A CLINICAL STUDY OF NON VENEREAL GENITAL DERMATOSES

Dissertation submitted to

THE TAMILNADU

DR. M.G.R. MEDICAL UNIVERSITY

CHENNAI – 600 032

APRIL - 2015.

In partial fulfillment of the regulations required for the award of

M.D. DEGREE

IN

DERMATOLOGY, VENEREOLOGY AND LEPROLOGY

BRANCH XII

DEPARTMENT OF DERMATOLOGY

Coimbatore Medical College Hospital, Coimbatore.

DECLARATION

I **Dr.A.N.M.Maalik babu** solemnly declare that the dissertation entitled **"A clinical study of non venereal genital dermatoses"** was done by me in the Department of Dermatology and Venereology at Coimbatore Medical College Hospital during the period from August 2013 to July 2014 under the guidance & supervision of **Dr.P.P.Ramasamy M.D.,D.D.,** Professor & Head of Department, Department of Dermatology and Venereology ,Coimbatore Medical College Hospital ,Coimbatore. The dissertation is submitted to Tamil nadu Dr.MGR Medical University,Chennai towards the partial fulfillment of the requirement for the award of M.D., degree in Dermatology, Venereology and Leprology. I have not submitted this dissertion on any previous occasion to any university for the award of any degree.

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CERTIFICATE

This is to certify that the dissertation entitled **"A clinical study of non venereal genital dermatoses "** is a record of bonafide work done by **Dr.A.N.M.Maalik babu** , Post graduate student in the Department of Dermatology , Venereology and Leprology , Coimbatore Medical College Hospital,Coimbatore under the guidance of **Dr.P.P.Ramasamy M.D.,D.D.,** Professor & Head of Department, Department of Dermatology, Coimbatore Medical College Hospital ,Coimbatore in partial fulfillment of the regulations of the Tamilnadu DR.M.G.R Medical University, Chennai towards the award of M.D., degree (Branch XII) in Dermatology, Venereology and Leprology.

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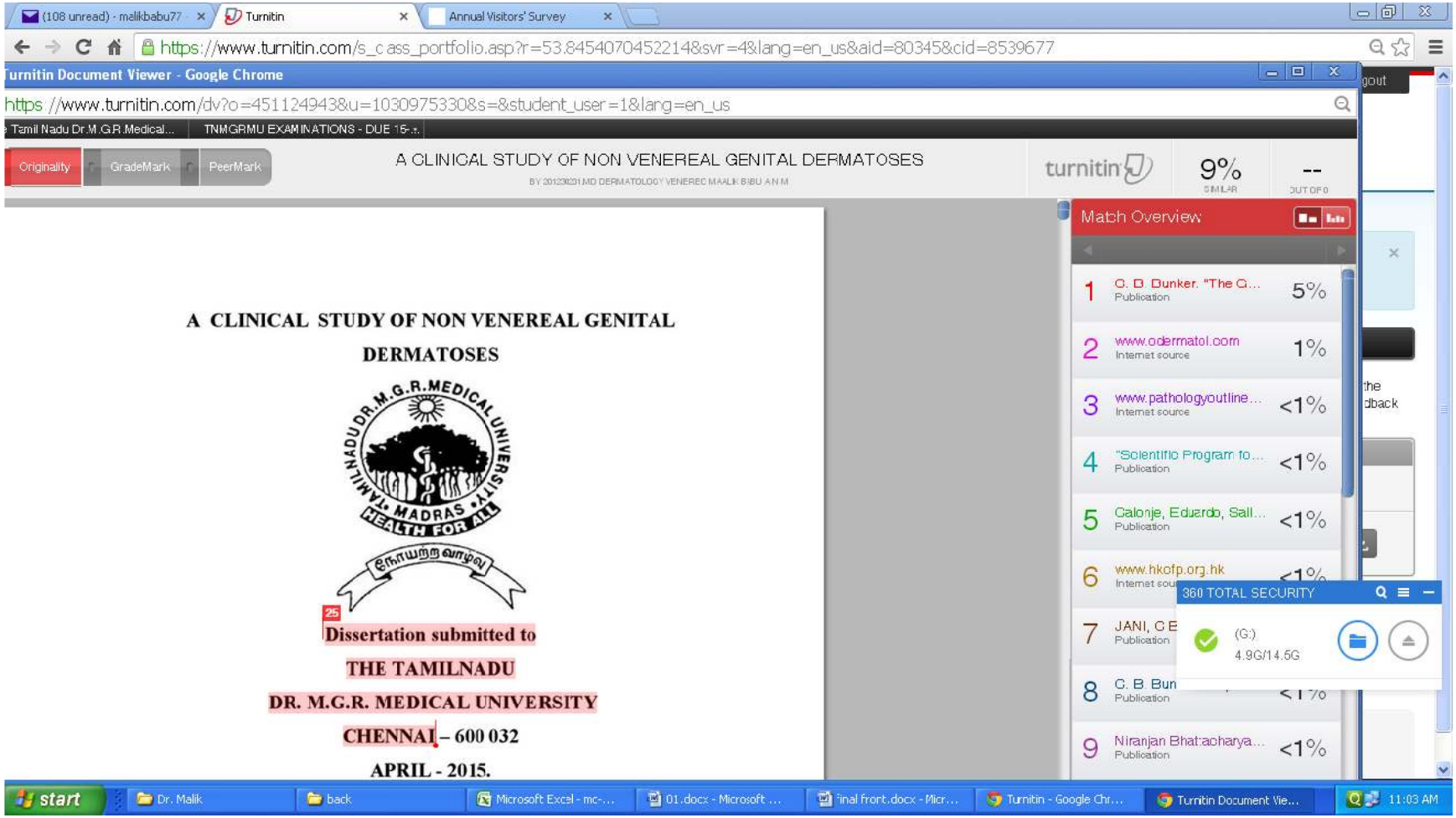
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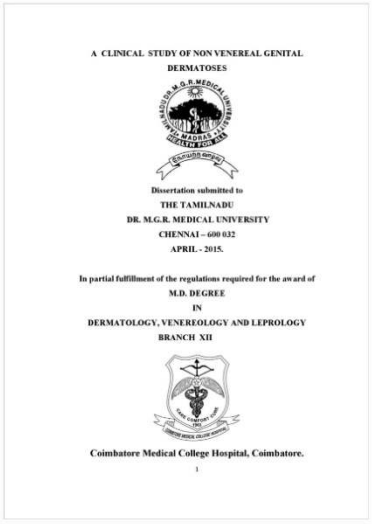

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ABBREVIATIONS

LSA	-	Lichen simplex et atrophicans
GBHC	-	Gamma benzene hexachloride
ACD	-	Allergic contact dermatitis
LP	-	Lichen planus
KOH	-	Pottasium hydroxide
FDE	-	Fixed drug eruption
HSV1&2	-	Herpes simplex virus 1 and 2
HPV	-	Human papilloma virus
HIV	-	Human immuno virus
PUVA	-	Psoralan ultraviolet A
UVB	-	Ultraviolet B
VIN	-	Vulval intra epithelial neoplasia
SCC	-	Squamous cell carcinoma
EMPD	-	Extra mammary paget's disease
NHL	-	Non hodgkin's lymphoma

VDRL	-	Venereal disease research laboratory
BSF Jawans	-	Border security force Jawans
BMI	-	Body mass index
SJS	-	Stevens Johnson syndrome
LSC	-	Lichen simplex chronicus
NVGD	-	Non venereal genital dermatoses
BXO	-	Balanitis xerotica obliterans
VVC	-	Vulvo vaginal candidosis
MF	-	Mycosis fungoides
IHC	-	Immuno histo chemistry
HPE	-	Histopathological examination
H&E	-	Haematoxylin and Eosin
EMF	-	Erythema multiformae

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ABSTRACT

Background :

Most dermatological diseases generally occur elsewhere and also involve the genitalia.When other sites are involved the diagnosis is straightforward.If the lesion is present exclusively on genitalia,it is a difficult task for the treating doctor to differentiate nonvenereal from venereal genital lesions.

Aim and Objective:

To study the clinical pattern and prevalence of non venereal genital dermatoses

Materials and Methods:

It is a descriptive study of adult new caseswith genital lesions (which includes male and female patients above 12 years of age and excludespatients below 12 years of age , transgenders , patients presenting with classical Sexually transmitted infection and HIV, VDRL reactive patients) attending SKIN and STD out patientclinic of Coimbatore Medical College Hospital for a period of one year from August 2013 to July 2014.

Results:

A total of 150 cases (114 males,36 females) with non venereal genital dermatoses were encountered in our study.Prevalence of the non venerealgenital dermatoses in the study was 2.6 per 1000 cases.Male to Female ratio of patients in our study was 3.16 : 1.Majority of the patients were found in the age group of 33 to 42 years [42 (28%)].Commonest NVGD was found to be scabies occuring in 19 (12.6%) patients.pearly penile papule was found to be more common [10 (6.6%)] among benign conditions and normal variants.Among inflammatory conditions and miscellaneous groups, contact dermatitis and vitiligo were the commonest conditions respectively.One case of verrucous carcinoma of penis was seen.

Among four categories classified according to the site of involvement, Genitalia alone was found to be involved in more number of patients [87(58%)] Scrotum and Labium majora were the most common site of involvement in male and female genitalia respectively.

Conclusion:

All lesions occurring over genitalia are not sexually transmitted .Many other non venereal conditions can occur over the genitalia.All cliniciansshould have an open mind to look for these conditions and

treat with appropriate drugs.Scabies was the most common nonvenereal genital dermatosis in our study. Knowing about the prevalence , clinical and etiological characteristics of various nonvenereal genital dermatoses are helpful in arriving at a diagnosis and also creating awareness among patients to improve their personal hygiene and social habits.

Key words: Non venereal, scabies, Genital lesions

INTRODUCTION

Non venereal genital dermatoses are often confused with venereal diseases which may be a cause for concern to the patients and also serve as a diagnostic dilemma to the physician.

Contrary to popular belief , all lesions occurring over the genitalia are not the manifestations of sexually transmitted disease.

These non –venereal disorders cause mental distress and guilt feeling in patients who believe that they have developed sexually transmitted disease .

Since non –venereal genital diseases include a wide variety of disorders , the identification & establishment of the nature of disease is a challenging venture.

The present study attempts to know about the prevalence and clinical pattern of non-venereal genital dermatoses. A comprehensive understanding of the various presentations help the physician to effectively manage the conditions and also relieves the patient's anxiety.

AIM AND OBJECTIVE :

To study the clinical pattern and prevalence of non venereal genital dermatoses in the patients attending SKIN and STD out patient clinic in Coimbatore Medical College Hospital during the study period (from August 2013 to July 2014).

REVIEW OF LITERATURE

All Genital lesions are not always sexually transmitted. They commonly affect the middle aged persons who lie between 21 and 40 years[1] . Male to female ratio of patients with non venereal genital dermatoses is ranging from 1.5 :1 to 2.28:1. Usually those who have genital lesions first consult the urologists or Gynaecologist. since the urologists or Gynaecologist may not be aware of the common non venereal genital conditions there may be a chance of misdiagnosis[2]. Non venereal genital lesions may occur either in genitalia alone or in association with similar lesions elsewhere in the body. So it is mandatory to record the salient history , do thorough clinical examination and carry out relevant investigations for arriving at a final diagnosis.As the lesions over genital area may be modified by repeated topical application of native medications, it is a challenging task for the dermatologist to make accurate diagnosis and manage appropriately.

CLASSIFICATION :

Based on etiopathogenesis , Fitzpatrick and Gentry [3] classified Non venereal genital dermatoses in to the following categories:

A. Benign conditions and normal variants

B. Congenital anomalies

C. Infections and infestations

D. Inflammatory conditions

E. Premalignant conditions

F. Malignant conditions

G. Miscellaneous lesions

Non venereal dermatoses of male genitalia

I. Benign conditions and Normal variants :

They are single or multiple asymptomatic lesions with varying sizes and morphology involving external genitalia of both sexes.

1. pearly penile papule
2. Fordyce spots
3. foreskin abnormalities
4. Angiokeratoma of Fordyce
5. Melanocytic nevi
6. Genital Skin tag

7. Epitheloid hemangioma
8. Lymphangiectases
9. trauma induced lesions and artifact

1. Pearly Penile Papules:

They are 1-2mm , skin coloured or shiny papules arranged in a row or more than a row around coronal sulcus or proximal to it or spotted over the glans penis. It may be found in upto 50% of men [4,5] . Pearly penile papules are structural variants of angiofibroma. Differential diagnosis of this condition is condyloma accuminata. Histologically it resembles adenoma sebaceum,subungual fibroma and acquired acral angiofibroma.These papules are commonly seen over the genitalia of adolescent boys . Reassurance and counsel regarding the physiological nature of the condition is very much needed.

2. Fore skin abnormalities :

At birth usually foreskin adher with the underlying glans penis. Four percentage of boys will be able to retract the foreskin at birth, 15% at 6months of age, 50% at 1 year , 80–90% at about 3 years and 100% by 17 years of age [6]. The retractability of

foreskin may vary from person to person and the foreskin can be shorter or longer .

Circumcision might be reflecting the racial, religious and cultural differences in any population . In world wide ,around 25% men have been circumcised[7]. During Infantile period circumcision seems to be unsafe and the situation will be reverse in later age groups. It protects the men from carcinoma penis, sexually transmitted infection including HIV and other inflammatory dermatoses like psoriasis, lichen sclerosis, seborrheic dermatitis, lichen planus. According to O'farrell et al wetness of penis is hardly seen in circumcised men, but it is the main cause for balanitis in 40% cases who have uncircumcised[8]

i . Phimosis (muzzling)

It is an inability to retract the prepuce proximal to the coronal sulcus. Conditions which resulted in scarring of tip of the foreskin leads to phimosis . The incidence of pathological phimosis is 0.4 / 1000 cases per year[9]. The underlying causes are smegma collection in prepuce , LSA involving prepuce, recurrent balanitis, balanoposthitis, squamous cell carcinoma of penis, Lichen planus Hidradenitis suppurativa, Crohn's disease, Cicatricialpemphigoid Cutaneous lymphoma and Kaposi's sarcoma. The treatment of choice

of phimosis is circumcision and subsequent treatment of underlying cause.

ii . Paraphimosis:

Inability to pull back the retracted prepuce over glans penis due to edema over prepuce is called paraphimosis . It is otherwise known as waisting or constrictive posthitis. Paraphimosis is mainly due to trauma or improper handling of foreskin. But the other causes like acute contact urticaria are also identified[10] . Rickwood said that paraphimosis is mainly due to abuse and not the disease of foreskin. Treatment is mainly by puncturing the prepuce with hypodermic needle, manual pressure and ice packs over the swollen prepuce. For severe cases emergency dorsal slit should be performed .

3. Angiokeratoma of Fordyce:

It is a distinct entity seen over the scrotum as small 1-4mm bright red to blue -black papules. The lesions may bleed intermittently due to friction or minor trauma . Rarely the lesions occur over penile shaft and glans penis.[11,12] The role of local venous hypertension in causation is controversial. It is a benign disease and not a marker of systemic disease. The treatment modalities

are cryotherapy , ablation with electrocautery, CO_2 laser and pulsed dye laser.

