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Pattern of non-venereal dermatoses of female external genitalia in Rajasthan

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ABSTRACT

Aims: To study the pattern and clinico-pathological profile of non-venereal dermatoses of female external genitalia in Rajasthan. **Materials and Methods:** Non venereological diseases of genitalia are often a diagnostic dilemma to the treating physician and also a cause of considerable concern to the patient because they tend to be confused with venereal diseases.We conducted this study in 355 female patients with non venereal dermatoses in Rajasthan over a period of two years from April 2014 to April 2016. The demographic characteristics and clinical findings were recorded and histopathologically confirmed as and when required. Cases having venereal diseases were excluded from the study by carrying out serological and microbiological tests for venereal diseases. **Results:** The most common non-venereal dermatoses were Tinea cruris and incognito (109 cases or 30.70 %), lichen simplex chronicus (96 cases or 27.04%),Lichen sclerosus et atrophicus (65 cases or 18.30%) and vitiligo (20 cases or 5.63%).Other dermatoses included folliculitis, candidal intertigo,Bartholin cyst, Streptococcal vulvitis, Behcets disease,Molluscum contagiosum (autoinoculated), Lichen Planus, Bowenoid papulo-sis, Acrochordon , Lymphangiectesis, contact dermatitis, Congenital adhesion of labial fold ,Red vagina, Bidermatomal Herpes zoster, Papillary hidradenoma of vulva, keloid and Psoriasis. **Conclusion**: This study highlights the importance of diagnosing non-venereal dermatoses not only for correct treatment of the patient but also to allay the anxiety associated with sexually transmitted diseases and cancer phobia.

Key words: Dermatoses, External genitalia, Female, Non venereal.

Introduction

Contrary to popular belief,all lesions on the genitalia are not manifestations of sexually transmitted diseases.These 'Non Venereological disorders' are a cause of considerable concern to the patients,who are convinced that they have developed sexually transmitted infection.[1]. The various non-venereal dermatoses of female includes inflammatory cutaneous disorders (psoriasis, seborrheic dermatitis, lichen planus, lichen sclerosus), autoimmune (vitiligo), multisystem diseases (Behcet syndrome, Reiter syndrome, Crohn disease), exogenous (contact dermatitis, corticosteroid abuse, fixed drug eruption), and benign and malignant neoplasms (extramammary Paget disease) [2-4]. The non venereal dermatoses may be classified into five types based on pathogenesis. It includes inflammatory diseases, infections and infestations, congenital disorders, benign abnormalities, premalignant and malignant lesions. Since these groups include a wide variety of disorders, the identification and establishment of the nature of disease is a challenging venture. It is also important to distinguish between venereal and non venereal dermatoses, as venereal diseases are of primary concern to the patient [5].

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Materials & methods

This study was carried out in the departments of Dermatology and Pathology, Government medical college, Kota We conducted this study in 355 female patients with non venereal dermatoses in Rajasthan

over a period of two years from April 2014 to April 2016. Informed consent from all the patients and prior approval of the hospital ethical committee was taken for the study. A detailed history including demographic data, chief complaints related to skin, presence of itching,white discoloration,thickening and darkening of skin, thinning of skin,erosion ,ulceration, elevated skin lesions,onset,duration, pregnancy status, menstrual status, and associated disorders was recorded. Enquiry was made with regard to history of sexual exposure. Cases having venereal diseases were excluded from the study.The external genitalia were examined and findings were noted. A detailed physical examination was made to see any associated lesions elsewhere in the body. Investigations such as Gram stain and KOH mount were done as and when required to establish the diagnosis. Biopsy and histopathological examination of the specimen was done when required to confirm the diagnosis. VDRL and Elisa test for HIV were done in all the patients to exclude any sexually transmitted disease. Results were tabulated and analyzed using SPSS 13.0 software.

Results

A total of 355 female patients with non-venereal dermatoses of external genitalia were included in this study. The age of the patients ranged from one year to 70 years, with a mean age of 38.2 years. Most patients belonged to the age group of 41-50 years (71 patients,20.17%), followed by the age group 50-60 years (68 patients,19.15 %).284 females were married(80%) and 71(20%) were unmarried.In our study 5% females were professional, 21% were graduate, 24% had secondary to higher secondary level education,30% had primary education and only 20% were illiterate.46.41% females were from rural area and 53.59% were from urban area.The common presenting feature was itchy genitalia (79.15% of cases) followed by lichenification(27.04%) ,white discoloration and atrophy (18.30%),depigmentation (5.63%),raised elevated skin lesion(10.70%) and swelling (5.3%). Other complaints were pain, burning sensation, dyspareunia, redness, exfoliation of skin. Some patients had more than one complaint..A total of 23 different types of non-venereal dermatoses were noted in our study. The most common non-venereal dermatosis was Tinea cruris and Incognito (Figs.1) which constituted 109 (30.70%) cases followed by 96 (27.04%) cases of lichen simplex chronicus(LSC) (Fig.2); 65 cases(18.30%) of Lichen Simplex atrophicus(LSA) (Fig.3); 20 (5.63%) cases of vitiligo (Fig.4); 15 (4.22%) cases of folliculitis and furuncles (Fig.14) and others (Figs.5 through 22).

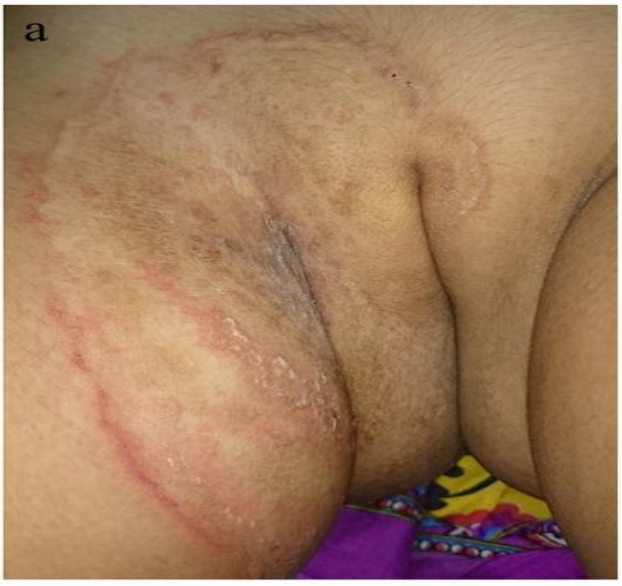
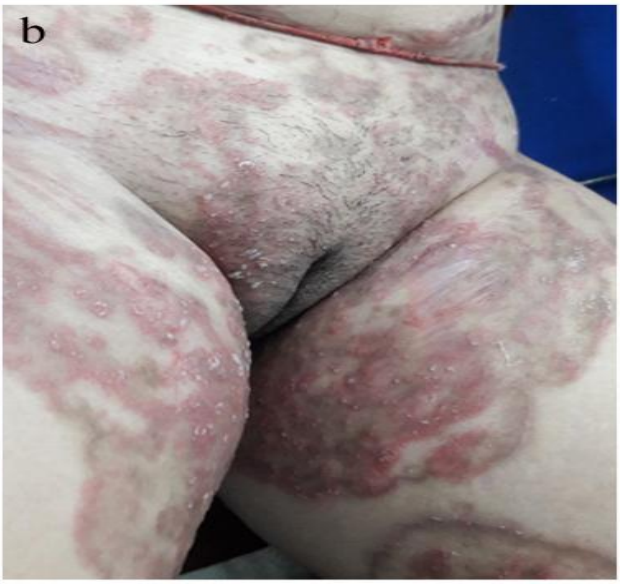


