of Sir Salimullah Medical College Mitford Hospital. Among 25643 female patients, 285 patients of vulval pruritus were enrolled on the study. **Results:** Vulval pruritus were most prevalent among reproductive age group 70.89%. In our study most common cause of vulval pruritus were vulvovaginal candidiasis (31.9%), Scabies (13.3%), Atopic and contact dermatitis (8.1%), Lichen Simplex Chronicus(7.4%), Trichomonas Vaginitis (7%), Helminthiasis (5.6%), Lichen Sclerosus (2.5%), Lichen planus (1.4%), Psoriasis (0.7%). **Conclusion:** Since vulvar pruritus has various etiologies, it would be desirable to standardize its diagnostic evaluation and treatment, to achieve optimal efficacy and to meet the diverse needs of women who suffer from this condition. It was a small-scale study done in Sir Salimullah Medical College Mitford Hospital, which can not reflect the real prevalence and cause of pruritus vulvae. So a large-scale study should be done to find out the appropriate prevalence and causative factors behind pruritus vulvae.

Key word: Vulva, Vulvo-vaginal, pruritus.

Introduction:

Pruritus vulvae, defined as itching of the vulva (which includes the mons pubis, labia majora, labia minora, clitoris, perineum, and external openings of urethra and vagina), is a common condition in which 1 in 10 women seek medical assistance.[1] The exact prevalence of vulvar pruritus is assumed to be difficult to ascertain as it is reasonably underreported due to feeling uneasy for women sharing genital issues.[2] Causes can be dermatological, infective, hormonal, systemic and neoplastic. For women who are affected, it can be embarrassing and painful, having a severely negative effect on their quality of life. It is therefore important to be able to confidently distinguish between different vulval conditions.[3]

Previously itching was considered a form of pain but now it is defined as an independent sensation mediated by free nerve endings of unmyelinated C-fibers which respond to chemical, mechanical and thermal stimulation. These nerve endings are stimulated by specific chemical mediators, such as kinins, prostaglandins, and neuropeptides.[4]

For collecting medical history of genital pruritus the following issues should be considered:

- Symptom duration (acute/chronic)
- Localization (local/generalized)
- Pre-existing systemic disorders (e.g. autoimmune disease/diabetes mellitus)
- Ameliorating/aggravating modulators

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• Previous treatments.

AS genital skin is largely influenced by sex hormones, a history of taking hormonal medications should be carefully taken.[5]

Genital itching has a profound impact on the quality of life of women.[6] In patients with genital psoriasis, the itch was reported to be the most bothersome symptom with a substantial impact on sexual relationships and psychosocial well-being.[7] Moreover, several studies have demonstrated the negative impact of lichen sclerosus, a condition characterized by genital itch and pain, on sexual satisfaction.[8-9]

This study was designed to evaluate the prevalence and pattern of vulvar pruritus and associated underlying causes among female patients from Mitford Hospital.

Materials and Methods:

A prospective observational type of study was done among 285 patients of vulval pruritus, attending the skin out patient department of Sir Salimullah Medical College Mitford Hospital from January 2022 to June 2022. Clinical details regarding age, marital status, menstrual status, other comorbidities and special attention to noninfectious and infectious disorders of the vulva were noted. The diagnosis was done mostly clinically. Microbiological and histopathological investigations were done in some selected cases. All data are collected in a performed structural questionnaire.

Result:

The study comprised 285 female patients with vulval pruritus. The age of the patients ranged from 0 – 65 years. The most common age group were 30-34 years (18.60%) followed by 35-39 years (16.49%) and 20-24 years (11.58%). Among 285 patients 212 patients (74.39%) were married. Among 285 patients who complained of vulval pruritus 217 patients (76.14%) gave normal menstrual history, 42 patients (14.74%) were non-menstruating and 26 patients (9.12%) were in their menopause. Among noninfectious inflammatory disorders of the vulva there are atopic and contact dermatitis 23 (8.1%)and among infectious vulvovaginitis, there are vulvovaginal candidiasis 91(31.9%) patients.