4. Fordyce spots :

They are ectopic sebaceous glands .They have present as multiple , discrete , asymptomatic , tiny yellowish papules over sub-preputial area of penis . we have to counsel the patients regarding the harmless nature of the condition.

5. Melanocytic naevi :

It is commonly seen over penis and more frequently in patients with atypical nevus syndrome. Multiple blue naevi, spitz naevi over glans penis have been described[13,14].Epitheloid blue nevus is very rarely seen over genitlia. Half of the nevi located over glans penis and penile shaft with normal skin in between is called kissing or divided nevus.

6. Lymphangiectases

It may occur due to building up of lymph in superficial vessels which is usually a sequel of surgery or radiotherapy . Patients usually present with fluid filled vesicles in a chronic lymphedematous area which may rupture and oozing a clear or milky fluid [15] . Recurrent cellulitis is the frequent complication of

this condition. Topical antibacterial application is needed to prevent secondary bacterial infection. Excision, cryotherapy and laser therapy are the useful treatment options for these patients.

7. Genital Skin tag : (Men)

They are small flaps of skin which are attached to the skin surface through a stalk of flesh. Penile shaft,glans penis and scrotum are the common sites of genital skin tags in men. Usually it is seen in obese individuals .The incidence of genital skin tags is less in Indian population while comparing western population. They may easily become irritated by friction of clothing or rubbing and also infected frequently .

8. Epitheloid hemangioma :

It is a rare slow growing vascular lesion seen over glans penis , as a solitary mass of size 0.5x2.5 cm. Usually it affects the age group between 23 and 75 years .Differential diagnosis of this condition are epitheloid angiosarcoma and epitheloid hemangio endothelioma. Treatment modalities are surgical excision, electrofulguration, cryotherapy, and sclerotherapy.[16]

9. Trauma induced lesion and artifact

i. Penile hematoma and fracture

Penile hematoma and fracture are rare even though penis is very vascular[17,18].These patients usually present with pain, swelling , deformity of penis. It may lead to complications like urethral damage and urinary retention. The prognosis is usually good but Peyronie's disease may develop over the lesion later .Injection of drugs to improve erection may also leads to complication like hematoma.

ii. Sclerosing lymphangitis

It is otherwise known as Mondor's phlebitis/ penile lymphocele/ penile lymphoedema. The Classical presentation is serpiginous mass over coronal sulcus which usually due to prolonged and frequent sexual intercourse . The main predisposing factor is the scar resulting from circumcision. Usually these condition resolve spontaneously but sometime surgical excision may be needed [19].

iii. Strangulation of the penis

The penis may be strangulated by ring devices like vacuum erection equipment , condom rings , rubber bands, string,

rings (washers) and nuts placed over the penis by the patient for prolonging the duration of erection[20,21] . Finally it may lead to pain, swelling, urethral fistula, pseudo ainhum, gangrene and amputation that were collectively called as Penile strangulation Tourniquet syndrome. Foreign bodies like glass beads , small and smooth round stones are introduced under the skin of penis to increase erotic sensation that can lead to complication like abscess, fistulae and calculi. Oil or petroleum jelly introduced in to genital skin for enhancing sexual pleasure leads to paraffinoma.

iv. Dermatitis artefacta and mutilation

In these patients lesions are usually geometrical, angulated or rectilinear shaped erosions which fail to heal. Many times it is induced by needles, knives or cigarette burns by patient himself . These patients may have associated severe depression or psychological ambience of belle indifference. These lesions may also develop after oral sex (love bites) or use of vacuum erection devices , which leads to complications like purpura and ecchymoses over the penis. Australian aborigines create a slit over penis and open urethra ventrally.This is called subincision [22,23].

v. Lipogranuloma

Injection of mineral oil, petroleum jelly and silicone in to the penile skin for maintaining erection or enlarging penis may lead to paraffinoma or lipogranuloma. Usually these patients present with deformity of penis and painful erections and inability to penetrate during intercourse [24].

II.Congenital abnormalities :

Defect in embryogenesis and sexual differentiation of genital organs resulting in the following conditions:

Aphallia is the agenesis of penis results from failure in embryologic development of genital tubercle . The incidence is 1 per 10 million male births.[25] **Chordae** is the fibrous band associated with hypospadias orepispadias that causing curvature of penis. **Hidden or buried penis** is the condition in which the penis would be hidden under fat in suprapubic region, scrotum, perineum and thigh. **Diphallia** is the duplication of the penis which occurs in 1 per 5 million male births .It may be associated with other conditions like hypospadias, bifid scrotum, bladder duplication[26] and renal agenesis. **Epispadias** is the urethral opening into the dorsal surface of penis. The incidence is 1/300,000 male births and it may be the part of

exstrophy-epispadias complex[27]. **Hypospadias** is the most common congenital abnormality of male external genitalia other than cryptorchidism .In this condition urethral opening seen over ventral surface of penis or scrotum The incidence is 3-5/1000 live male births. It may be due to failure of fusion of urethral folds. The reason could be mutation of MAMLD1 (CXorf6) gene. If the length of the stretched penis is less than 2.5 standard deviations for that age group is called **Micropenis** . **Median raphe cysts** is mainly due to anomalies in the development of urethral groove or by trapped epithelial cells in between the genital folds. Patient may present with cystic or nodular swellings over ventral penis. These lesions usually become traumatized or infected with staphylococci.

III. Infections and Infestations:

1. **Scabies** :

Scabies has been known to man as a disease entity for several decades. It affects all races and social classes and also distributed worldwide. It affects both males and females. Recent studies have shown that there is no preponderance in either sex. It is caused by Sarcoptes scabiei var hominis (itch mite). Close body contact(15-20 minutes)[28] not necessarily sexual contact is important for the transmission of the disease.Nocturnal itch, similar illness in family members ,presence of

burrows and lesions over the classical sites are the cardinal features of scabies.Burrow is the pathognomonic lesion of Scabies. but , papules and papulovesicles with eczematization are commonly seen over the affected sites. Classical sites of involvement are web space of fingers,flexor aspect of wrist,ulnar border of forearm,elbow joint ,anterior axillary fold,upper thigh, genitals, umbilicus and nipples and areola which collectively called circle of Hebra. In primary infection onset of severe symptoms begin after 80-100 days but in reinfection ,severe symptoms begin with in two months. In nodular scabies, persistant nodules are seen over elbows,genitals and anterior axillary folds .Foreign body reaction to retained product of acarus is the cause for nodular scabies.Commonest complication is secondary pyoderma.Treatment includes the affected family members also.Various topical applications in the treatment of Scabies are 1%Gamma benzene hexa chloride,5% permethrin,25% Benzyl benzoate,Malathion (0.5% liqid) and 6% sulfur.but now , Gamma benzene hexa chloride and permethrin are the commonly using topical drugs. Patients have to apply the cream or lotion over whole body (below the neck) and wash it off 12 hours after the application .They should not repeat the application with in a week.Cure rate of GBHC and Permethrin after single application are 89% and 89-100% respectively[29,30].Ivermectin is the oral drug available in the treatment of scabies.A single dose of 200ug/kg body weight is effective

and the cure rate is 70%.If two doses at the interval of two weeks is taken by the patients ,cure rate will be increased to 95%.

2.**Candidosis**:

Commonest cause for balanoposthitis in India is candidal infection. Commonest organism of candidosis is Candida albicans.It was isolated in 23% cases[31]. Predisposing factors for candidosis are diabetes, malignancy , immunosuppressive therapy and long term use of broad spectrum antibiotics[32]. Usually these patients present with burning micturition, erosion over glans , sub prepusal discharge and eroded satellite pustules.Maceration,fissuring and ulceration of the prepuce are the features of chronic candidal balanoposthitis. Phimosis is the complication of chronic cases.Topical 1% clotrimazole application is useful in the treatment of candidal balanoposthitis.If the patient is known diabetic, it should be controlled. If the patient is not responding to topical treatment,systemic drugs like fluconazole 150mg once a week for 4 weeks or ketaconazole 200mg twice daily for 1-2 weeks is recommended.

3.Staphylococcal infection :

Furuculosis (boil) is one of the commonest conditions due to Staphylococcus aureus in which extensive involvement of hair follicle (including follicular and peri follicular region) is seen .It may appear as a single or multiple lesions over mons pubis,root of the penis and scrotum . It begins as a tender papule which becomes a indurated nodule within 2-3 days. Later it becomes necrotic and discharge pus from a point at the follicular opening. Some of them do not discharge pus on the surface are called blind boils. Factors which may be responsible for its severity and increased frequency are diabetes mellitus and intake of systemic steroids. Topical 2% sodium fusidate or 2% mupirocin over the affected area (3-4 times a day) is effective in the treatment of furunculosis. If the lesion is not resolved with topical medication, systemic drugs like cloxacillin or dicloxacillin 250mg-500mg (sixth hourly) to be given for 5 days Rifampicin 600mg (stat)with tab.ciprofloxacin for 10 days followed by cloxacillin for 1-2 months are effective treatment regimen for recurrent furunculosis [33].

Staphylococcal cellulitis usually affects penis and the common precipitating factor is piercing genital jewellery. Complications of the cellulitis are cysts,sinuses , fistulae , necrotizing fasciitis and Fournier's gangrene

4.Tinea cruris:

It is dermatophyte infection of the groin. It is otherwise called as dhobi's itch or jock itch.It is more common in men than women because men have larger area of occlusive skin(where the scrotum is in contact with the thigh).Most common causative organism in India is Trichophyton rubrum[34]. Other organisms causing tinea cruris are T.mentagrophytes and E.floccosum.Warm and humid climate is one of the most important predisposing factors.Well defined erythematous plaque composed of multiple papulovesicles and mild scaling with central clearing is the classical picture of tinea cruris. Lesions are commonly seen over genitocrural area and medial aspect of upper thigh.Lesions usually spread to scrotum but involvement of penis is very rare. Differential diagnosis of tinea cruris includes psoriasis , seborrhoeic dermatitis and candidosis.Topical antifungal like 1%clotrimazole 2-3 times per day is effective.Systemic drugs useful in the treatment includes fluconazole, griseofulvin and itraconazole. Following drug regimens are used in the treatment of Tinea cruris Griseofulvin 500mg od for 2-4 weeks, terbinafine 250mg/day for 2-4 weeks ,fluconazole 150mg/week for 2-3 weeks and itraconazole 100 mg per day for 15 days[36]

5.**Fournier's gangrene**:

In 1883 , five cases of spontaneous genital gangrene and ulceration were described by the Parisian dermatologist Alfred Fournier, but Baurienne is the one who first reported this condition [37] . The disease usually starts with urethral or appendageal infection.The causative organisms are mainly the resident urethral or lower gastrointestinal flora . Necrotizing vasculitis is the most distressing consequences of Fournier's gangrene which may involve skin,subcutis,fascia and muscle. Exotoxin is the key factor in the development of necrotizing vasculitis.Painful and erythematous swelling over genitals and perianal region associated with suppuration is the classical presentation of this condition. Death can be avoided if treatment in the form of surgery is initiated early.

6.**Tick bite** :

Ticks are mainly the parasites of animals. Humans are only incidental host while walking through or sitting in the area of ticks [38]. Pruritic papule ,eczema sometimes bullae and extensive bruising are seen at the site of feeding.

7. **Molluscum contagiosum**

It is caused by molluscipox virus .The typical lesion is a firm,dome shaped waxy or pearly white papule with central umbilication. If a young man presents with genital molluscum contagiosum ,it is usually assumed to be sexually transmitted ,but this may not be always true [39].

8.**Trichomycosis pubis** :

It is the corynebacterium infection of pubic hair shafts.Usually these patients present with asymptomatic yellow,red or black small dirty looking concretions on the hair shafts[40]. These concretions are bacterial colonies. sweat may be discoloured over the affected area. This condition could be treated with topical antimicrobial cream like benzoic acid. Poor personal hygiene may be the most important predisposing factor.Regular use of anhydrous aluminum chloride is recommended.

9. **Pthirus pubis (Pubic louse)**

Transmission of pubic louse occur not only by sexual route but also by other mode like sharing of bed and upholstery of public transport [41].The principle symptom is itching of pubic region. Secondary infection and eczematization may occur.Maculae caeruleae is the blue –grey

macules over lower abdomen and thighs due to altered blood pigment or reaction to louse's saliva.Gamma benzene hexachloride in the form of lotion or cream is an effective form of therapy. It should be applied to the whole body (below neck) for 12 hours and then washed off . Intake of ivermectin in the dosage of 200μg/kg is also quite effective.

10.**Streptococcal dermatitis**

These patients present with dysuria , erythema and swelling over penis or with features of balanoposthitis. A case of bullous necrotic erysipelas of genitalia has been reported which is mainly due to Streptococcus pyogenes [42] .

11. **Ecthyma gangrenosum**:

It is caused by Pseudomonas aure.and affects mainly the acral and anogenital region .Penile lesion usually leads to complication like gangrene and the prognosis of this condition is poor.

12.**Chronic Penile edema**

It is a rare and chronic disfiguring condition which may lead to sexual dysfunction and phimosis[43] .This is mainly due to irreversible lymphatic damage that may be a sequel of streptococcal infection.It is otherwise known as elephantiasis verrucosa nostra. These patients

present with chronic swelling over penis, foreskin, scrotum, buttock and thighs .The lesions may be warm and red in colour.There may be intercurrent attacks of cellulitis which needs systemic broad spectrum antibiotics. After controlling with systemic antibiotics ,surgical intervention can be tried in the form of circumcision.

13.**Tuberculosis**:

It rarely affects the penis[44]. modes of transmission include sexual transmission , contact with the infected clothing and it can occur secondary to tuberculosis elsewhere . Painless papules over glans penis which evolve into ulcers seen in patients with papulonecrotic tuberculid. These ulcers will heal with varioliform scars. Worm -eaten pattern of scars has also been described in papulonecrotic tuberculids[45].Histopathology shows wedge shaped area of dermo epidermal necrosis surrounded by epithelioid cell granuloma.Lichen scrofulosorum is also rarely involved over genitalia. It responds well with standard antitubercular therapy.

14.**Deep fungal infection:**

Blastomycosis of genitourinary tract has been reported in 20-30% of cases but the involvement of genital skin is rare.However lesions over prepuce and perianal skin have been reported[46,47].

Paracoccidiomycosis may be the cause of scrotal swelling and genital nodules and erosions in some cases [48].