Fig 1:T cruris:well defined erythematous plaque with scaling and peripheral extension



T.Incognito:Well defined bizarre erythematous plaques with pustules over crural region including labia majora

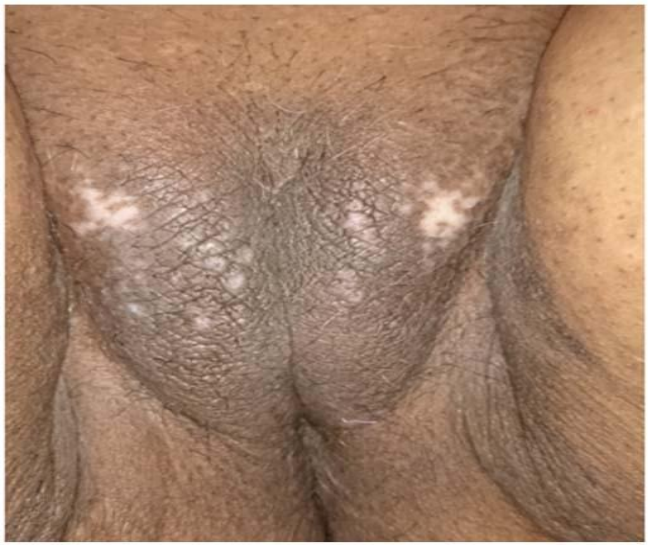


Fig 2:LSC:Lichenification of vulval skin leading to depigmentation

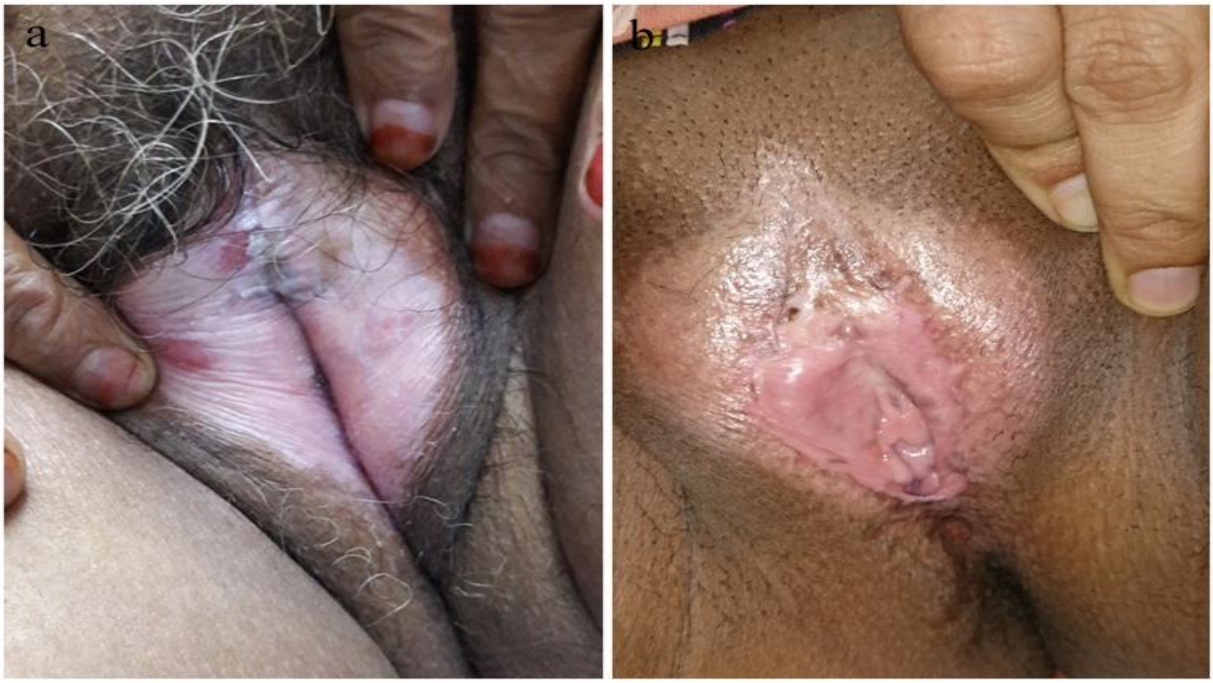


Fig.3

LSA:Cellophone paper like wrinkled white atrophic plaque with erosions

LSA :White ,well defined atrophic plaque with resorption of labia minora and clitoris

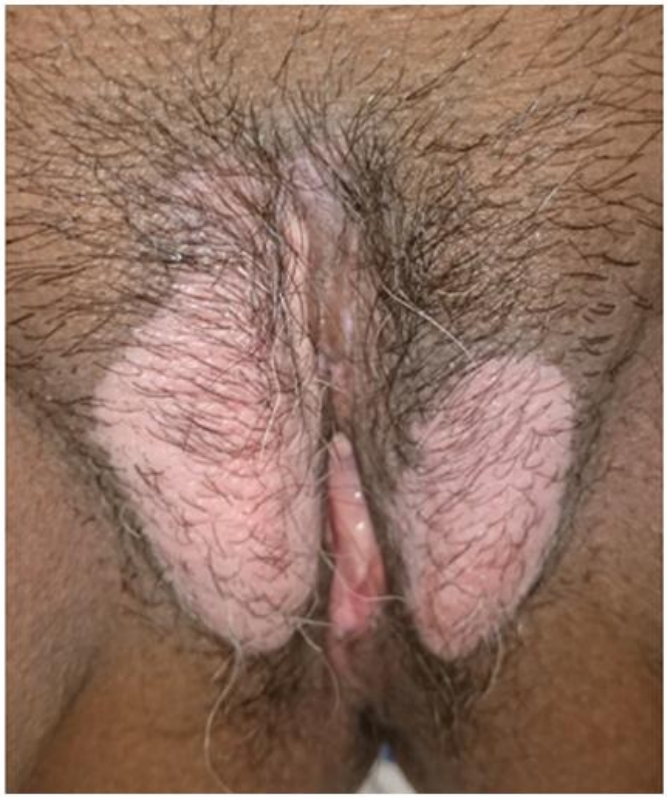


Fig 4: Vitiligo

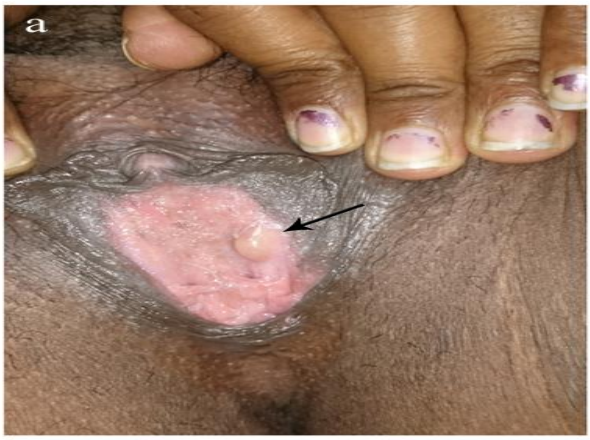
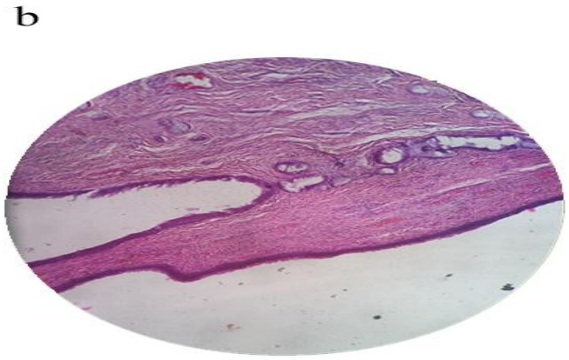