Table I

Total number of female patients attended in MITFORD hospital, skin department	Total case	Percentage of case
25643	285	1.1%

Table-I shows 285 female patients were enrolled for the study that is 1.1% cases

Table-II: Distribution of the patients according to age (n=285)

Age (year)	Frequency	Percent
0-4 years	22	7.72
5-9 years	10	3.51
10-14 years	15	5.26
15-19 years	19	6.67
20-24 years	33	11.58
25-29 years	20	7.02
30-34 years	53	18.6
35-39 years	47	16.49
40-44 years	21	7.37
44-49 years	9	3.16
50-54 years	12	4.21
55-59 years	7	2.46
60-64 years	8	2.81
65+ years	9	3.16
Total	285	100.0
Mean± SD (Min-Max)	29.95± 15.65 (0.5-70.0)	

Table-II shows most common age group were 30-34 years (18.60%) followed by 35-39years (16.49%)

Table-III: Distribution of the patients according to marital status (n=285)

Marital status	Frequency	Percent
Married	212	74.39
Unmarried	73	25.61
Total	285	100.0

Table III shows 212 patients were married (74.39%) and 73 patients were unmarried (25.61%)

Table-IV: Distribution of the patients according to menstrual status (n=285)

Menstrual status	Frequency	Percent
Not start menstruation	42	14.74
Normal	217	76.14
Menopause	26	9.12
Total	285	100.0

Most of the patients were menstruating 217(76.14%), followed by non-menstruating 42(14.74%) and menopausal were 26 (9.12%)

Table-V: Distribution of noninfectious inflammatory disorders of the vulva (n=285)

Noninfectious inflammatory disorders	Frequency	Percent
Atopic and contact dermatitis	23	8.1
Lichen sclerosus	7	2.5
Lichen planus	4	1.4
Lichen simplex chronicus	21	7.4
Psoriasis	2	0.7

Table V shows among noninfectious inflammatory disorders of the vulva there are atopic and contact dermatitis 23 (8.1%), Lichen Simplex Chronicus 21(7.4%), Lichen sclerosus 7(2.5%), Lichen Planus 4(1.4%), Psoriasis 2(0.7%).

Table-VI: Distribution of infectious vulvovaginitis(n=285)

Infectious vulvovaginitis	Frequency	Percent
Group A betahemolytic streptococcal infection	0	0.0
Vulvovaginal candidiasis	91	31.9
Helminthiasis	16	5.6
Scabies	38	13.3
Pediculosis	0	0.0
Trichomonas vaginitis	20	7.0

Table VI shows among infectious vulvovaginitis there are vulvovaginal candidiasis 91(31.9%), Scabies 38 (13.3%), Trichomonas vaginitis 20 (7%), Helminthiasis 16 (5.6%),

Table-VII: Distribution of the patients according to other causes (n=285)

Other causes	Frequency	Percent
Atrophic vulvitis	1	0.4
Psychogenic	0	0.0
Diabetes	30	10.5
HTN	10	3.5
IHD	1	0.4
History of taking OCP	36	12.6

Table VII shows 36 (12.6%)patients gave a history of taking OCP, 30 patients (10.5%) had associated diabetes, 10 patients (3.5%) had HTN, 1 patient (0.4%) had a history of IHD and 1 patient (0.4%) had atrophic vulvitis

Discussion:

Pruritic Vulvar Dermatoses: Vulvar itching may be experienced in a background of different inflammatory, infectious, and neoplastic skin diseases.[10]

Inflammatory

Common causes: Common non-infective vulvo-vaginal skin diseases presented with significant itching including atopic and contact dermatitis, lichen planus, lichen simplex chronicus, psoriasis and lichen sclerosus. Atopic dermatitis (AD), irritant contact dermatitis (ICD) and allergic contact dermatitis (ACD) are the most frequently encountered of vulvar pruritus in female.[11] In the current study of 285 adult women with vulvar complaints, 8.1% of patients were diagnosed with a case of atopic dermatitis and contact dermatitis which is the highest among the inflammatory cause of vulvar pruritus.