15.**Others:**

In bacillary angiomatosis**,** the lesions are asymptomatic , single or multiple, violaceous or red firm non blanching vascular papules and nodules .It is the most important differential diagnosis of Kaposi's sarcoma. Herpes zoster is also reported over scrotum and penis and the usual complications are constipation and urinary retention. Involvement of Hansen's disease over male genitalia is rare , but some cases have been reported . [49] Amoebiasis can involve genitalia and these patients present with painful ulcers over the glans penis. Usually these patients present with urinary frequency, dysuria and retention [50]. Buruli ulcer over penis and scrotum is mainly due to M. ulcerans which was rarely reported. Cutaneous leishmaniasis can also affect the genitalia [51].The anogenital consequences of onchocerciasis are mainly due to involvement of the ileal crest and scrotum. Scrotal nodules (hanging groin) ,scrotal enlargement and leopard skin hypopigmentation are the classical lesions seen in onchocerciasis[52]. In yaws an ulcerated, crusted and papillomatous lesion over prepuce has been reported .The genital lesions are propably due to autoinoculation of organisms [53].

IV.Inflammatory dermatoses:

1.**Irritant contact dermatitis:**

It is a local inflammatory reaction characterized by erythema,edema and erosion followed by the application of a substance some individuals exihibit increased sensitivity to some classes of irritants.Host factors influencing irritant contact dermatitis are age ,race,sex and pre existing dermatitis. Other contributing factors are friction ,maceration, over washing and anorectal or urological disease [54]. Birely has reported irritant contact dermatitis over glans in 72% patients and out of which 67% had a history of atopy [55].Common substances which lead to irritant contact dermatitis in genital area are soap,antiseptic solution and hair removal cream .Acute irritant contact dermatitis is treated by wet compresses followed by application of topical corticosteroids.In severely affected individuals ,systemic corticosteroids and antibiotics should be administered. In chronic irritant contact dermatitis ,regular application of emollients should be encouraged. Self treatment by the patient may increase the morbidity and also worsen the situation further.

2.**Allergic contact dermatitis**:

There are acute and chronic phases in allergic contact dermatitis.In acute phase patient presents with itching, erythema, swelling, vesiculation over the genitalia,but in chronic cases lichenification might be seen over the involved area. Erythema and even angioedema due to contact urticaria by rubber constituents of condoms and gloves have been reported . Common contact sensitizers of genital ACD are rubber, contraceptives and medicaments. Avoidance of the allergens is the important measures in the management of Allergic contact dermatitis.Other treatment options are moisturizers, topical corticosteroids and oral antihistamine. If the lesions are severe and extensive ,systemic corticosteroids are the treatment of choice. Bauer et al have conducted patch test for all the patients with anogenital lesions and found that ACD is prevalent in 35% of patients [56]

3. Balanoposthitis

It is the inflammation of mucosal surface of both glans and prepuce. Previously the overall incidence was less than 2 % but now it has gone up to 20%[57] .The commonest etiological factor is candidal infection. Uncircumcised males are more prone to develop balanoposthitis because of the warm, humid and anaerobic environment of preputial sac which predisposes to multiplication of

organisms .Diabetes mellitus is an important predisposing factor for balanoposthitis [58].

4.**lichen simplex chronicus:**

It is intensely itchy disorder which leads to lichenification. It is commonly seen in atopic individual.Anxiety or depression is the main predisposing factor in the development of this condition. It is commonly seen in the age group of 30 to 50 years.Scrotum is the common site of involvement in genitalia.Solid tumour like plaque(gaint lichenification of pautrier) is seen in genitocrural region [59]. Violent scratching may cause excoriation which frequently gets impetiginized or colonized by candida.Differential diagnosis are psoriasis,seborrheic dermatitis,chronic allergic contact dermatitis and hypertrophic lichen planus. High potent topical steroids and moisturizers is the treatment of choice. Topical application of aspirin –dichloromethane solution shows some improvement. Sedative antihistamines and tricyclic antidepressants are also useful. But sometimes , surgical removal of nodular lesion may be needed.

5. Urticaria , Angioedema and dermographism:

Urticaria usually presents as generalized eruptions ,but in some patients it may present like unexplained genital itching. Stroking of the inner aspect of thigh will produce wheal along the line of trauma . Genital angioedema induced by lisinopril have also been reported [60].

6.**Seborrheic dermatitis**

It is an inflammatory disorder of the skin described by well defined erythematous plaque with greasy scales seen over scalp, face and flexural areas.In flexures,sweating and constant friction lead to fissures covered by crusts formed by serous exudates.Secondary infection by bacteria and candida are also quite common [61] .

Scraping from the lesion for KOH mount must be done to exclude tinea infection and also to demonstrate pseudohyphae. Topical anti fungals can be used to suppress yeast load and also to reduce the irritation . Topical steroid is used to reduce the inflammation. Systemic drugs used in the treatment of seborrheic dermatitis are ketaconazole or Itraconazole 200mg/day for seven days or Terbinafine 250mg/day for 4 weeks .

7.**Lichen planus**:

It is the chronic inflammatory disease affecting skin ,nail ,oral and genital mucosa. Classical skin lesions are flat topped , pruritic, purple, polygonal, papules and plaques involving flexor aspect of wrist ,forearm and legs. The genital lesions particularly over glans penis are in an annular pattern .Plaque with central atrophy surrounded by a thin rim of active erythema is the classical lesion of annular lichen planus [62].Douglass and George reported that about 18% of total 114 patients with lichen planus had lesions over glans penis[63] Erosive lichen planus over glans penis also reported[64] . Rarely squamous cell carcinoma may develop over chronic erosive lichen planus lesions.Potent topical corticosteroids and immunomodulators like topical tacrolimus are useful in the treatment of genital LP. Oral steroids has been used in severe cases. circumcision may be done in some chronic cases.

8.Lichen sclerosus et Atrophicus:

It is a chronic inflammatory dermatosis commonly affecting the anogenital region.In men, the lesions are seen over glans , prepuce and usually asymptomatic.sometimes patient presents with tightening of foreskin, painful erection ,poor urinary stream , and soreness. There is a

sclerotic constricting band connected distal to the prepuce in uncircumcised men which results in phimosis . On examination, lesions are atrophic white patches ,hemorrhagic blisters,erosion s and ulcerations over penis.The end stage is balanitis xerotica obliterans which is characterized by depigmented, contracted and fissured prepuce fixed over glans and not retractable by force.The etiopathogenesis of this condition is unknown but the association with HLADQ7 and spirochaete Borrelia have been reported in lichen sclerosus[65]. Histopathological picture shows hyperkeratosis ,follicular plugging epidermal atrophy,and hydrophic degeneration of basal layer.In dermis , edema and homogenization of collagen with lymphocytic infiltration. Campus et al have reported that lichen sclerosus constituted one third of all cases of carcinoma penis. squamous cell carcinoma is the most serious complication particularly with the involvement of glans penis.[66] Treatment of choice is topical application of ultra potent corticosteroids. Topical Tacrolimus is an alternative for steroids.

9.Fixed drug eruption :

FDE is one of the Common non venereal dermatoses of the male genitalia.It will characteristically recur at the same site followed by intake of the offending drug.The lesions develop 30 minutes to 8 hours after the drug administration [67].The lesions are single or multiple , itchy,

red ,swollen plaque with blisters or ulceration. Common sites of involvement are glans penis,oral mucosa ,hands and feet.Development of eruptive lesion may take 1-2 weeks after the first exposure of offending drug but the lesions will appear within few hours to days after subsequent exposure.Common causative drugs are sulfonamides, NSAIDs, tetracyclines, quinolones and phenytoin. The clinical pattern in FDE is specific for each drug. Treatment is mainly to stop the offending drug and to start oral or topical Corticosteroids.

10.Erythema multiforme:

It is an acute , relapsing skin disease characterized by symmetrical papular,urticarial and multiple target lesions involving limbs,palms and soles associated with oral and genital erosins.Etiolgical factors are HSV1 &2 infection, mycoplasma ,histoplasmosis and drugs like sulphonamides, barbiturates, penicillin and phenytoin [74].Usually this condition is self limiting .Oral antihistamine and topical steroids help in reducing pruritis.

11. Stevens Johnson syndrome :

It is a severe disease ,usually caused by drugs.Patients usually present with flu like symptoms including fever, arthralgia, malaise, headache and vomiting followed by extensive erythema multiforme like lesions on the trunk[68] .Occasionly bullae and erosions develop which

cover less than 10% body surface area.Common offending drugs are sulfonamides, penicillins, quinolones and cephalosporins [69].Mucous membranes (oropharynx,eyes,genitalia and anus) are also involved .Management includes withdrawal of the offending drug, fluid replacement ,dressings and supportive care.

12.Psoriasis :

It is a common,chronic, inflammatory and proliferative condition of the skin. Classical presentation of psoriasis is itchy, erythematous patch or plaque with white silvery scales characteristically affecting extensor surface of the body.Psoriasis affecting flexures is called inverse psoriasis [70].The lesions in flexures are less scaly and appear smooth and glistening with painful fissures. The incidence of genital psoriasis in the whole population is approximately 2% . Examination of other sites like scalp,nails,palms and soles,extensor aspect of knee,elbow is also helpful to confirm the diagnosis . Psoriatic lesions may develop at the sites of seborrheic dermatitis as Koebner phenomenon.It is relatively resistant to treatment.Differential diagnosis are intertrigo,tinea cruris and seborrheic dermatitis.Topical treatment for genital psoriasis includes keratolytics, emollients and calcipotriol . Methotrexate or cyclosporine is indicated only in severe anogenital and inverse psoriasis cases. Phototherapy is contraindicated due to higher risk of genital cancer.

13.Erythroderma :

Erythema and exfoliation involving more than 90% of the body surface area is called as erythroderma. Causes of erythroderma are psoriasis, eczema, pemphigus foliaceous, lymphoma, leukemia, drugs, lichen planus , dermatophytosis and crusted scabies .In erythrodermic psoriasis , the classical picture of psoriasis is usually lost and the lesions may be erythematous ,dry scaly plaques involving face,trunk,limbs,genitals. In some cases ,generalized pustular psoriasis may developed particularly in patients treated with potent topical or systemic steroids. Cutaneous T cell lymphoma is the most common malignancy to cause erythroderma [71]. The patients present with intense itchy ,erythematous and scaly lesions involving face, trunk, genital area and limbs. Secondary lichenification may develop due to constant rubbing and scratching. Histopathologically, there is diffuse papillary dermal lymphocytic infiltration in linear fashion along the dermo- epidermal junction with coarse fibrosis and clustered exocytosis of atypical lymphocytes into epidermis (Pautrier microabscesses) seen.

14. Plasma cell balanitis of zoon:

It is an idiopathic disorder of an elderly uncircumcised.But the evidence says that it may be due to the irritant response of retained smegma and urine. The typical lesions are usually asymptomatic, well defined,glistening,moist brown or red patches over the glans and prepuce.Cayenne pepper spots over the glans is the classical finding probably due to hemosiderin deposition [72].Histopathological picture shows epidermal atrophy with lozenge shaped keratinocytes and dense subepidermal infiltrate of plasma cells .This condition may improve with good hygiene of genitalia and topical steroids. But the treatment of choice is circumcision.

15.Lichen Nitidus:

It is an idiopathic lichenoid dermatosis characterized by multiple skin coloured pinhead sized ,flat or dome shaped discrete papules commonly seen over forearm, glans and shaft of the penis, buttock. This condition is usually self limiting. Topical steroids may be given for symptomatic cases.

16. Hailey-Hailey disease:

It is a rare , hereditary disorder (autosomal dominant) caused by mutation in ATP2C1 gene. It is otherwise known as benign familial chronic pemphigus . Patients present with recurrent eruption of vesicles and bulla over genital,axilla and groin area.The blisters rupture and lead to erosions .Painful fissures are seen in flexures which limit mobility .Aggravating factors for Hailey-Hailey disease are heat,UV exposure,friction and infections [73]. Histopathological features are suprabasal acantholysis which is usually incomplete may give the dilapidated brick-wall appearance .Exacerbation of this condition is controlled by topical steroids and systemic antibiotics .Dapsone 100-200 mg/day is used in refractory cases.

17. Behcet's disease :

It is a neutrophilic, inflammatory disorder with recurrent oral,genital ulcers,uveitis and skin lesions.The etiology is unknown. Complex apthosis (forme frusta of Behcet disease) is the presence of multiple (>3) oral and genital ulcers in the absence of systemic manifestations. Histopathological features are leukocytoclastic vasculitis and a dense lymphocytic infiltrate in the dermis .Treatment is mainly by

topical steroids,dapsone,colchicines. Systemic steroids and azathioprine are indicated only in severe cases.

18.Pemphigus vulgaris

It is an autoimmune bullous disorder characterized by flaccid blisters or erosions over trunk , limbs ,glans penis,scrotum and oral mucosa.Nikolsky's sign and bulla spread sign are positive. Histopathology shows intraepidermal blisters with acantholytic cells and basal cells arranged in row of tomb stone appearance, perivascular lymphocytic infiltration. Systemic steroids are the main stay of treatment.The dose of the prednisolone in mild to moderate cases, is 60-80 mg/day where as in severe cases the dose is 80-120mg/day. Tapering off the dose by 50% in every 2 weeks if 80-90% of the lesions healed.Dexamethasone-cyclophosphamide pulse therapy is recommended for severe and recalcitrant cases.

19.Peyronie's disease :

It is a localised fibrotic disorder which usually involves structure adjacent to the erectile tissue.It commonly affects middle and old age groups. Patients present with priapism, curvature on erection,decreased erection distal to the plaque and progressive impotence. Worldwide ,it affects about 9% of male population[75] .The risk factors of Peyronie's

disease are genetic predisposition, trauma , systemic vascular disease and diabetes mellitus. Spontaneous recovery may occur in 20-30% of cases[76]. Intra lesional corticosteroids, intralesional verapamil ,Nisbett's operation,sildenafil (for erectile dysfunction) are the available treatment modalities .

20. Others:

Pemphigus vegetans is a variant of pemphigus vulgaris. Some cases of pemphigus vegetans with tender balanitis and moist vegetative plaque over genitalia have been reported [77]. Cicatricial pemphigoid is a subepidermal blistering disorder which affects skin and mucous membrane . Early lesions of cicatricial pemphigoid are blisters over the penis which later erode and form an ulcer. These lesions may heal with multiple scars. Reiter's disease is usually associated with HLA B27 and the common precipitating factors are non specific urethritis or amoebic dysentery. The classical features of this syndrome are arthritis, urethritis and conjunctivitis. It may affect penis (circinate balanitis), palms and soles (keratoderma blenorrhagica). Genital lesions will usually respond to topical calcineurin inhibitors.

Hidradenitis suppurativa : (acne inversa) comedones, folliculitis ,discharging sinuses , scarring and fibrous bridges are the common

sequential lesions over groin and axilla which are pathognomonic of hidradenitis suppurativa. natal cleft and buttock are the other sites involved in hidrdenitis suppurativa. It is considered asan apocrine acne. squamous cell carcinoma may develop on chronic lesions [78].

Penile acne: The usual presentation is comedones,papules,pustules and nodules over shaft of the penis [79].These lesions might resolve with conventional treatment for acne. Hypereosinophilic syndrome : its usual presentation is orogenital ulceration , erythroderma and urticaria. Some cases of Wegener's granulomatosis with penile ulceration and necrosis have been reported [80].