Fig 5: Bartholin cyst:present on left labia majora



Bartholin cyst:H & E,low power,showing dilated ducts by transitional epithelium and having mucous glands in the wall

Fig 6: Streptococcal vulvitis

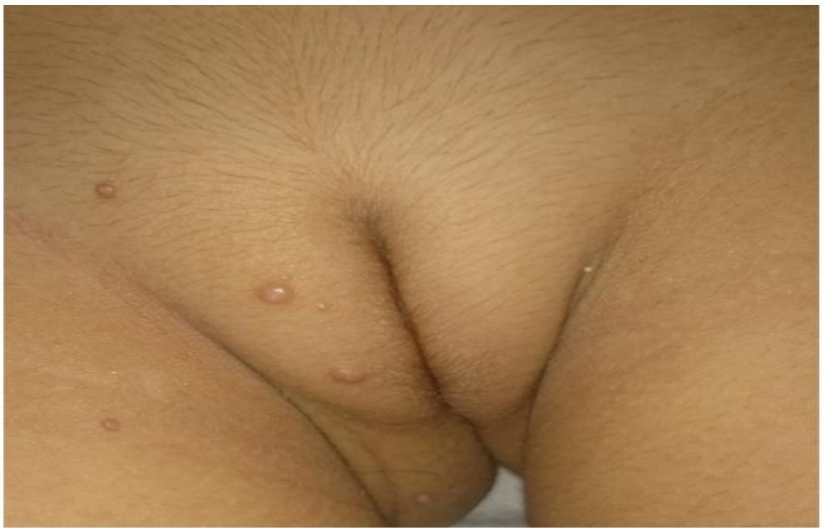


Fig 7: Molluscum contagiosum: Pearly white dome shaped papules with central viral body

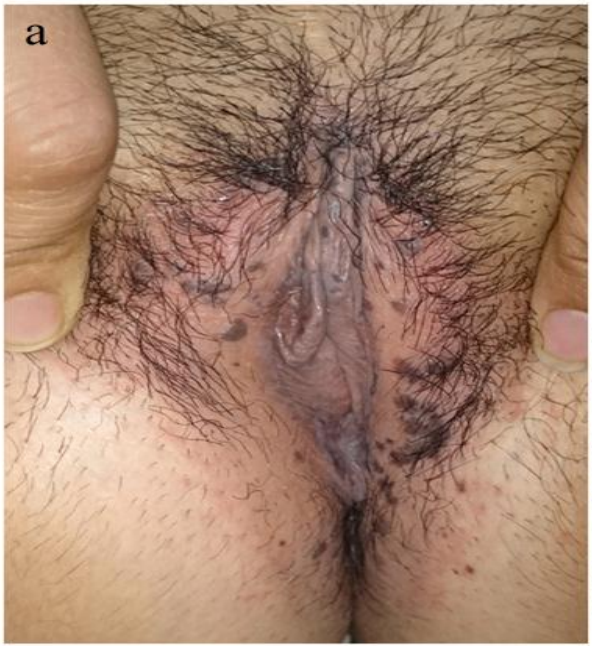
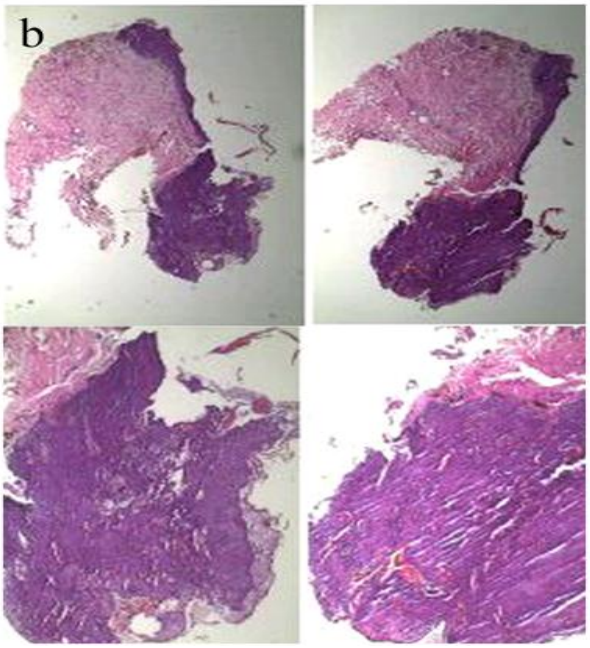


Fig 8:Bowenoid papulosis:Multiple flat dark to violaceous papules on labia majora and minora



H & E stained sections showing epidermal hyperplasia with loss of polarity,nuclear polymorphism, dyskeratosis and occasional mitotic figure

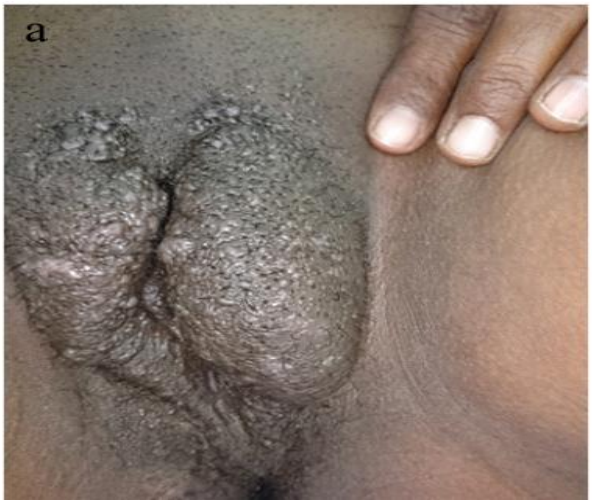
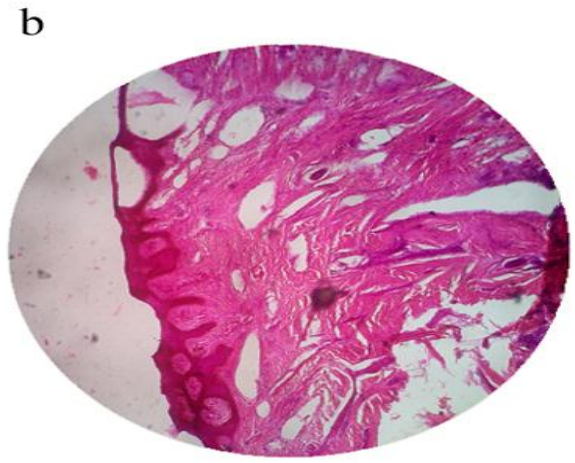


Fig 9:Lymphedema with lymphangieetesis of vulva



Lymphangiectesia of vulva:H & E stained section showing dilated lymphatic channels in the dermis