AD is an allergic inflammatory itchy skin disease with a basic defect of skin barrier function. In acute cases it presents as erythematous, edematous, weepy or vesiculated plaques. In chronic stages lichenification (thickening and leathery) and hyperpigmentation may be seen. Due to compromised skin barrier function, patients with AD are at highly susceptible to develope both irritant and allergic contact dermatitis. [12-15]

Contact dermatitis consists of inflammation of the skin resulting from an external agent that acts as an irritant or as an allergen. The manifestation of both forms of dermatitis is very similar, varying from mild erythema and scaling to more severe erythema and oedema.[16]

Many substances can irritate the vulva, including body fluids, feminine hygiene products or various topical medications.17 Physical and thermal irritants like tight-fitting clothes, washcloths, sponges and hair dryers have been implicated in ICD development.[16-17] Similarly, allergens often contribute to itch and dermatitis in patients with the vulvar disease. Common allergens include fragrances and preservatives in products like soaps and detergents, cleansing wipes, antiseptics, spermicides, sanitary pads, lubricants, and even topical treatments like steroids, anaesthetics, antibacterial and antifungal agents.[18]

In our study, the product that caused contact dermatitis in selected patients were soap, hair removal cream, and sanitary pads.

Lichen simplex chronicus (LSC), or circumscribed neurodermatitis, is an eczematous disorder that commonly affects the vulvar skin. It presents as scaly, thickened plaques that develop in response to persistent and vigorous scratching of intensely pruritic sites.[19] In our study LSC accounts for 7.4% of patient visits to our Mitford outdoor department, predominately affecting adults. Although often considered a primary diagnosis, LSC often arises as a secondary finding in the setting of neuropathic or other underlying primary cutaneous diseases such as AD, ACD or LP.[20] It can also occur in patients with psychiatric disorders like depression and obsessive-compulsive disorder.[21-22] LSC is characterized by a self-perpetuating itch-scratch cycle. In patients with primary LSC, the itch-scratch cycle is often triggered by initial skin irritation from tight-fitting clothing, irritating fabrics or personal care items which provoke scratching.[10,23]

Lichen sclerosus was found in 2.5% of patients in our study. Lichen sclerosus (LS) is another inflammatory dermatosis that affects the vulvar and vaginal mucosa, and not uncommonly extends to the perineum and perianal skin. While vulvar LS can occur at any age, most cases are observed in prepubertal girls or postmenopausal women, when endogenous estrogen production is low.[24] Among 21 patients with lichen sclerosus, 13 were in the postmenopausal age group. Pruritus and pain are predominant symptoms of the disease, although rarely LS may be asymptomatic.[25] Lichen sclerosus is associated with an increased risk of developing genital squamous cell carcinoma (SCC). While the exact risk of malignant transformation is uncertain, estimates of the development of SCC are between 3 and 5%.[26]

1.4% of patients in our study population came with vulval pruritus and were diagnosed as a case of lichen planus. Among them, only one patient had an isolated lesion on the vulva and the other had also oral involvement which was found after examining the patient. Lichen planus (LP) is a highly pruritic, autoimmune mucocutaneous disorder in which activated T-cells target basal keratinocytes of keratinized and non-keratinized squamous epithelium.[27] Although LP most commonly affects the oral mucosa, ~25% of women with oral LP also have vulvovaginal involvement.[28] LP predominately affects adult women, although isolated cases have been reported in young girls.[29]

Psoriasis is another common inflammatory skin disease that affects genital skin and is often accompanied by pruritus.[30] In most cases, genital psoriasis arises in the setting of more widespread cutaneous involvement, but an isolated presentation of genital psoriasis may occur in 2–5% of psoriatic patients.[31] Psoriatic lesions of the vulva are more common in children than in adults. In a study that evaluated 130 prepubertal girls with vulvar complaints, 17% had psoriasis, which was the third most common cutaneous condition after AD and LS.[32] In our study among 285 patients only 0.7% of patients presented with vulvar pruritus due to psoriasis. Clinical features of vulvar psoriasis consist of well-demarcated, brightly erythematous plaques with or without scale on the labia majora.[33]