V.Benign tumours :

1. Mucoid cysts :

They are small,flesh coloured, mobile cystic papules or nodules with absence of punctum seen over penis .These lesions may present at birth or it may develop later in childhood . Common sites of involvement are glans or prepuce but rarely it may also involve perineum. Usually they are asymptomatic but sometimes they may get infected or interfere with intercourse.

2.Verruciform xanthoma :

It is a painless,yellow brown ,verrucous ,sessile or papillary plaque lesion which commonly involves oral mucosa .Fewer than 20 cases of genital involvement have been reported [81] .Surgical excision is the treatment of choice.

3.Miscellaneous benign lesions:

Keloid can complicate circumcision and trauma [82] . multiple syringomata benign lesion over genitalia may mimic genital warts or lichen planus .Other benign lesions rarely seen over the genitalia are naevus comedonicus, dermoid cyst, apocrine cystadenoma, dermatofibroma, composite adnexal tumour,reticulohistiocytoma, gaint cell fibroblastoma,connective tissue naevi ,fibrous hamartoma of infancy,leiomyoma, varicosities /venous lakes,acquired capillary and cavernous hemangioma,glomus tumour,port wine stain and strawberry nevus.

VI. Precancerous dermatoses and carcinoma in situ:

1.Squamous hyperplasia:

The common clinical presentation is white patches or plaques seen over penis. Histopathological picture of squmous hyperplasia are

acanthosis ,hyperkeratosis with absence of cytological atypia [83] .It is the most common epithelial abnormality that may be found in association with squamous cell carcinoma of penis.

2.Penile horn :

It is a cutaneous horn which rarely affects penis [84].The underlying causes are micaceous balanitis,verrucous carcinoma and squamous cell carcinoma.The most important predisposing factor is chronic inflammation and circumcision for long standing phimosis.The lesions may present as premalignant or malignant in one third of cases.

3.Porokeratosis:

Genital porokeratosis is rarely reported .Clinical presentation might be annular raised double rimmed lesions involving natal cleft ,penis and scrotum. The differential diagnosis are granuloma annulare ,seborrheic keratosis and lichen planus. coronoid lamella is the characteristic histopathological finding of porokeratosis.Topical 5-fluorouracil and imiquimod have been used in the treatment of porokeratosis [85].

4. Pseudoepitheliomatous micaceous and keratotic balanitis:

It is the rare disease affecting uncircumcised penis. The classical lesion is a thick,scaly,micaceous patch over glans penis. Multiple urinary streams while micturition may be seen due to perimeatal hyperkeratosis.It is popularly called as watering can penis [86].

5. Carcinoma in situ of penis :

They are erythroplasia of queyrat(EQ), bowen's disease(BD) and Bowenoid papulosis.The classical lesions of EQ and BD are red shiny patches or plaques presenting over glans and prepuce of uncircumcised penis.Bowenoid papulosis is an analogous of BD but it may be associated with HIV and HPV infection. Poor hygiene,collection of smegma, trauma, friction, heat, maceration, phimosis, inflammation, smoking and dermatoses like lichen sclerosus are the potential factors in the development of carcinoma.

VII.Malignancy:

1.Verrucous carcinoma / Buschke-Lowenstein tumor :

It is a low grade, well differentiated squamous cell carcinoma . The lesion is polypoid or cauliflower like growth that involves penis. The tumour is well demarcated from the surrounding tissue and is locally invasive . Maceration and secondary infection are frequent in uncircumcised patient. Several HPV types may be involved in the development of mixed tumour(both verrucous and squamous carcinoma) [87].Histopathological picture is massive epidermal acanthosis and hyperplasia without significant atypia.Tumour shows deeper invaginations of well defined proliferative epithelium consist of clear pale keratinocytes.The prognosis is poor in untreated cases.Treatment with podophyllin alone is inadequate and the residual lesion may require

excision or cryotherapy.Mohs' micrographic surgery,CO_2 laser, radiotherapy and bleomycin are the other treatment options [88].

2. Carcinoma of penis :

Squamous cell carcinoma is the commonest neoplasm of penis. World wide, incidence of carcinoma penis highest in Uganda and lowest in Israel [89].Phimosis,chronic balanoposthitis,LSA,chronic irritation and inflammation are the important risk factors in the development of carcinoma penis. Powell et al [90] established that half of the patients with carcinoma penis had a clinical or histological evidence of lichen sclerosus .circumcision in later age groups does not give complete protection against the occurrence of carcinoma penis.Differential diagnosis are basal cell carcinoma,pyoderma gangrenosum and Kaposi's sarcoma.Histopathological picture of well differentiated tumour is mature keratinocytes with intercellular bridges and multiple horn pearls. Undifferentiated tumors show high nuclear cytoplasmic ratio,few inter cellular bridges with dense lymphocytic infiltration in dermis. Mohs'micrographic surgery and laser are the treatment options.

3. Carcinoma of the scrotum:

Squamous cell carcinoma of the scrotum has been reported in chimney sweepers [91], mule spinners,Persian nomads and Indian jute oil processors. Other risk factors in the development of scrotal carcinoma are PUVA, UVB therapy,hidradenitis suppurativa and multiple cutaneous

keratoses.The clinical presentation of scrotal carcinoma is similar to that of carcinoma penis.

4. Malignant melanoma :

Malignant melanoma of penis is very rare(less than 100 cases reported) [92]. It accounts for about 1-1.5% of all malignancies of the penis and less than 0.15% of all melanomas [93,94,95.]

5. Basal cell carcinoma is the most common type of skin cancer but the involvement of anogenital area is rare [96].

6.Other rare tumors occur over genital area are fibrosarcoma, hemangiopericytoma,leiomyosarcoma,malignant fibrous histiocytoma, dermatofibrosarcoma protuberans and spindle cell sarcoma Involvement of Langherhan's cell histiocytosis over penis is very rare.Mycosis fungoides may be confined to the genital region.Penile lymphoma may present as painless subcutaneous nodules, erythematous swelling, phimosis and ulceration.

VIII.Miscellaneous conditions

1. Vitiligo

It is acquired ,progressive, melanocytopenia of unknown etiology, characterized by circumscribed achromic macules with leukotrichia.In male genitalia ,it is commonly seen over glans penis,prepuce and scrotum. Various hypothesis are proposed regarding etiopathogenesis. They are immune,neural,free radical,composite and melanocyte growth

factor reduction hypothesis. Associated skin disorders are canites, alopecia areata,psoriasis,atopic eczema,lichenplanus and discoid lupus erythematosis.Associated systemic disorders are hypothyroidism, diabetes mellitus,Grave's disease and hyperparathyroidism. The clinicians might not always observe the genital lesions and also the patient may not be aware of it [97] Topical usuage of imiquimod in the treatment of genital wart has been attributed in the development of penile vitiligo [98] .Topical and oral treatment options for genital vitiligo are topical corticosteroids , topical Tacrolimus , oral corticosteroids, azathioprine and cyclophosphamide .

2.Sebaceous cyst:

It is a keratin containing cyst lined by epidermis .Patients present with 1-3cm dome shaped nodule which is freely mobile over the underlying structures.There may be central punctum and white cheesy material may be expressed from it. It is commonly seen over scalp, face, neck and chest .The other sites of involvement in males are penis and scrotum. Histopathology shows ,cyst is lined by true epidermis composed of layers of stratified squamous epithelium including granular layer and in dermis,foreign body reaction with multinucleated gaint cells. Excision with cyst wall is the treatment of choice.

3.Scrotal calcinosis :

It is an idiopathic disorder in which solitary or multiple hard, smooth white papules or nodules are seen over scrotum. Rarely they may get infected after trauma. Occurrence of scrotal calcinosis was first described by Hutchinson [99] and origin of these lesions are also a debatable one . Some literature have suggested that they may arise from epidermoid cysts, millia,eccrine epithelial cyst. Metastatic calcinosis of scrotum is mainly due to renal failure and secondary hyperparathyroidism. We have to reassure the patient regarding the benign nature of this condition. The treatment modalities available are Laser ablation and surgical excision.

4.Penile melanosis :

Patients present with pigmented macules over glans and shaft of the penis .Usually they are benign lesions but in case of acral lentiginous melanoma, they may enlarge with irregular edges and multifocal pigmented patterns .Biopsy is needed to confirm the diagnosis.Some cases have been reported in association with PUVA therapy or diabetes [100]. Laser treatment is helpful to some extent.

Non venereal dermatoses of female external genitalia

I. Benign abnormalities and normal variants:

i) Angiokeratomas

They are small red to blue-black colour papules found on labia majora. usually they are asymptomatic ,but it may increase in size and bleed during pregnancy.

ii) Sebaceous gland hyperplasia

This is the prominence of gland which directly open onto the surface.they are usually seen over inner aspect of labia majora and labia minora. While stretching the skin ,these glands look like yellow papules.

iii)Vestibular papillomatosis

It is considered as female equivalent of pearly penile papules .it may be filiform and soft frond like projections over vestibule and inner aspect of labium minora .

iv) Skin tag(Vulval ,vaginal)

These are multiple,flesh coloured,furrowed papules or long filliform lesions or pedunculated papules.common sites are neck,axilla and groin.but it can occur over vulva or vagina.It may associated with colonic polyp, diabetes mellitus and acromegaly.

v) varicosities of the labial veins may be seen in pregnancy or in association with limb varicosities [101] .

vi) Trauma and artefact:

Ritual and cultural female genital mutilation still practiced worldwide. clitoridectomy ,excision of clitoris and part of labium

minora, narrowing of the introitus ,cauterization and applying corrosive material over genitalia are the some cultural Femal genital mutilations[102].

vii) Factitial dermatitis:

Vulval trauma may occur due to self inflicted, accidental ,surgery and obstetrical trauma. Sclerosing lymphogranuloma is an artefactually induced granuloma [103] .

II.Congenital and developmental abnormalities

i)Ambiguous genitalia

External genitalia which are discordant with the genotype is called ambiguous genitalia.

There are five main groups:

1) Male pseudohermaphrodite:

Patients are genetically males(46xy) but having female external genitalia

2) Female pseudohermaphrodite:

Patients are genetically females(46xx) but having male external genitalia

3) True hermaphrodite :

Patients have both testes and ovary with external sex organ intermediate between typical penis and clitoris.

4) Pure gonadal dysgenesis:

It is a Progressive loss of germ cells in developing gonads .

5) Mixed gonadal dysgenesis:

It is an asymmetrical gonadal development that leads to an unassigned sex differentiation.

ii) Labial problems:

Persistence of caudal elements of milk line in labium majora with variable size and symmetry of the normal labium minora are the labial problems present since birth. There may be a marked hypertrophy of labium minora in some cases of neurofibromatoses[104].

Labial adhesions may occur as a familial trait [105] or as a part of abnormal sexual differentiation.In some cases , labial adhesion may be the late complication of lichen sclerosus .There is no need for any intervention for this problem unless there is any difficulty in micturition.

iii)Clitorial problems:

some times the clitoris may remain hypoplastic or absent because of failure in fusion of the genital tubercle[106] .Hypertrophy of clitoris is seen in congenital adrenal hyperplasia. Enlarged clitoris are also seen in Lawrence seip syndrome (congenital generalized lipodystrophy).Clitoral tumours like hemangioma, lipoma, neurofibroma may mimic genital sexual ambiguity .There may be a buildup of keratinous debris seen under clitoral hood adhesions known as pseudocyst of the clitoris.It is

usually seen in lichen scerosus .Imperforate hymen occur either due to failure in generation of the epithelial cells or due to the scar formation.It is usually well recognized at puberty.

III.Infections and I nfestations:

(i) Bacterial infections:

1.Staphylococci

Staphylococcus aureus is the usual causative organism which results in folliculitis, boils and abscess of the vulva.It is associated with the underlying problem like diabetes and immunosuppression. Pseudo folliculitis may occur after shaving or waxing and is mainly due to newly regrowing hairs which induce inflammatory reaction [107].

2.Streptococcal infections

Infection occurs at the site of trauma or any surgery. Commonest causative organism for vulval cellulitis is Group A β hemolytic streptococci. Patients usually present with vulval edema,erythema and sometimes with vesicle or bulla

3.Bacterial gangrene:

It is mainly due to synergistic effect of streptococci and staphylococcus aureus.The disease manifestation may be more severe and extensive.

4. Gram –negative bacterial infection:

Pseudomonas aeruginosa is the commonest organism isolated from urine of patients with cystitis,but it is not a cause of vulvovaginitis. There has been some reports of blue staining of napkins of infants with pseudomonas infection[108] . Trichomycosis affects axillary and pubic hairs .patients present with red,yellow and black nodules over hair shafts. **Corynebacterium Tenuis** is the causative organism of Trichomycosis pubis and axillaris. Histological examination of these nodules reveals concretions of bacteria. Ulcers with greyish membrane over vulva seen in **Corynebacterium diphtheria** infection .but it is rare in developed countries.

5. Mycobacterial infection:

Mycobacterium tuberculosis affects vulva by hematogenous spread from distant foci or from upper genital tract or exogenous infection contracted from sputum or by sexual intercourse. **Mycobacterium leprae** may also affect female ganitalia but the involvement of vulva is rare.[109] Loss of pubic hair seen in these patients.

Streptomyces,Actinomyces and Nocardia also affect female genitalia[110].

6.Mycoplasma infection:

Mycoplasma hominis is rarely isolated from cases of Bartholin's abscess [111].The abscess is mainly due to distal blockage of the duct.These

patients usually present with fever,malaise and a tender swelling arising posterior to the origin of the labium minus.Other organisms involving in the bartholin's abscess are Gonococcus and Chlamydia trachomatis.

(ii) Fungal infections:

1.Candidal vulvovaginitis: Candida albicans is the most common organism affecting vulva and vagina.Patients usually present with thick white curdy discharge which primarily arise from vagina that leads to secondary vulvitis with well demarcated sheets of erythema over outer aspects of vulva .It may rarely extend in to the genitocrural folds and perianal skin.Beyond this edge ,multiple superficial small pustules .They are called satellite pustules. Pregnancy, diabetes,high dose of estrogen oral contraceptive pills and broad spectrum antibiotics are the predisposing factors for candidiasis .

2. Dermatophyte infection:

It usually affects inguinal folds and perianal area but involvement of vulva is rare.The common causative organisms are Trichophyton rubrum and Epidermophyton floccosum.The lesions are erythematous and scaly plaque with a spreading raised edge.Tinea incognito may also occur over perianal region and inguinal folds following application of topical steroid in the presence of dermatophyte infection.

3.Other fungal infections:

In wide spread pityriasis versicolor infection ,there may be involvement of vulva[112] .Both white and black piedra affect vulva which results in nodules along the hair shafts.White piedra may synergistically act with corynebacterium.

4.Protozoal infection:

Leishmania tropica causes cutaneous,mucocutaneous and visceral forms but vulva affected mainly in the cutaneous form .Schistosoma haematobium may also affect vulva leading to ulceration and scarring [113].

(iii) Viral infection:

Vulval lesions may occur as a part of generalized viral infection. Molluscum contagiosum is not necessarily transmitted by sexual activity and it can be acquired by non sexual route also.Herpes zoster involving vulva was also reported.