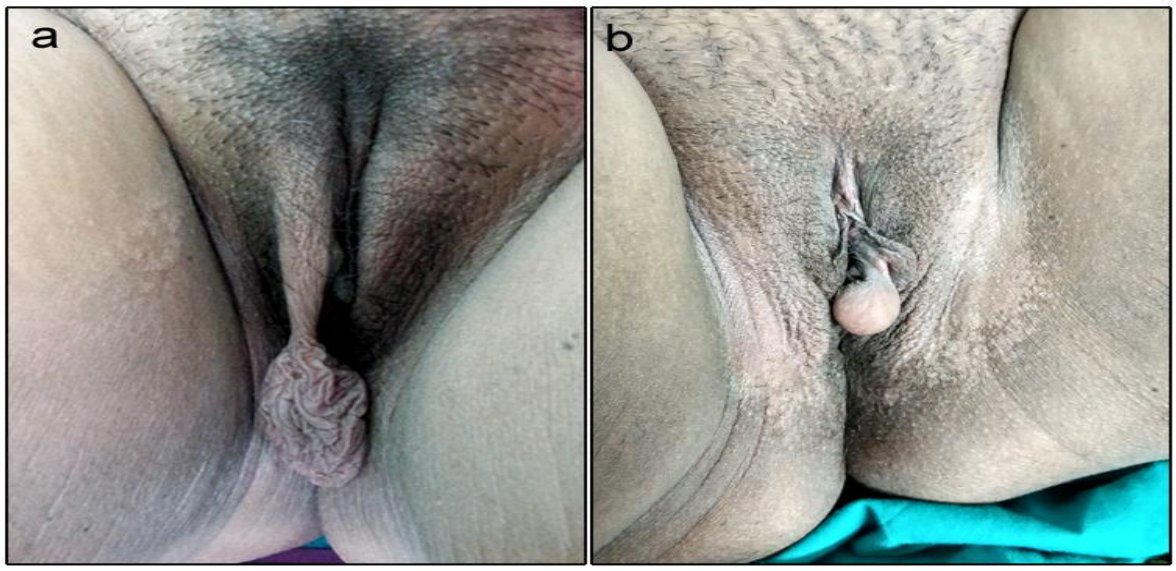


Fig 10: Acrochordon :A single, soft, pedunculated projection from (a)right labia majora, (b)left labial fold near clitoris

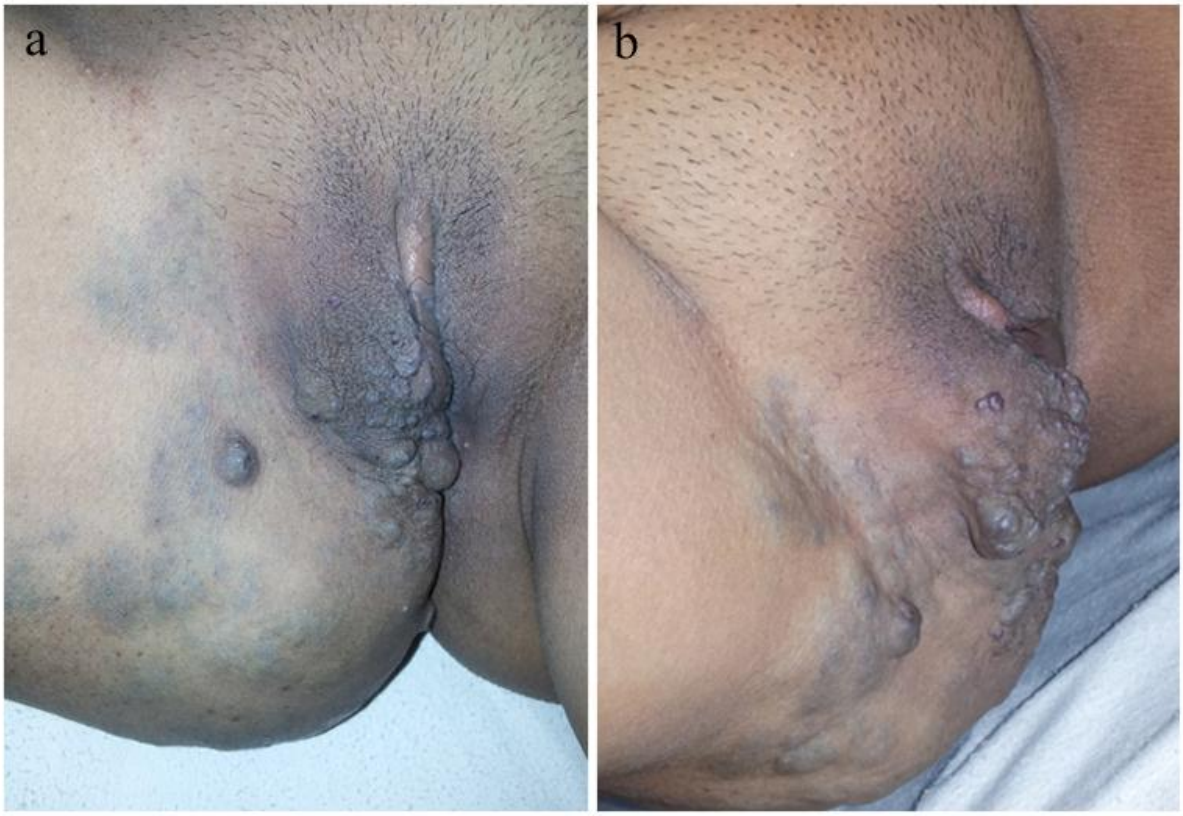


Fig 11: Varicosity of vulva: Blue tortuous varicosities on lying and squatting position