Other Etiologies: Inflammatory vulvar pruritus may also be caused by seborrheic dermatitis, plasma cell vulvitis, and Fox-Fordyce disease. Seborrheic dermatitis is an inflammatory condition that affects the sebum-rich areas of the body and should be considered in patients with vulvar pruritus. While uncommon, seborrheic dermatitis can occasionally present on the vulva and is usually associated with a simultaneous appearance of characteristic seborrhea on the scalp and face.[34] In the current study, we didn't find any cause of pruritus vulvae due to SD.

Infections: Vulvar pruritus may be associated with several types of infections and these vary with age.

In adult women, vulvovaginal candidiasis is a frequent cause of vulvar pruritus, with some studies suggesting candidiasis accounts for 35–40% of vulvar itch cases in this age group.[35] In our study 31.9% patients presented with vulvar pruritus due to vulvovaginal candidiasis. Candida albicans is responsible for the excess of episodes of

vulvovaginal candidiasis, although reports indicate that non-albicans Candida species, notably Candida glabrata, account for 10–20% of episodes in certain regions.[35-36] Pregnancy, antibiotics, oral contraceptives and hormonal replacement therapies may increase estrogen levels resulting in an increased frequency of disease.[37-38] In our study, 12.6% of patients gave a history of taking OCP. In addition, compromised immune function is also associated with an increased risk of yeast infections, as has been observed in patients with diabetes, HIV or who regularly use systemic or topical corticosteroids.18 Identification of the specific Candida species can be considered in patients with refractory or recurrent vulvovaginal candidiasis as some species are often resistant to treatment.[39]

In adults, the two most common parasitic vulvar infestations are pediculosis pubis (pubic lice) and scabies.[40] In pediculosis pubis, adult lice and their eggs (nits) can be visible to the naked eye. Infection may spread from the genital area to other parts of the body, such as the thighs or trunk.[41] Infestation with scabies causes widespread itching with nocturnal predominance. Unlike in other areas of the body, burrows on the vulva are uncommon and may be masked by excoriations or secondary infection.[42] In our study, among 285 patients 13.3% of patients with vulval pruritus came due to scabies and there were no cases of pediculosis in our study group.

In our study, 7% of cases were diagnosed as trichomonas vaginitis and also 5.6% of patients complained of vulval pruritus due to helminthiasis.

In prepubertal females, infection with Group A beta-hemolytic streptococcus (GABHS) commonly provokes vulvar symptoms including pruritus and pain and manifests with sharply demarcated, edematous, red plaques.[40] But in the current study, there were no cases of group A beta haemolytic streptococcal infection.

Tinea cruris is an additional infection that can cause vulvar pruritus in women. It can involve the inguinal creases and the labia majora. The typical lesions consist of mildly pruritic plaques with a raised erythematous scaly edge and central clearing. Viral infections, such as herpes simplex virus (HSV), human papilloma virus (HPV), and molluscum contagiosum may also trigger a sensation of vulvar itch.[43] However, herpetic infections predominately manifest as pain, and HSV and molluscum are typically asymptomatic.

Neoplastic: Although frequently overlooked, pruritus is the most common initial symptom of vulvar malignancy, with reports of up to 50–60% of patients endorsing moderate to severe pruritus.44 It is more common in postmenopausal women and is often associated with LS. Paget's disease of the vulva is an uncommon lesion that represents <1% of vulvar neoplasms.[44] In the current study, no patients were found to have a suspected case of vulval pruritus due to malignancy.

Conclusion:

Vulvar pruritus is a common symptom of multifactorial aetiology that may be driven by primary inflammatory disorders, barrier disruption, hormonal changes and infectious causes. Vulvar itch has a significant impact on the quality of life of affected patients and should be addressed by gynaecologists, dermatologists, urologists and general practitioners when possible.

Conflict of interest:

None.

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