(iv) Malakoplakia of vulva:

It is the granulomatous response to the infections like Escherichia coli,Pseudomonas and Staphylococcus aureus.Malakoplakia usually affects urinary or gastrointestinal tract but it can also affect vagina,vulva and perineum.The lesions are plaques,ulcers,nodules and sinuses. Underlying etiological factors are malignancy ,dermatomyositis ,lupus erythematosus,rheumatoid arthritis and organ transplantation [114,115].

IV.Inflammatory dermatoses:

1. Irritant contact dermatitis:

It is mainly due to contact of vulval skin with vaginal discharge and urine which may compromise the barrier function and leads to irritant contact dermatitis[116].Other contact irritants are cleansing agent,bubble baths,disinfectants,perfumes ,deodorants and medicaments. vulval edema may develop after constant rubbing of the lesion.

2.Allergic contact urticaria:

Latex and semen are the most common causes of contact urticaria in the vulvovaginal area [117].Fixed drugeruption due to seminal fluid has been reported.Seminal fluid usually induces an immediate (type 1) reaction.

3. Allergic contact dermatitis:

Occurrence of contact dermatitis over vulva is extremely rare.High incidence of both vulval and perianal contact dermatitis is mainly due to application of topical medications over perianal skin. High incidence of positive patch test in patients with both anal and genital dermatoses has been reported[118] .There have been many reports regarding allergic contact dermatitis by using condoms ,sanitary napkin, intrauterine contraceptive devices and vaginal tampons.

4.Lichen planus :

The lesions over vulva may occur as a part of generalized LP or in isolation. About 20% of the generalized LP patients will have genital lesions[119].Painful vulval erosion with lacy reticulate border extending in

to the vagina is the classical morphology of genital lichen planus lesion.Occurance of Wickham's striae in genital LP is rare.In severe cases the lesions may involve the labia minora and clitoris.combined oral and vulval disease occur in 53%-73% of cases [120].

Other clinical forms of LP:

Pigmented flexural LP: Usually it involves mons pubis, inguinal and genitocrural folds with characteristic morphology of brown pigmented patches which resemble melanocytic naevi

Vulvo vaginal –gingival lichen planus:

The lesions are very similar to mucous membrane pemphigoid.It usually affects inner aspect of labia minora,vagina and vestibule.These patients present with heavy vaginal discharge,dysuria,dyspareunia and post coital bleeding. Vaginal lesions are velvety red erosions which are friable and bleeds on touch.vaginal synechiae and adhesions are the complications, that leads to vaginal stenosis.

5.Lichen sclerosus et atrophicans:

It is a chronic inflammatory skin disorder affecting any part of the skin that cause substantial discomfort and morbidity. It is otherwise known as lichen albus,hypoplastic dystrophy and kraurosis vulvae. The first case was reported by Hallopeau in 1887 [121].The etiology is still unknown but the association between autoimmunity and lichen sclerosus has been described in many studies.Other etiological factors are

genetic(HLA-DQ7 and to lesser extent HLA-DQ8,9), infections (pleomorphic acid fast bacilli,spirochaetes and human papilloma virus) and local factors like trauma,constant friction. It commonly affect anogenital region(85-98%) of the patients .The other sites of involvement are inner thigh,submammary area,shoulders and wrist.Patients usually present with intractable pruritis over genitalia and also with other features like soreness of vulva dysuria and dyspareunia. Classical lesion is flattened atrophic plaque which may become confluent extending around the vulva and perianal skin in a figure of eight configuration.There may be edema, purpura,bullae and erosion over the lesion.severe scarring and fusion of labia may be seen at end stage of lichen sclerosus. Differential diagnosis are lichen simplex chronicus,lichen planus,candidial vulvitis. Histopathological study shows epidermal atrophy,basal cell degeneration, pale staining homogenous zone in papillary dermis due to edema and a band like inflammatory infiltrate with macrophages,mast cells and plasma cells.squamous hyperplasia may be seen due to chronic pruritis.Treatment is mainly with topical application of potent corticosteroid,tacrolimus and emollients. Oral antihistamine to be given for controlling pruritis.Surgical management (vulvectomy)is only indicated in recurrent disease. Other surgical methods are dissection of buried clitoris,division of fused labia and enlargement of narrowed introitus.There is a risk of development of

squmous cell carcinoma over the lesion of lichen sclerosus.So ,long term followup of these patients is necessary

6. Seborrhoeic dermatitis:

It usually involves inguinal, genitocrural folds,labium majora,mons pubis and perianal skin.We have to look for similar lesions over scalp and axilla .The differential diagnosis are psoriasis, Tinea cruris and eczema.

7.Psoriasis:

Flexural psoriasis is most commonly seen over anogenital skin. Genitocrural folds,mons pubis ,outer aspect of labia majora and natal cleft are the other common sites of involvement in flexural psoriasis.Clinical lesion is a well defined erythematous plaque over genitocrural fold with absence of silvery scales.Rarely scarring may occur over vulva .

8.Bullous disorders:

pemphigus vulgaris, bullous pemphigoid and cicatricial pemphigoid can affect female genitalia. It may occur either as a part of general lesion or in isolation [122]. Usually at the time of presentation ,we can see only erosions or crusts in pemphigus vulgaris.But in ullous pemphigoid ,patients present with intact tense blisters over normal or erythematous skin.All mucosal sites should be examined and looked for blisters or erosions .Systemic steroids,cyclophophamide,azathioprine are the drugs useful in the treatment of bullous disorders. Dapsone and

nicotinamide are particularly useful in the treatment of bullous pemphigoid.

9.Reiter's disease :

Circinate vulvitis is much rarer than circinate balanitis [123]. The lesions are ulcerative and scaly plaques.Histopathological findings are hyperkeratosis, parakeratosis,absence of granular layer and collections of polymorphs in epidermis with normal dermis.

10.Zoon's vulvitis :

It is a reaction pattern of an inflammatory condition.The lesions were first described by garnier and zoon[124].The lesions are erythematous patches with a glazed appearance .plasma cell dermal infiltrate and absence of cytological atypia are the characteristic histopathological findings .Treatment is topical application of potent steroid.If inflammation has subsided , topical 5% lidocaine can be applied over the lesion to reduce the burning sensation .

11. Chronic vulval purpura :

In it, purpuric patches are seen over vestibule due to deposition of hemosiderin .It is usually associated with lichen aureus [125]

12.Crohn's disease :

Anogenital lesions is either a direct extension from active intestinal disease or a metastatic spread.It occurs in approximately 30% of patients with intestinal crohn's disease. The usual presentation is

ulceration,abscess,sinus and fistula formation. sometimes they present with vulval edema .

13.Erythema multiforme:

Genital lesions are always associated with oral lesions but rarely associated with the lesions over acral area.The lesions are more frequently seen over vulva and vagina. The complications are vaginal stenosis and adenosis .

14.Fixed drug eruption:

FDE is more commonly seen over penis than over the vulva[126]. Common offending drugs are paracetamol, fluconazole and tetracycline.

15.Toxic epidermal necrolysis:

The initial lesions are dusky or erythematous macules with darker purpuric centers which later present as epidermal separation in a sheet .

16.Hidradenitis suppurativa:

It is a chronic ,suppurative and cicatricial follicular disease that primarily affects apocrine glands bearing areas such as anogenital and axilla.It is not a true infectious process .The bacterial infection like streptococcus,staphylococcus are found in only 50% of active lesions. Streptococcus milleri is frequently involved in anogenital infections.

17.Genetic conditions like Epidermolysis bullosa,Hailey-Hailey disease and Darier's disease are responsible for recurrent chronic ulceration.

Exacerbation of the above conditions may occur due to friction,infection and irritants

V.Benign tumours:

Fibromas arise from deeper connective tissue structures like the structures surrounding introitus and perineal body.Lipomas usually develop from the fatty tissue of labium majora and also from clitoris [127]. Lymphangioma circumscriptum is characterized by thin walled vesicles is usually seen over vulval region [128]. Cavernous hemangioma may present as soft compressible mass which mainly involves labia minora and vulva. Melanocytic naevi of genitalia generally having similar clinical and histological features as naevi at other sites of the body but vulval naevi in premenopausal women is an exception because of having atypical histological[129] features.Epidermal cysts of the vulva may be single or multiple and develop from epithelial implants . Most common site of involvement is labia majora. Steatocystoma is a solitary cyst predominantly involves vulva.Calcified nodules have been described at the site of involvement[130]. Syringomas are adenomas which develop from acrosyringium of eccrine sweat duct.Vulval syringomas are multiple, bilateral and symmetrical lesions. They are Usually asymptomatic and do not require any treatment. Papillary hidradenoma are sweat gland adenomas with apocrine differentiation .They involve almost exclusively the anogenital region of middle aged women.It is a

firm asymptomatic, single papule or nodule that most commonly seen over labia majora,interlabial sulcus and lateral surface of labia minora.Sometimes multiple lesions may develop along the sides of vulva.Usually the covering epithelium remains intact but in some areas it become ulcerated.Malignant change like apocrine carcinoma and adenosquamous carcinoma have been reported [131].Fox-Fordyce disease: presents as multiple itchy skin coloured papules over the mons pubis,labia majora and axilla .These lesions are due to blockage of apocrine duct with retention of sweat.They appear around the time of puberty and it may disappear in pregnancy .Mucinous cysts :They are found in the vestibule mainly due to obstruction of mucus secreting glands.Common site of involvement is vulva. Bartholin's duct tumour: They are better considered as examples of hyperplasia or hamartoma of Bartholin's duct and are very rarely reported in literature.[132] Neurofibroma and neurofibromatosis: In one case series ,18% had vulval lesions as a part of generalized neurofibromatosis or in isolation[133]. Localized neurofibromatosis of the female genital tract has also been described.Glomus tumour: It may involve labia minora which leads to dyspareunia [134]. Leiomyoma: patients usually present with well defined ,painless,non tender nodule or swelling in the labia .It is not associated with uterine leiomyomas.They may enlarge during pregnancy.A clitoral leiomyoma may mimic intersex and leads to confusion.

Other benign tumours:

Granular cell myeloblastoma is a flesh coloured ,pedunculated or ulcerated lesions . Verruciform xanthomas have been described over oral mucosa and genital skin.occurance of these lesions over vulva are rare [135]. Urethral caruncle is a fleshy lesion around the urethral meatus which is a chronically inflamed urethral mucosa.It usually occurs in post menopausal women.

VI.Precancerous dermatoses

1.Vulval intraepithelial neoplasia(VIN)

VIN is a loss of orientation and architecture of the epithelium with cellular atypia. This term replaces the previous terms Bowen's disease,bowenoid papulosis,erythroplasia of Queyrat and squamous carcinoma in situ[136].

2.Undifferentiated vulval intraepithelial neoplasia:

There may be two thirds to full thickness loss of cellular stratification in epidermis with large hyperchromatic, dyskeratotic, multinucleated cells seen. Two different types of histological patterns are bowenoid and basaloid .Bowanoid type is characterized by keratinization of individual cell with abnormal cellular differentiation . Basaloid type is characterized by atypical parabasal cells extending through out the full thickness of the epithelium.Multifocal anogenital disease is strongly associated with oncogenic viruses like HPV16,18

This condition is mainly due to failure of host immune response to HPV,but majority of them donot have an identifiable immunodeficiency. Morphology of the lesion is solitary or multiple shiny and smooth ,skin coloured plaque involving cervix, vagina and perianal region. In multifocal disease there is a risk of progression of invasive disease in around 10% cases[137].

3.Differentiated VIN:

Because of the subtle histological changes,these lesions are often being underdiagnosed .This type of VIN is commonly associated with the background of lichen sclerosus . They are described as microinvasive carcinoma or in situ carcinoma.

4.Pagetoid VIN:

This is a rare histological variant of VIN which is similar to extra mammary paget's disease.It is otherwise known as pagetoid bowen's disease.There was a report of vulval involvement [138]

VII.Malignancy:

1.Squamous cell carcinoma:

This is the most common vulval malignancy. According to the etiology, it is divided in to two types. The first and largest group is associated with lichen sclerosus or lichen planus.The second type is associated with oncogenic type HPV infection and intra epithelial neoplasia.Staging is done by using the size of tumour and depth of

invasion.stage 1 is less than 2 cm in diameter and further it is subdivided in to 1a and 1b.There is some difficulty in taking measurement. To overcome these difficulties, measurement should be taken from the dermo-epidermal junction of the nearest papilla to the deepest point of invasion and this is the most recent recommendation in staging of this carcinoma . Lymph node dissection should be done for all lesions greater than 1mm in size.

Histological types of SCC are keratinizing, basaloid and warty carcinomas.

2.Verrucous carcinoma

It is otherwise known as gaint condyloma of Buschke-Lowenstein and may arise on a background of lichen sclerosus [139].Clinically these lesions are warty plaque or cauliflower like tumour which get ulcerated and increase in size.Rarely there may be lymph node involvement and distant metastases.

3.Basal cell carcinoma :

vulval BCC commonly involves labia majora [140] which presents as erosive plaque Histologically they are identical to BCC on other sites. Mohs micrographic surgery is the treatment of choice

4.Melanoma:

Vulval melanoma is rare and it accounts for about 5% of vulval malignancy.They have clinical and histological features similar to

melanoma of other sites.Lesions are commonly seen over inner aspect of vulva on the labia minora and periclitoral area[141]

5.Extra mammary paget's disease:

It is rare disease which differ from paget's disease of nipple by the common site of involvement is vulva.Primary EMPD mainly arises from epithelia of local skin appendages.Secondary EMPD is either by direct extension or metastasis from anorectal carcinoma or urothelial carcinoma. Clinically the lesions are moist,red plaques which look like infected eczema

6. Langerhan cell histiocytosis:

Anogenital skin may be involved in disseminated langerhan's cell histiocytosis.It commonly presents with perianal ulceration [142] .but it may present with plaques,nodules or pustules.

7. Lymphoma:

When compared with Hodgkin's lymphoma ,NHL commonly involves the vulva [143].

8. Miscellaneous tumours:

Dermatofibrosarcoma protuberans ,liposarcoma,Bartholin's gland carcinoma are the other rare tumours reported over female genitalia.