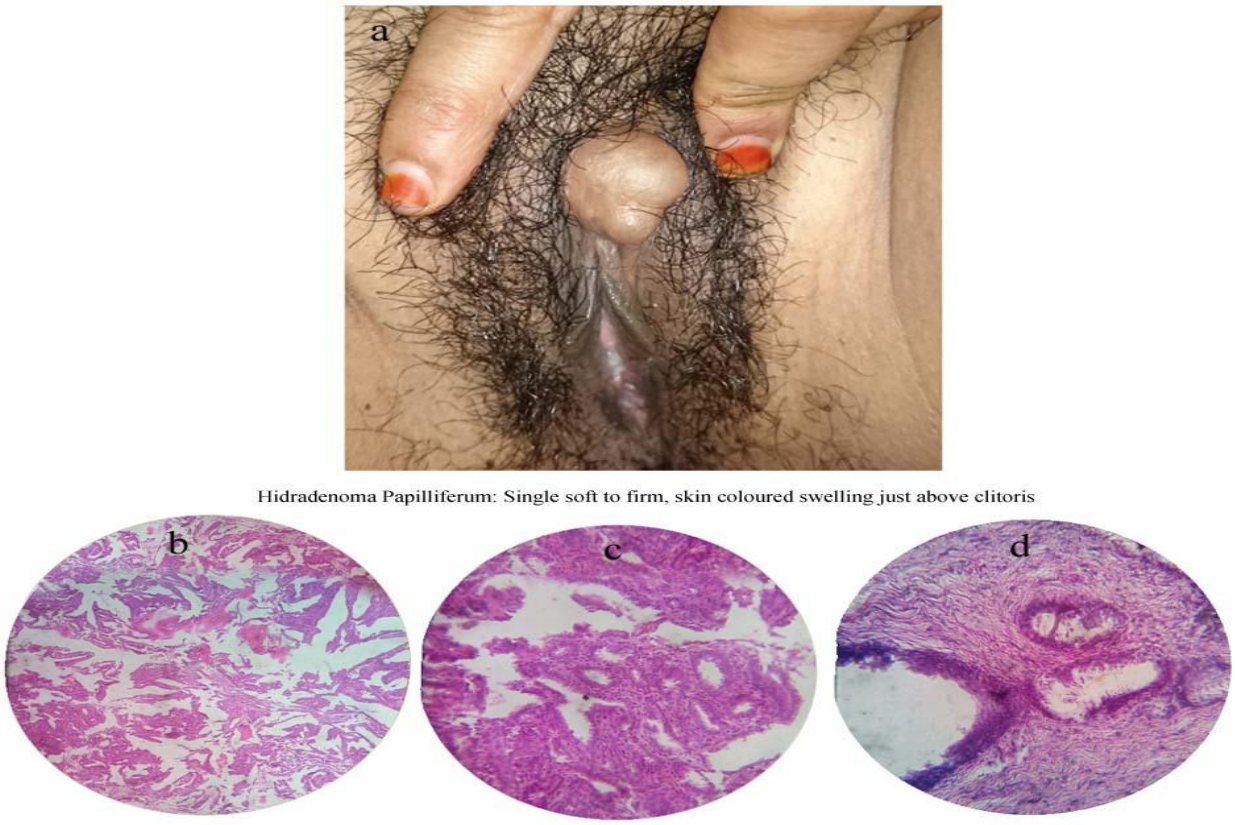


Fig 12:Hidradenoma papilliferum:H & E stained section showing b.(5x) complex arborizing and papillary structure c,d(10 x,40 x) glands lined by cuboidal to columnar cells with decapitation secretions

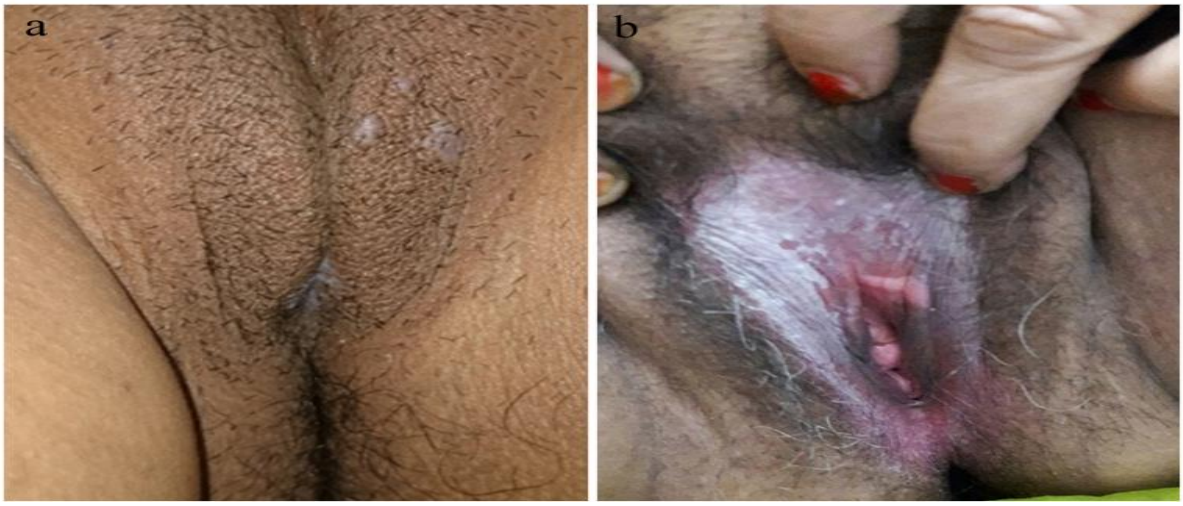


Fig 13:Lichen planus:Violaceous papules on labia majora and thighs **Lichen planus: Erythematous erosive plaques**

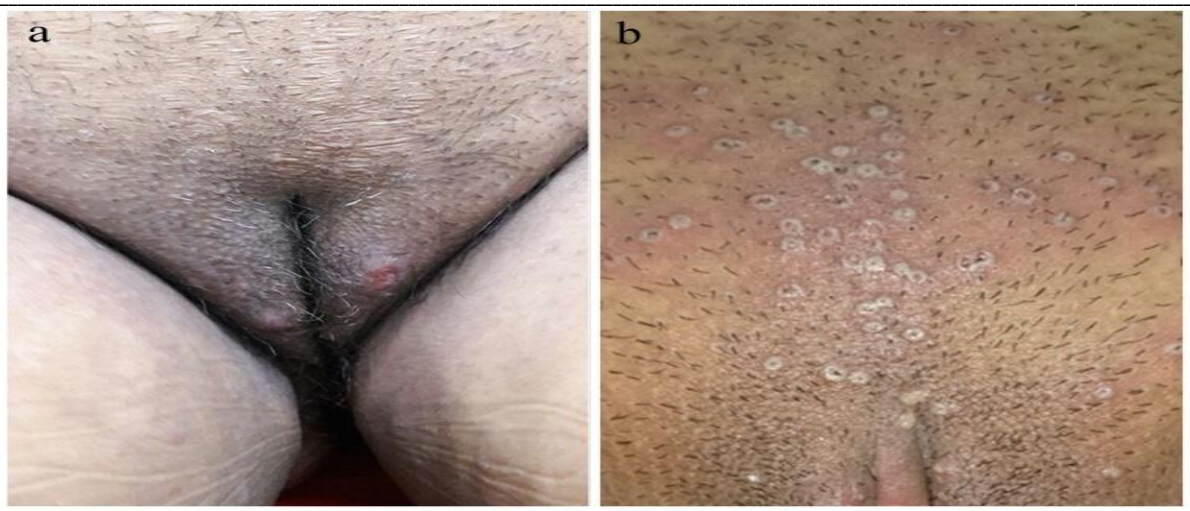
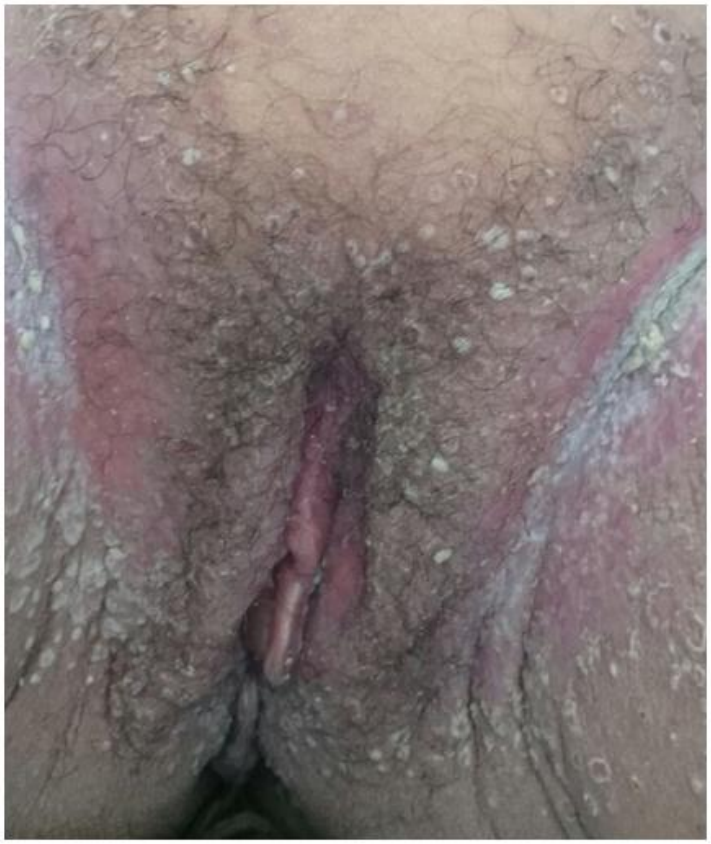


Fig 14:Furuncles on labia majora **Folliculitis at labia majora**



Vulval candidiasis: Erythematous plaque with papules and pustules

Fig.15

Fig 16: Beheet's disease: Deep necrotic plaques following pale granulomatous ulcer on labia minora

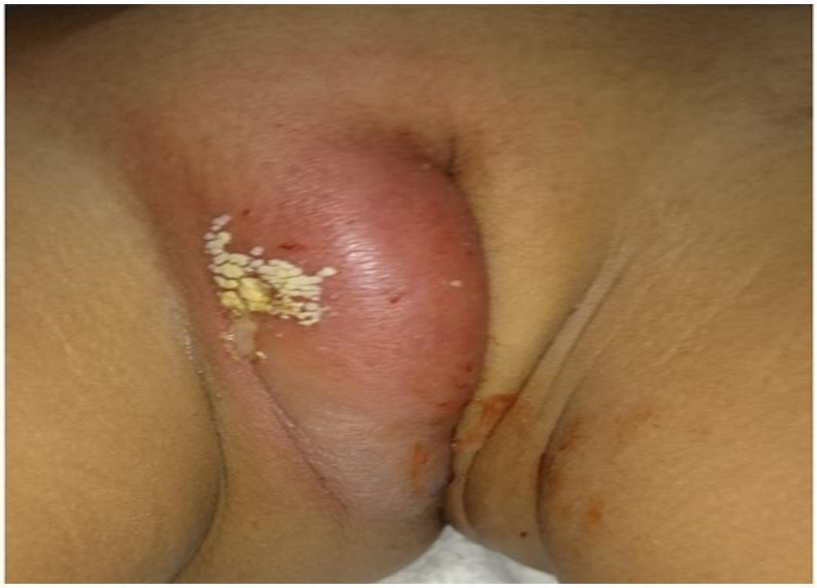


Fig 17:Contact irritant dermatitis due to application of calcium carbonate on insect bite