VIII. **Miscellaneous conditions:**

i) Hypopigmentation : This can be due to vitiligo ,post inflammatory hypo pigmentation or naevoid lesion.common site of involvement of vitiligo in female genitalia is vulva.

ii) Hyperpigmentation: In some conditions like capillaritis ,lichen sclerosus and Zoon's vulvitis, there may be an extravasation of RBC which gives reddish brown discolouration .This discolouration is mainly due to hemosiderin deposition.The other causes of hyperpigmentation are post inflammatory hyperpigmentation,trichomycosis and chromhidrosis

iii) Vulval melanosis:

Malignant melanoma should be ruled out if vulval hyperpigmentation is noticed.Generalised hyperpigmentation along with oral pigmentation is called Laugier-Hunziker syndrome[144]. Histological picture of vulval melanosis are basal hypermelanosis ,increased number of melanocytes and melanin incontinence

iv) Lentigens: Vulval lentigens have been reported to occur sporadically or in association with other diseases.There may be an increase in basal melanocytes and melanophages seen in histological section.

v) Dowling-Degos disease:It is a rare inherited disorder which may involve vulva[145]

vi) Vulval edema,lymphoedema and lymphangiectasia:

The causes of vulval edema are hereditary angioedema, dermographism and Crohn's disease. Lymphoedema is mainly due to impairment of lymphatic drainage which is a complication of surgery and lymphadenectomy.Abnormality of lymphatics is the prime defect in lymphangiectasia and is usually associated with crohn's disease.This may cause recurrent cellulitis. carbon dioxide laser may be useful in some patients.

viii) Endometriosis:

Patients present with firm papules or nodules over vulva which may bleed during menstruation. It is due to direct implantation of endometrial tissue over surgical or episiotomy scar.Occurrence of Clear cell adenocarcinoma over vulval endometriosis lesion has been reported [146].

ix)Necrolytic migratory erythema:

Rarely it occurs on the anogenital skin and it is characterized by extensive erythema and crusting with serpiginous and centrifugal spread.It is associated with glucagonoma ,zinc deficiency and liver disease .[147]

MATERIALS AND METHODS

Study Design :

It was a descriptive study of adult new cases with genital lesions attending SKIN and STD out patient clinic of Coimbatore Medical College Hospital for a period of one year from August 2013 to July 2014. Ethical committee clearance was obtained.

Inclusion Criteria :

1.Adult male and female patients (above 12 years of age) with genital lesions.

Exclusion Criteria :

1. Patients below 12 years of age and trans genders
2. Patients presented with classical Sexually transmitted infection.
3. HIV and VDRL reactive patients.

Method Of Collection Of Data:

Informed consent was taken from all the patients for the study prior to the examination.Detailed history including age, occupation, duration of disease and site of involvement and history of sexual exposure (premarital or extra marital) was taken. Thorough general& dermatological examination of the whole body was done.

Investigations like KOH mount, Gram's stain ,Tzanck smear, histopathological & Direct immunefluorescence, immunohistochemistry, relavent blood investigations was done where ever it was required to

establish the diagnosis .VDRL and ELISA test for HIV were done in all patients to exclude sexually transmitted diseases.

After making the diagnosis of Non venereal genital dermatoses, based on the etiology we classified the conditions in to five major divisions namely (1) benign conditions and normal variants, (2) infections and infestations, (3) inflammatory conditions ,(4)malignancy and (5) miscellaneous conditions.

Depending on the site of involvement we categorized these conditions in to I. genitalia only,II. genitalia and skin, III.genitalia and oral mucosa and IV.genitalia,skin and oral mucosa involvement.

According to the sites of involvement in genitalia, we divided the above conditions in to four groups namely single and multiple sites of involvement in male and female patients respectively.

In addition ,we also correlated non venereal genital dermatoses with other dermatological and systemic disorders .

A proforma was prepared and the relevant details of the patients were recorded. Examination and investigations were done and the diagnosis was made. All these data were tabulated , analysed and discussed.

OBSERVATIONS AND RESULTS

1. Distribution Of The Disease And Its Prevalance

Total number of patients who attended the SKIN and STD outpatient clinic between August 2013 and July 2014 was 69445. Among them 56610 patients were above 12 years of age which included 30061 males and 26549 females.

Patients with non venereal genital dermatoses enrolled in this study was one hundred and fifty (150) in number. Among them males and females were 114 and 36 respectively.

Prevalence of non venereal genital dermatoses in the study was 2.6 per 1000 cases.

Prevalence of male patients with non venereal genital dermatoses in the study was 3.7 per1000 cases.

Prevalence of female patients with non venereal genital dermatoses in the study was 1.3 per 1000 cases.

Male to Female ratio of patients with non venereal genital dermatoses in study was 3.16 : 1

2. Age and sex distribution :

Age of the patients with non venereal genital dermatoses in this study was between 12 and 72 years. And their mean age was 40.74 years .

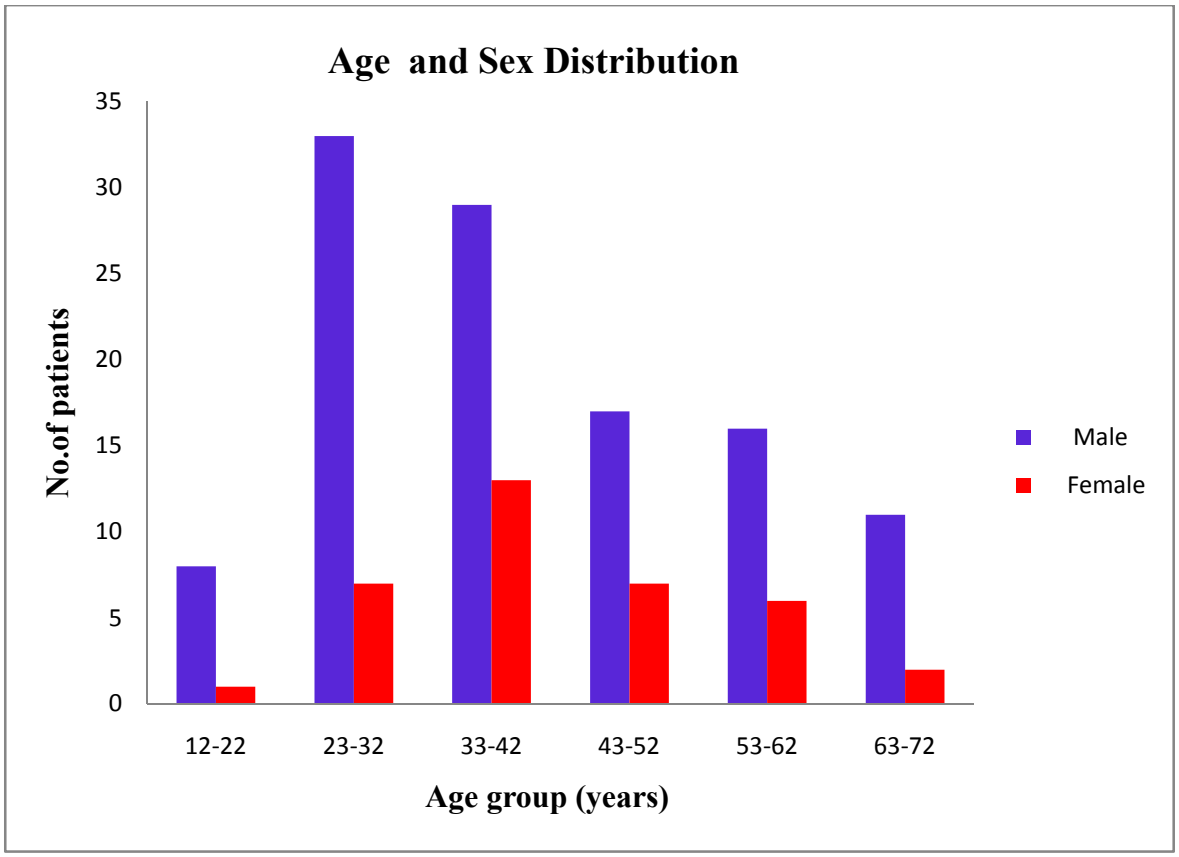
Age of the Male patients varied between 16 and 72 years. Mean age of the male patients was 40.37 years. Age of the Female patients varied between 20 and 72 years . Mean age of the female patients was 41.75 years.

Table 1: Age and Sex distribution of cases

NO.	Age Group (Years)	Male	Female	Total
1.	12-22	8	1	9 (6%)
2.	23-32	33	7	40 (26.6%)
3.	33-42	29	13	42 (28%)
4.	43-52	17	7	24 (16%)
5.	53-62	16	6	22 (14.6%)
6.	63-72	11	2	13(8.6%)
TOTAL		**114**	**36**	**150 (100%)**

Majority of patients (42 cases) were found in the age group of 33 to 42 years. Highest number of males (33 cases) and females(13 cases) were in the age group of 23 to 32 years and 33 to 42 years respectively.

Chart 1: Age and Sex distribution of cases



4. Occupational status:

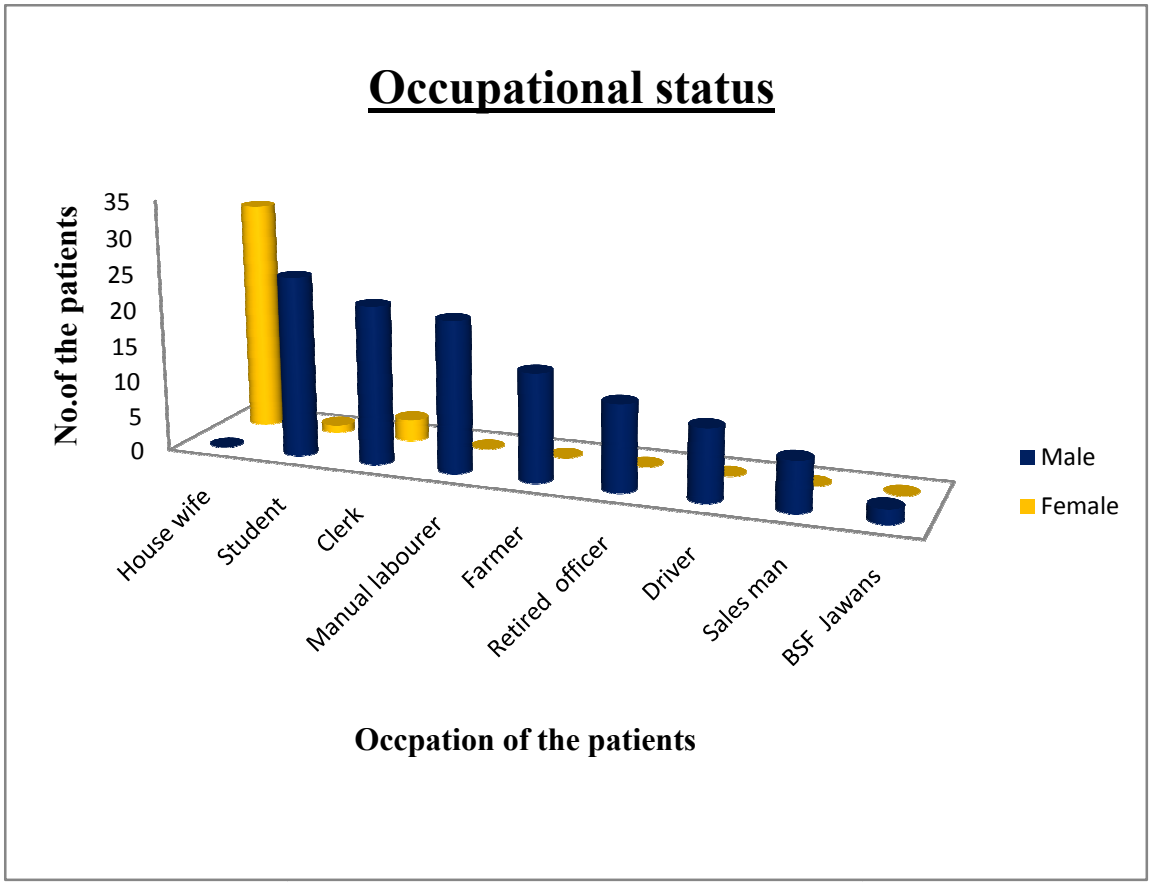
Regarding the occupational status of the female patients, majority were housewives (32 patients) followed by clerk and student .

Table 2 : Occupational status of the patients:

S.No.	Occupational status	Male	Female	Number of patients
1.	House wife	-	32	32 (21.3%)
2.	Student	25	1	26 (17.3%)
3.	Clerk	22	3	25(16.6%)
4.	Manual labourer	21	-	21(14%)
5.	Farmer	15	-	15 (10%)
6.	Retired officer	12	-	12 (8%)
7.	Driver	10	-	10(6.6%)
8.	Sales man	7	-	7 (4.6%)
9.	BSF Jawan	2	-	2 (1.3%)
Total		**114**	**36**	**150(100%)**

Among male patients , students were more (25 cases) in number followed by clerk(22patients), manual labourer(21patients), farmer(15 patients), Retired officer(12patients), driver(10patients), salesman (7patients) and BSF Jawan(2 patients)

Chart 2: Occupational status of the patients:



4. Genital dermatoses observed in the study:

Scabies was found in 19 (12.6%) patients and it was the commonest non venereal genital dermatosis among 150 cases. This was followed by Vitiligo (17 cases) and candidosis(12 cases)

Table 3: List of Genital dermatoses observed :

No	Genital dermatoses	Male	Female	Total
1.	Scabies	12 (10.52%)	7 (19.4%)	19 (12.6%)
2.	Vitiligo	11 (9.64%)	6 (16.6%)	17 (11.3%)
3.	Candidosis	8 (7%)	4 (11.11%)	12 (8%)
4.	Pearly penile papule	10 (8.7%)	-	10 (6.6%)
5.	Contact dermatitis	4 (3.5%)	4 (11.11%)	8 (5.3%)
6.	Sebaceous cyst	6 (5.2%)	-	6 (4%)
7.	Lichen planus	4 (3.5%)	2 (5.5%)	6 (4%)
8.	Fixed drug eruption	5 (4.3%)	-	5 (3.3%)
9.	Phimosis	5 (4.3%)	-	5 (3.3%)
10.	Angiokeratoma of Fordyce	5 (4.3%)	-	5 (3.3%)
11.	Lichen sclerosus et atrophicans	3 (2.6 %)	2 (5.5%)	5 (3.3%)
12.	Lichen simplex chronicus	5 (4.3%)	-	5 (3.3%)
13.	Psoriasis	4 (3.5%)	-	4 (2.6%)
14.	Scrotal calcinosis	4 (3.5%)	-	4 (2.6%)
15.	Fordyce spots	4 (3.5%)	-	4 (2.6%)
16.	Furunculosis	2 (1.75%)	2 (5.5%)	4 (2.6%)
17.	Tinea cruris	2 (1.75%)	1 (2.7%)	3 (2 %)
18.	Seborrhoeic dermatitis	2 (1.75%)	1 (2.7%)	3 (2 %)
19.	Hailey Hailey disease	1 (0.87%)	2 (5.5%)	3 (2 %)

20.	Para phimosis	2 (1.75%)	-	2 (1.3%)
21.	Penile melanosis	2 (1.3%)	-	2 (1.3%)
22.	Pemphigus vulgaris	2 (1.75%)	-	2 (1.3%)
23.	Zoon's balanitis	2 (1.75%)	-	2 (1.3%)
24.	Stevens Johnson syndrome	1 (0.87%)	1 (2.7%)	2 (1.3%)
25.	Erythroderma	1 (0.87%)	1 (2.7%)	2 (1.3%)
26.	Vulval skin tag	-	1 (2.7%)	1 (0.66%)
27.	Bartholin's cyst	-	1 (2.7%)	1 (0.66%)
28.	Fournier's gangrene	1 (0.87%)	-	1 (0.66%)
29.	Tick bite	1 (0.87%)	-	1 (0.66%)
30.	Molluscum contagiosum	1 (0.87%)	-	1 (0.66%)
31.	Erythema multiforme	1 (0.87%)	-	1 (0.66%)
32.	Bullous pemphigoid	-	1 (2.7%)	1 (0.66%)
33.	Lichen nitidus	1 (0.87%)	-	1 (0.66%)
34.	Verrucous carcinoma of penis	1 (0.87%)	-	1 (0.66%)
35.	Lymphangiectasia	1 (0.87%)	-	1 (0.66%)
	Grand total	114(76%)	36(24%)	150(100%)

5. Genital dermatoses observed exclusively in men:

Pearly penile papule was found in 10 patients. It was the commonest condition among men.

Table 4: List Of Genital Dermatoses Found Exclusively In Men

S.NO.	Genital dermatoses	Number of patients
1.	Pearly penile papule	10
2.	Sebaceous cyst	6
3.	Phimosis	5
4.	Fixed drug eruption	5
5.	Angiokeratoma of fordyce	5
6.	Lichen simplex chronicus	5
7.	Psoriasis	4
8.	Scrotal calcinosis	4
9.	Fordyce spots	4
10.	Para phimosis	2
11.	Penile melanosis	2
12.	Pemphigus vulgaris	2
13.	Zoon's balanitis	2
14.	Fournier's gangrene	1
15.	Tick bite	1
16.	Molluscum contagiosum	1
17.	Erythema multiforme	1
18.	Lichen nitidus	1
19.	Verrucous carcinoma of penis	1
20.	Lymphangiectasia	1

6. One case of Vulval skin tag ,Bartholin's cyst and Bullous pemphigoid found exclusively in women .

7. Genital dermatoses observed in both sexes:

Among the above listed conditions, Scabies was the most common dermatosis. It was found in 19 patients. Followed by, vitiligo which was found in 17 patients.

Table 5: List of genital dermatoses found in both sexes

S.NO	Genital dermatoses	Male	Female	Total
1.	Scabies	12	7	19
2.	Vitiligo	11	6	17
3.	Candidosis	8	4	12
4.	Contact dermatitis	4	4	8
5.	Lichen planus	4	2	6
6.	Lichen sclerosis et atrophicans	3	2	5
7.	Furunculosis	2	2	4
8.	Tinea cruris	2	1	3
9.	Seborrhoic dermatitis	2	1	3
10.	Hailey Hailey disease	1	2	3
11.	Stevens Johnson syndrome	1	1	2
12.	Erythroderma	1	1	2

8. Classification of Non venereal genital conditions based on etiology :

The non venereal genital dermatoses of study population were divided into the following five categories based on their etiology

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

1) <u>Benign conditions and normal variants</u> :

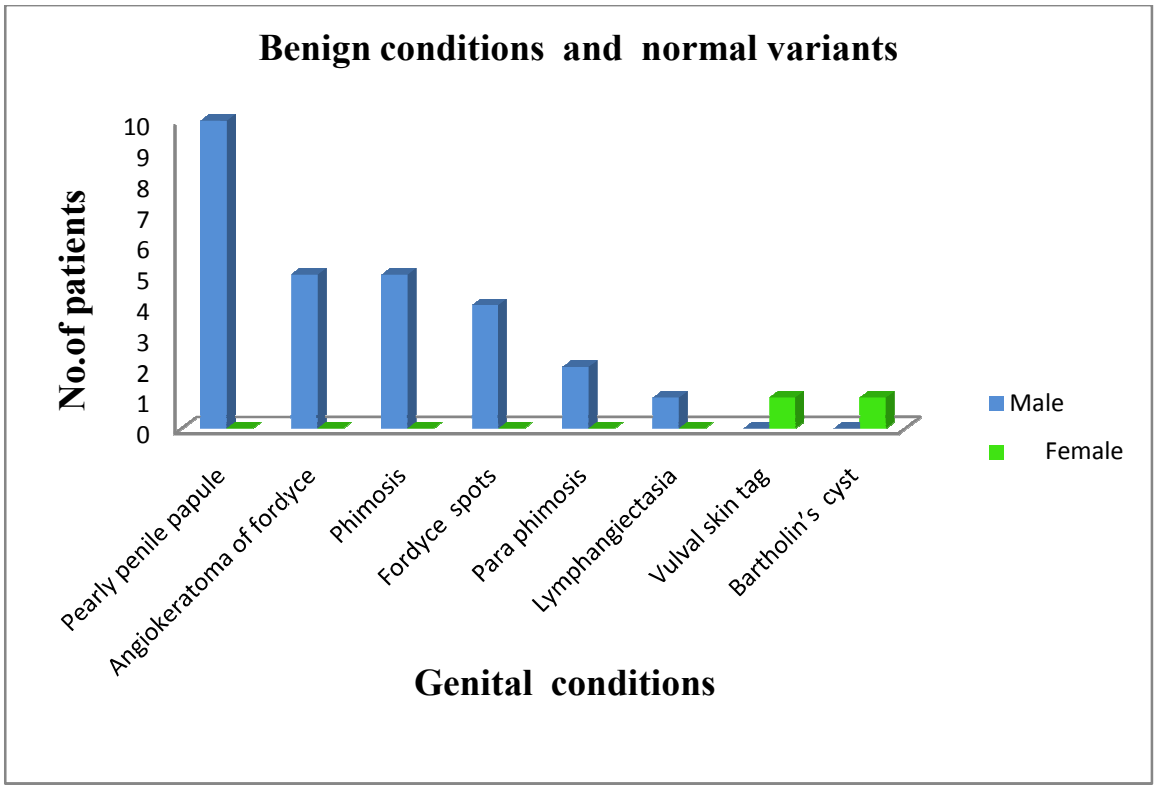
A total of 29 cases were found in the category of benign conditions and normal variants. Pearly penile papule was seen in 10 patients and it was the commonest dermatosis among benign conditions and normal variants in Men.

Table 6: List of Benign conditions and normal variants

S.NO	Genital conditions	Male	Female	Total
1.	Pearly penile papule	10	-	10(34.4%)
2.	Angiokeratoma of Fordyce	5	-	5 (17.2%)
3.	Phimosis	5	-	5 (17.2%)
4.	Fordyce spots	4	-	4 (13.7%)
5.	Para phimosis	2	-	2 (6.9%)
6.	Lymphangiectasia	1	-	1 (3.4%)
7.	Vulval skin tag	-	1	1 (3.4%)
8.	Bartholin's cyst	-	1	1 (3.4%)
			Total	**29(100%)**

Angiokeratoma of Fordyce and phimosis were the second most common conditions of the above listed category and both of them were found in 5 patients.

Chart 3:Benign conditions and normal variants :



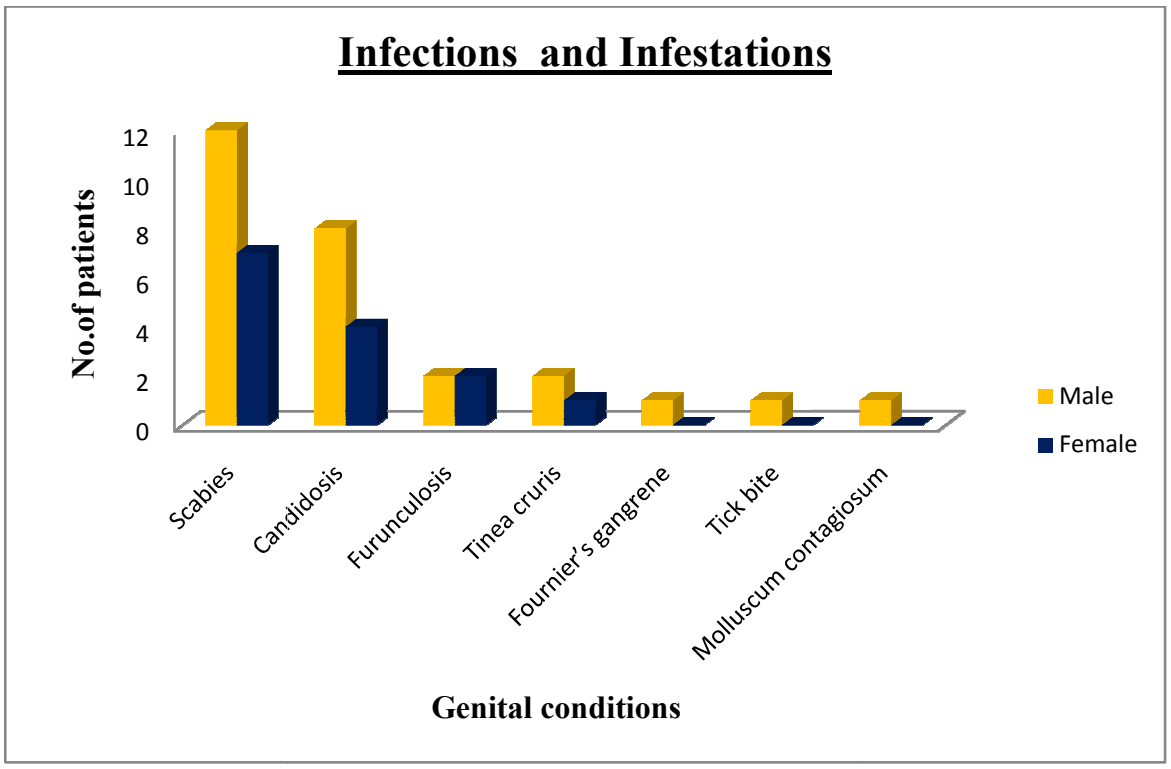
2) <u>Infections and infestations</u> :

A total of 41 cases were found in the category of infections and infestations. Scabies was the commonest dermatosis among the above listed conditions. and it was found in 19 patients. Candidosis was the second most common condition among infections and was seen in 12 patients.

Table 7: List of Infections and infestations

S.NO.	Genital conditions	Male	Female	Total
1.	Scabies	12	7	19(47.5%)
2.	Candidosis	8	4	12 (30%)
3.	Furunculosis	2	2	4 (10%)
4.	Tinea cruris	2	1	3 (7.5%)
5.	Fournier's gangrene	1	0	1(2.5%)
6.	Tick bite	1	0	1(2.5%)
7.	Molluscum contagiosum	1	0	1(2.5%)
			Total	**41(100%)**

Chart 4: Infections and infestations :



3) Inflammatory conditions :

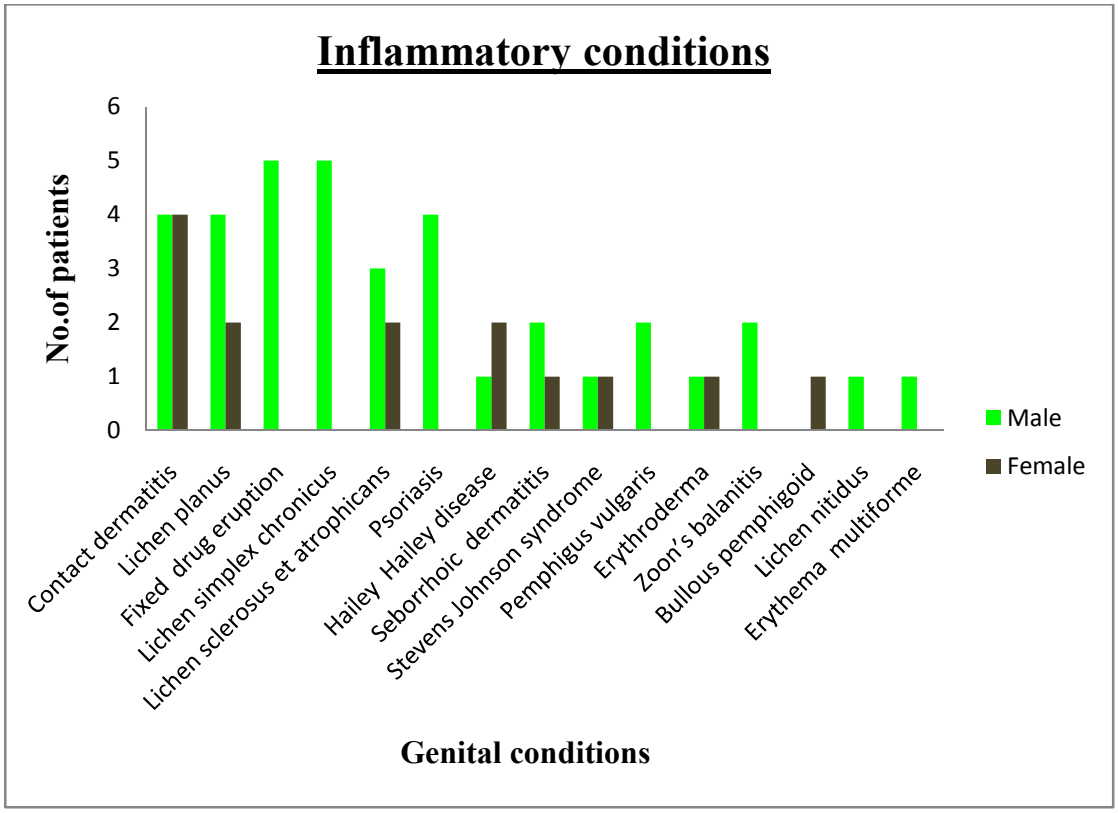
A total of 50 cases were found in the category of inflammatory conditions. Contact dermatitis was found in 8 patients and it was the most common non venereal dermatosis among inflammatory conditions

Table 8:List of Inflammatory conditions

S.NO.	Genital conditions	Male	Female	Total
1.	Contact dermatitis	4	4	8 (16%)
2.	Lichen planus	4	2	6 (12%)
3.	Fixed drug eruption	5	-	5(10%)
4.	Lichen simplex chronicus	5	-	5(10%)
5.	Lichen sclerosus et atrophicans	3	2	5(10%)
6.	Psoriasis	4	-	4(8%)
7.	Hailey Hailey disease	1	2	3 (6%)
8.	Seborrhoic dermatitis	2	1	3 (6%)
9.	Stevens Johnson syndrome	1	1	2(4%)
10.	Pemphigus vulgaris	2	-	2(4%)
11.	Erythroderma	1	1	2(4%)
12.	Zoon's balanitis	2	-	2(4%)
13.	Bullous pemphigoid	-	1	1(2%)
14.	Lichen nitidus	1	-	1(2%)
15.	Erythema multiforme	1	-	1(2%)
			Total	**50(100%)**

Lichen planus and fixed drug eruption were found in 6 and 5 patients respectively.

Chart 5:Inflammatory conditions :



4) Malignancy:

We found a case of verrucous carcinoma in our study.

5) Miscellaneous conditions:

A total of 29 cases were found in the category of miscellaneous conditions. Among them, vitiligo was seen in more number of patients (17 cases).