Fig 18: Congenital adhesion of labial folds

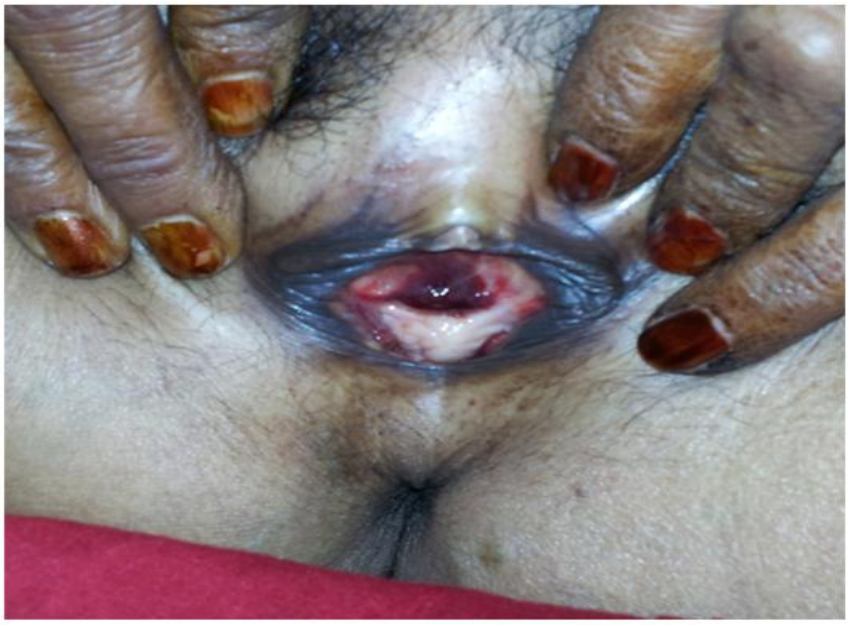


Fig 19:Red vagina

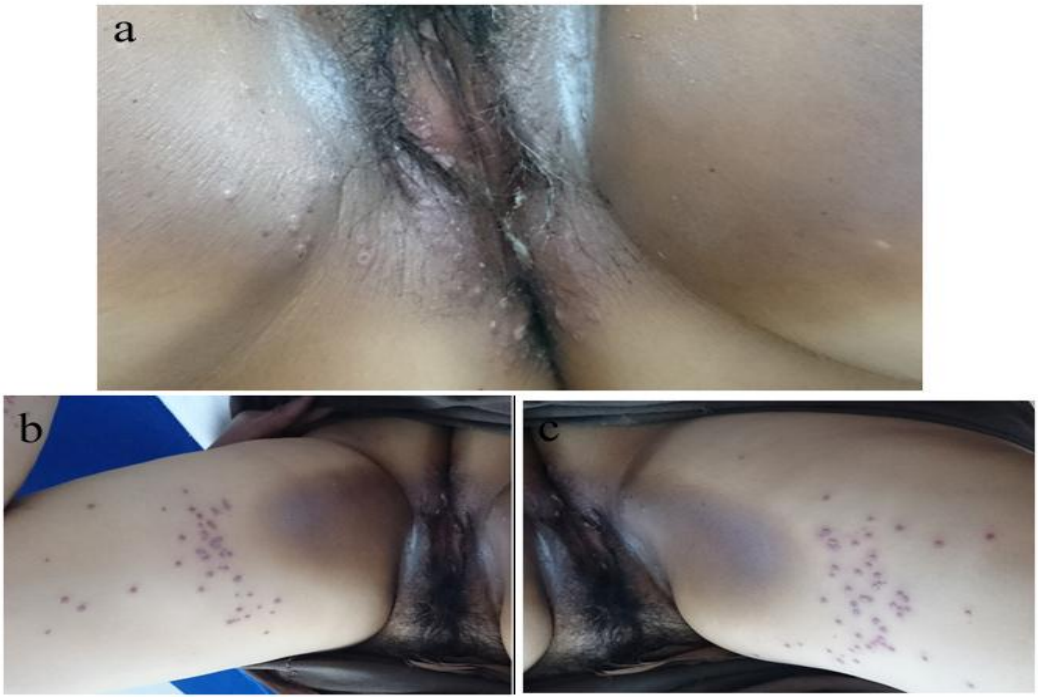


Fig 20: Bidermatomal Herpes Zoster

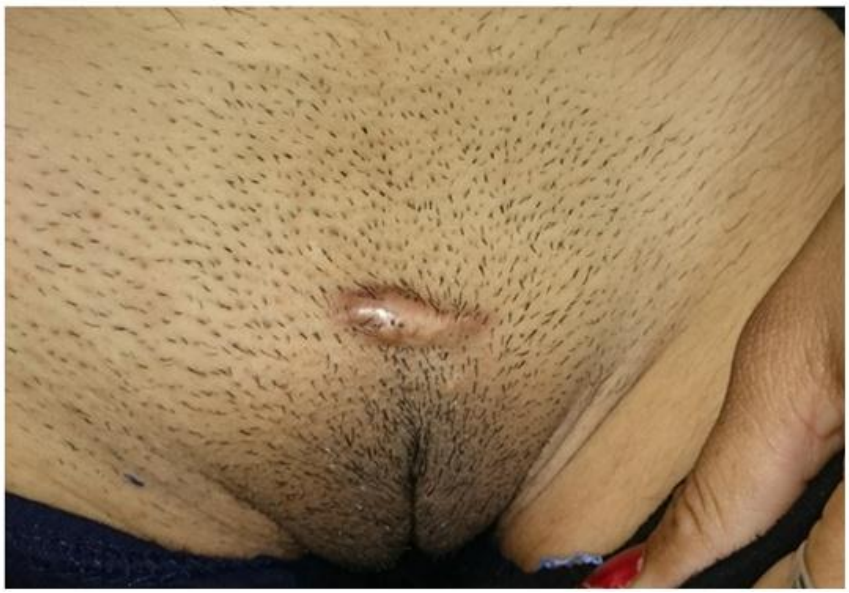


Fig 21:Keloid firm nodular plaque on mons pubis

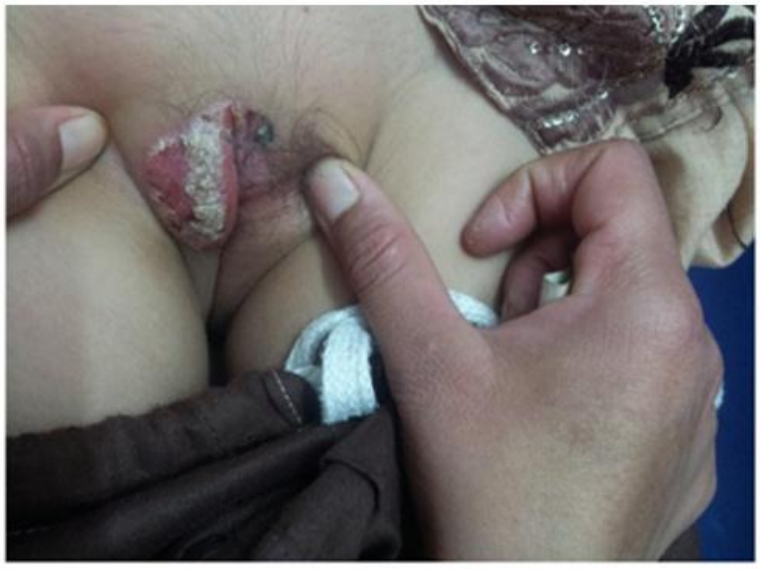


Fig 22: Vulval psoriasis: Female of 7 years having well defined erythematous plaque with scaling

Table 1:Genital dermatoses ,number and their percentage

Sr No.	Genital Dermatoses	Number	Percentage
1.	Tinea cruris and Incognito	109	30.70
2.	LSC	96	27.04
3.	LSA	65	18.30
4.	Lichen Simplex	3	0.84
5.	Vitiligo	20	5.63
6.	Folliculitis and furuncles	15	4.22
7.	Vulval candidiasis	8	2.25
8.	Bartholin cyst	6	1.69
9.	Streptococcal vulvitis	4	1.12
10.	Behcet's disease	4	1.12
11.	Molluscum contagiosum(autoinoculated)	5	1.40
12.	Lichen planus	4	1.12
13.	Bowenoid papulosis	2	0.56
14.	Acrochordones	2	0.56
15.	Lymphangiectesis(secondary to Pulmonary Koch's)	2	0.56
16.	Varicose vulva	2	0.56
17.	Contact irritant dermatitis	1	0.28
18.	Congenital adhesion of labial fold	1	0.28
19.	Red vagina	1	0.28
20.	Bidermatomal Herpes zoster	1	0.28
21.	Papillary hidradenoma of vulva	1	0.28
22.	Keloid	2	0.56
23.	Psoriasis	1	0.28
	Total	355	100%

Some patients of non-venereal dermatoses also had other associated disorders.We found association of Lichen planus and vulval candidiasis with Diabetes Mellitus in few cases,and Pulmonary Koch's with lymphangiectesis of vulva.

Table 2: Age wise categorisation of patients with frequency of various Non venereal dermatoses

Age wise patient categorisation	No.of cases	Dermatoses
Prepubertal(1-10 years)	28	Tineacruris(39.28%),Str.vulvitis(14.28%),LSA(10.7%),LSC(7.14%),Psoriasis(3.5 %),Irritant dermatitis(3.5%),Congenital adhesion of labial folds(3.5%)
Adolescent to adult(11-20 years)	31	Tinea cruris and incognito(64.5%),Folliculitis(29%),Keloid(3.2%),Behcet's disease(3.2%)
Reproductive (21-40 years)	99	Tinea cruris and incognito (44.4%);LSA(11.1%);LSC(10.1%); Vitiligo(7.0%) ;Bartholin cyst(6.06%);Furuncles(6.06%);Vulval candidiasis(3.03%);Lichen Planus, Acrochordon, varicosity of vulva,Behcet's ds(2.02% each);Keloid,Lichen simplex,Bowenoid papulosis,Papillary hidradenoma(1.01% each)
Perimenopausal and postmenopausal(41-70 years)	196	LSC(42.85%);LSA(26.02%);Tinea cruris and incognito(17.34%);Vitiligo(5.61%);Candidiasis(2.55%);Lichen planus(1.02%);Lichen simplex,Bowenoid papulosis,Behcet's disease,Lymphangiectesis,Bidermatomal Herpes zoster(0.5% each)

Discussion

Non-venereal dermatoses of female external genitalia include a spectrum of diseases with varied etiology. 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. The most common non-venereal dermatoses observed in our study were Tinea cruris and Incognito(109 cases,30.70%),LSC(96 cases,27.04%),LSA(65 cases,18.30%),Vitiligo(20 cases,5.63%),Folliculitis and furuncles(15 cases,4.22%),vulval candidiasis(8 cases,2.25%) ,Bartholin cyst(6 cases,1.69%). The most common causes of vulval itching were tinea cruris and incognito, LSC and LSA while in the Sullivan et al. [6] study, the most frequent initial clinical diagnoses were lichen sclerosus (35, 26%), vaginal candidiasis (21, 16%), vulvodynia (16, 12%), lichen simplex chronicus (13, 10%), and Bowenoid papulosis (13, 10%). In a similar retrospective study of the referral patterns to a specialist vulval clinic reported by Cheung et al. [7], a total of 200 clinical records were reviewed of new patients seen between January 2004 and June 2005 and the most common condition seen was lichen sclerosus (39%), followed by eczema/lichen simplex (30.5%), lichen planus (11.5%). Fischer and Rogers [8] evaluated 130 prepubertal girls presenting to the dermatologist with a vulvar complaint to determine the spectrum of and frequency of conditions seen in this age group over a 3 year period. Of these patients, 41 (33%) had atopic or irritant dermatitis, 23 (18%) had lichen sclerosus, 21 (17%) had psoriasis, 15 (12%) had vulvar lesions (most often hemangiomas and nevi), and 13 (10%) had streptococcal vulvovaginitis. In our study, the most common non-venereal dermatosis in prepubertal girls (28 cases) was Tinea cruris and incognito (11 patients, 39.28%), followed by Streptococcal vulvitis (4 patients, 14.28%) , LSA(3 patients, 10.7%),LSC(2 patients,7.14%),Psoriasis(1 patient,3.5%) Vitiligo was recorded in a single case in a series of 130 cases by Fischer and Rogers [8] and no case of vitiligo was seen in this age group in our study.In groin region, we observed the cases of Tinea cruris that included the labia majora also and this formed the largest group(109 cases,30.70%) in our study. 99.9% of them were modified by the regular or intermittent use of topical steroids containing combinations cream by their instant antipruritic effect.Tinea incognito may present as inflammatory papules and pustules without the characteristics of Tinea,as stated by Dr.Cerroni. In some cases, however, Tina Incognito may retain scaly appearance of Tinea but be modified by local steroids so that it becomes extensive and bizarrely shaped.[9]LSC may be primary(arising from normal appearing skin)or secondary(superimposed on other underlying disease)[10].All our cases of LSC were primary.LSC accounts for 10-35% of patients seen[6,11,12].In our study we observed that mean age of the patient was 46.6 years. The duration of symptoms varied widely from 1-12 years with the median duration of 4.0 years in our patients. Lichenification may sometimes be very severe leading to marked clitoral or labial

hypertrophy[13].LSC is usually bilateral but sometimes may be unilateral determined by dominant hand.[10].In our study we found all cases with bilateral presentation. Lichenification was found in all cases involving labia majora. Involvement of labia minora and clitoris only in few cases. LSA is chronic inflammatory dermatoses associated with substantial discomfort and morbidity [14].The resulting atrophic plaque may have a cellophone-paper like texture, wrinkled and fragile surface associated with erosion, fissuring or ulceration. [2,15]. LSA has two peak ages of presentation. Prepubertal girls and postmenopausal women (mean age of onset is fifth or sixth decades), but is commonly present in peri or postmenopausal women[5,16]. In our study 10.7% cases of LSA was found in prepubertal girls and 26.02% cases were found in peri and postmenopausal females. In our study the mean age of patient was 3yrs[& 51.2yrs (range3-70yrs) ; the median duration of symptoms of LSA was 7yrs (ranged one month to 25yrs). A study of 350 cases of women with LSA by Thomas et el.[17] showed that mean age of patient was 56yrs (range 4-91yrs); mean duration of symptoms of LSA was 10.5yrs (1- 65yrs) . Vitiligo is an acquired pigmentory disorder characterised by loss of melanocytes resulting in depigmentation[18]. It is stated that vitiligo affects 0.5-1% of the world's population [19]. Indian studies report 0.46 to 8.8% prevalence of vitiligo. Out of 20 cases of vitiligo, in our study 16 had focal genital vitiligo, 4 had vitiligo vulgaris including genitals, and leucotrichia was present in 3 cases. Mean age was 47yrs. Duration of complaints ranged from one month to ten years with a median period of 4.8 years. Bartholin cyst is the most common cystic growth of the vulva[20]. Gradual involution of bartholin glands occurs by 30 yrs of age. It may start as an asymptomatic, unilateral, nontender cystic swelling, but it can cause pain and limitation of activity with increase in size [20, 22]. We observed six cases of bartholin cysts in our study. Streptococcal vulvitis is seen in prepubertal girls [23]. It is caused by group A haemolytic streptococci. It is thought that the infection spreads from pharyngeal infection, but clinical signs may or may not be present. It presents with sudden onset of erythematous swollen painful vulva and vagina, with thin mucoid discharge. We observed four cases of streptococcal vulvitis in our study. Molluscum contagiosum is very common on vulva of prepubertal girls. But it is usually a part of extensive eruption. In adults, molluscum on vulva is sexually transmitted disease [23]. Bowenoid papulosis was first described by Kop F and Bart in 1977[24]. Some authors refer to use the term vulval intraepithelial neoplasia (VIN), but there is no formal consensus on clinicopathological classification. An alternative expression of squamous intraepithelial neoplasia (SIL) has also been proposed [25]. Bowenoid papulosis is probably a virus type 16 but other types have also been found [25]. It usually affects sexually active adults with slight female preponderance. It presents as asymptomatic to mildly pruritic, flat, hyperpigmented or voilaceous papules, few mm to cms in size, occuring over the vulva, penis or perianally. Histopathology shows features resembling Bowen's disease.There is crowding and an irregular windblown arrangement of nuclei, many of which are large, hyperchromatic and pleomorphic. Dyskeratosis, atypical mitoses and multinucleated keratinocytes are also present. Lymphedema is swelling attributed to accumulation of lymph in tissue [27, 28]. It is associated with inadequate lymphatic drainage. It may be primary or secondary. The common causes of secondary lymphedema are infections (filariasis, tuberculosis) inflamation, trauma (surgery, radiotherapy) and malignancy[27, 28].In our study, we found 2 cases of lymphangiectesis of vulva secondary to pulmonary tuberculosis. Acrochordon is a soft skin coloured pedunculated fibroepithelial polyp or projection commonly seen in intertrigenous area [20, 29].These polyps may also be seen on labia majora and minora. It can be single or multiple with variable size from few mm to cms [20, 29]. We observed two cases in our study. Vulval varicosity is a distressing disorder occuring in 10%of pregnant women. It may produce pelvic discomfort, vulval pressure, a sensation of prolapse and may extend into the vagina. On examination, partially compressible, tortuous blue-colored swelling having a 'bag of worms feel' on palpation, and becomes more obvious on squatting position. Color doppler examination confirms the diagnosis[30]. In our study ,we observed one pregnant female with varicosity of vulva and one non pregnant female with varicosity of vulva from last 12yrs with two normal deliveries. We advised her to avoid squatting position and longstanding, otherwise she was bearing normal life. Hidradenoma papilliferum usually occurs in women, on the labia majora or perineal or perianal region [31]. The tumor is covered by normal skin and measures only a few mms in diameter. In histopathology,the tumour represents as an adenoma with apocrine differentiation[32]. It is located in the dermis,is well circumscribed, is surrounded by fibrous capsule, and shows no connection with the overlying epidermis. Within the tumor, one observes tubular and cystic structures. Papillary folds project ìnto the cystic spaces. Usually, the lumina are surrounded by double layer of cells consisting of an inner layer of secretory cells and an outer layer of small cuboidal cells with deeply basophilic nuclei that are myoepithelial cells.

The lumina are lined occasionally with only a single row of columnar cells which shows an oval, pale stained nuclei located near base and active decapitation secretion seen in the secretory cells of apocrine gland[32, 33]. Vulval lichen planus usually presents as violaceous or erythematous papules or annular plaque or erosion with or without a lacy white border. If only vulval involvement is present, the disease is more likely to be erosive,with most lesions around labia minora and clitoris[15]. Vulval lichen planus was seen in three females with erosive pattern and one with violaceous papules on labia majora and generalized.

Conclusion

This study highlights the importance of diagnosing various non venereal dermatoses with few symptomatic and asymptomatic clinical parameters, and histopathological confirmation when required.In this study, we found infections and infestations, followed by LSA in pre-pubertal girls. In adolescent age group, fungal and bacterial infections were the common findings.In reproductive age group, variety of non venereal dermatoses including infections, inflammatory dermatoses, pigmentory disorder were common than benign and malignant conditions. In peri and postmenopausal age group, LSC and LSA were the most common findings.

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