Table 9:List of Miscellaneous conditions

S.NO.	Genital conditions	Male	Female	Total
1.	Vitiligo	11	6	17(58.6%)
2.	Sebaceous cyst	6	-	6(20.6%)
3.	Scrotal calcinosis	4	-	4(13.7%)
4.	Penile melanosis	2	-	2(6.9%)
			Total	29(100%)

9. Categorization according to the site of involvement :

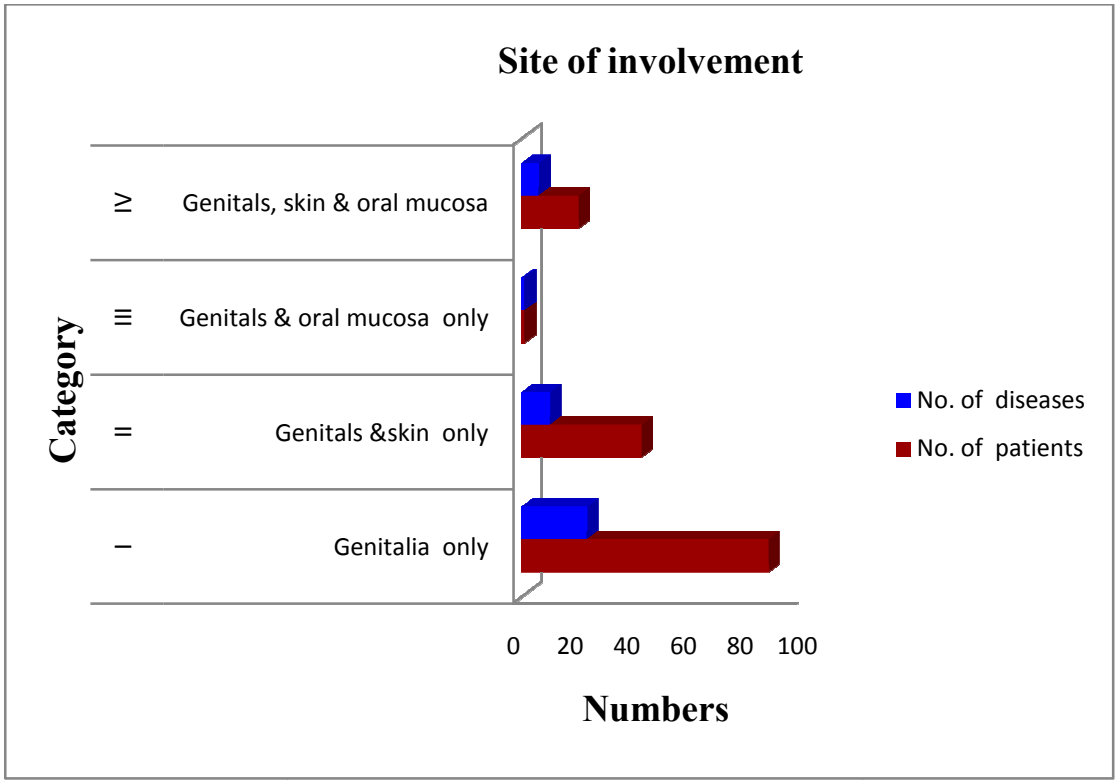
We classified non venereal genital dermatoses into four categories according to the site of involvement.They were involvement of genitalia alone,genitalia and skin,genitalia with involvement of oral mucosa and genitalia,skin with involvement of oral mucosa .

Conditions involving genitalia alone were found to be more in number and it was seen in 87 (58%) patients

Table 10: Classification according to the site of involvement :

Category	Site of involvement	No. of patients	No. of diseases
I	Genitalia only	87 (58%)	23
II	Genitalia &skin only	42 (28%)	10
III	Genitalia & oral mucosa only	1 (0.66%)	1
IV	Genitalia, skin & oral mucosa	20 (13.3%)	6

Chart 6 :Categorization according to the site of involvement



Category I : Dermatoses which involved genitalia only

Out of 35 dermatoses , 23 conditions involved genitalia alone. Among them ,candidosis was found in more number of patients [11 patients]. pearly penile papule was the second most common condition seen in this category .

Table 11:List of dermatoses involved genitalia alone

S.No.	Conditions	Male	Female	Total (Out of 87) patients
1.	Candidosis	8	3	11(12.6%)
2.	Pearly penile papule	10	-	10(11.49%)
3.	Contact dermatitis	4	4	8 (9%)
4.	Sebaceous cyst	6	-	6 (6.9%)
5.	Phimosis	5	-	5 (5.7%)
6.	Angiokeratoma of Fordyce	5	-	5 (5.7%)
7.	Lichen sclerosus et atrophicans	3	2	5 (5.7%)
8.	Lichen simplex chronicus	5	-	5 (5.7%)
9.	Scrotal calcinosis	4	-	4 (4.6%)
10.	Fordyce spots	4	-	4 (4.6%)
11.	Vitiligo	2	2	4 (4.6%)
12.	Furunculosis	2	2	4 (4.6%)
13.	Tinea cruris	2	1	3 (3.4%)
14.	Para phimosis	2	-	2 (2.3%)
15.	Penile melanosis	2	-	2 (2.3%)
16.	Zoon's balanitis	2	-	2 (2.3%)
17.	Vulval skin tag	-	1	1 (1.1%)
18.	Bartholin's cyst	-	1	1 (1.1%)
19.	Fournier's gangrene	1	-	1 (1.1%)
20.	Tick bite	1	-	1 (1.1%)
21.	Molluscum contagiosum	1	-	1 (1.1%)
22.	Verrucous carcinoma of penis	1	-	1 (1.1%)
23.	Lymphangiectasia	1	-	1 (1.1%)
Total				**87(100%)**

Category II : Dermatoses which involved both genitalia and skin

There were ten conditions under category II. Among them, scabies was found to be the most common dermatosis.

Table 12: **List of Dermatoses involved both genitalia and skin**

S.No	Genital conditions	Male	Female	Total (Out of 42)
1.	Scabies	12	7	19 (45.2%)
2.	Vitiligo	3	2	5 (11.9%)
3.	Psoriasis	4	-	4 (9.5%)
4.	Seborrhoeic dermatitis	2	1	3 (7.1%)
5.	Hailey Hailey disease	1	2	3 (7.1%)
6.	Lichen planus	2	-	2 (4.7%)
7.	Fixed drug eruption	2	-	2 (4.7%)
8.	Erythroderma	1	1	2 (4.7%)
9.	Bullous pemphigoid	-	1	1(2.4%)
10.	Lichen nitidus	1	-	1(2.4%)
Total				**42(100%)**

There were ten conditions under category II. Among them, scabies was found to be the most common dermatosis.

Category III.

One case of vulvovaginal candidosis with involvement of oral mucosa was found in our study.

Category IV. Dermatoses which involved genitalia, oral mucosa and skin:

In category IV, vitiligo was found in more number of patients (8cases). Lichen planus was found in 4 patients

Table 13: List of Dermatoses involved genitalia, oral mucosa and skin:

S.No	Genital conditions	Male	Female	Total (Out of 20)
1.	Vitiligo	6	2	8 (40%)
2.	Lichen planus	2	2	4(20%)
3.	Fixed drug eruption	3	-	3 (15%)
4.	Pemphigus vulgaris	2	-	2 (10%)
5.	Stevens Johnson syndrome	1	1	2 (10%)
6.	Erythema multiforme	1	-	1 (5%)
			Total	**20(100%)**

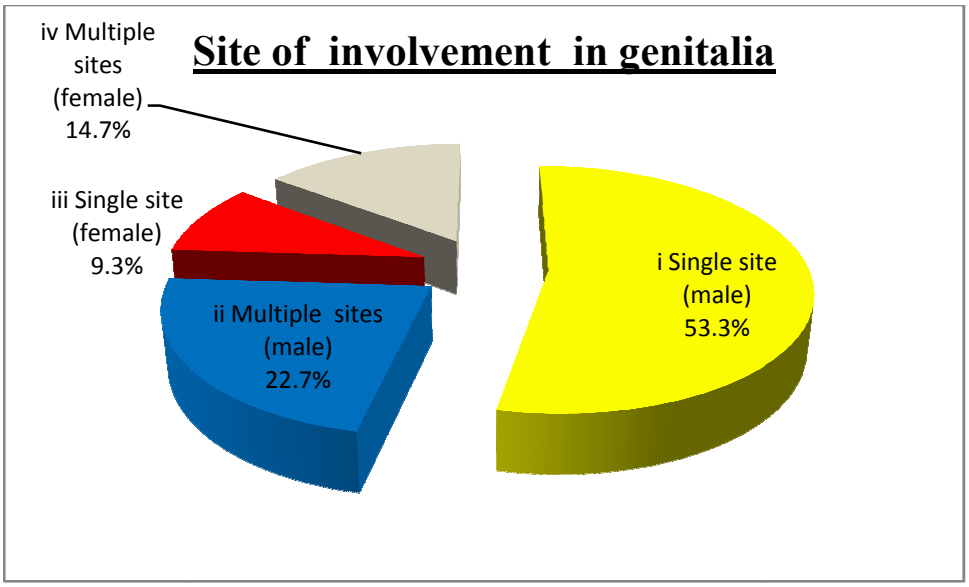
10.Classification according to site of involvement in genitalia:

Scrotum and Labium majora was the most common site of involvement in male and female genitalia respectively

Table 14: Categorization according to the site of involvement in genitalia:

Group	Site of involvement in genitalia	No. of patients
i	Single site (male)	80 (53.3%)
ii	Multiple sites (male)	34 (22.7%)
iii	Single site (female)	14 (9.3%)
iv	Multiple sites (female)	22 (14.7%)

Chart 7: Categorization according to the site of involvement in genitalia:



11.Associated skin disorders:

Four patients with candidosis were associated with the other skin disorders like pityriasis versicolor, intertrigo, skin tag and striae distensae. Patients with scabies had pediculosis capitis and pyoderma

Table 15: List of associated skin disorders:

S.No.	Genital dermatoses	Associated skin disease	Number of patients
1.	Candidosis	Pityriasis versicolor	1
		Intertrigo	1
		Skin tag	1
		Striae distensiae	1
2.	Scabies	Pediculosis capitis	2
		pyoderma	2
3.	Tinea cruris	Tinea corporis	2
4.	Phimosis	Intertrigo	1
5.	Bullous pemphigoid	Striae distensae	1
6.	Contact dermatitis	Photosensitive eczema	1
7.	Lichen planus	Photosensitive eczema	1
8.	Vitiligo	Lichen planus	1

12. Associated systemic disorders:

Diabetes mellitus was found to be associated with patients having candidosis, phimosis and bullous Pemphigoid . Hypothyroidism was found to be associated with Three cases of vitiligo

Table 16: List of Associated systemic disorders

S.No.	Genital dermatoses	Systemic disorders	Number of patients
1.	Candidosis	Diabetes mellitus	8
2.	Phimosis	Diabetes mellitus	3
3.	Vitiligo	Hypothyroidism	3
4.	Lichen planus	Hypertension	1
5.	Stevens Johnson syndrome	Epilepsy	1
6.	Bullous pemphigoid	Diabetes mellitus	1
7.	Lymphangiectases	Anorectal carcinoma	1
8.	Lichen simplex chronicus	BPH	1
9.	Erythroderma	Mycosis fungoides	1

13.Clinical features of the common non venereal genital dermatoses:

i) scabies :

It was the commonest non venereal genital dermatosis seen among the study population. Total number of affected patients were 19 (12.6%) which included 12 males and 7 females. Duration of the disease was varying from 2 to 7 days. All infected patients were in the age group of 16 to38 years. Mean age of these patients was 27.6 years. maximum number of affected patients were students [9 patients].Two female patients had pediculosis capitis in addition to scabies. Two students with scabies had secondary bacterial infection. History of similar disease in family members was found in 14 patients. Five patients had history of similar disease previously. All patients had complaints of itch over genitals and other areas. They presented with papules and excoriations over genitals except two male patients who had nodular lesions over scrotum.

ii) Vitiligo :

It was found in 17 (11.3%) patients including 11 males and 6 females. Duration of the disease was varying from 6 months to 6 years.All patients were found in the age groups of 28 to 64 years. the mean age of these patients was 46.5 years. Majority of them were house wives [6 patients].three female patients had hypothyroidism along with

vitiligo. Family history of vitiligo was recorded in two patients. vitiligo was seen in genitalia alone in 4 patients ,genitalia with skin (other sites) involvement seen in 5 patients, genital ,skin and oral mucosal involvement was seen in 8 patients .one patient had vitiligo over glans penis along with cutaneous and oral mucosa involvement of lichen planus.

iii) Candidosis :

Total number of affected patients were 12(8%) which includes 8 males and 4 females. Affected patients belonged to the age group of 46 to 60 years and the mean age of these patients was 53.5 years .Duration of the disease was varying from 5 to 15 days. Majority of them were working as clerks. 5 patients were known smokers and alchoholics. Four patients had other skin diseases like pityriasis versicolor, intertrigo, skin tag and striae. One female patient with history of intake of broad spectrum antibiotic had oral and vulvovaginal candidosis

iv) Contact dermatitis :

We found 8 cases (5.3%) of contact dermatitis including 4 males and 4 females. Seven patients had history of topical application of soap, savlon and after shave lotion. One patient presented with history of application of hair removal cream.

v) Lichen planus :

We found six cases (4%)of lichen planus including 4 males and 2 females. Out of 6 patients , 4 had lesions over genitalia , skin (other sites of the body) and oral mucosa. Two male patients had lichen planus over genitalia and skin.

vi) Fixed drug eruption :

Five males (4.3%) were found to have fixed drug eruption. among them 3 patients had lesions over genitalia, oral mucosa and skin. 2 patients had lesions over genitalia and skin. Two patients had history of drug (Tab.ciprofloxacin) intake prior to the onset of lesion. One patient had bullous lesions over glanspenis with history of intake of cotrimoxazole. Other offending drugs documented were diclofenac sodium and metronidazole.

vii) Stevens Johnson Syndrome :

Among 150 cases , 2 cases (1.3%) including one male and one female were diagnosed as Steven Johnson's syndrome .The male was a known epileptic with history of phenytoin intake prior to the onset of lesion.female took tablet ciprofloxacin prior to the onset of disease. Both of the patients had lesions over genitalia,skin(other sites) and oral mucosa.

viii) Rare and interesting cases:

One male patient came with history of painful lesion over penis. After careful examination we found a tick over it.

An elderly patient was a known case of anorectal carcinoma presented with fluid filled vesicles over scrotum. Radiotherapy was given one month back. This case was diagnosed as lymphangiectasia.

An elderly women who was diagnosed as psoriasis and treated with topical steroid ,attended our outpatient clinic with erythema, exfoliation (erythroderma) which involved trunk, limbs and genitalia. This case was diagnosed as Mycosis fungoides and also confirmed histopathologically.

One case of verrucous carcinoma of penis and Fournier's gangrene found in the study.

Three cases of Hailey-hailey disease (2%) including 1 male and 2 female patients found in our study.

ix) Other Diseases :

Pearly penile papule in 10 (6.6%), sebaceous cyst in 6(4%) , angiokeratoma of Fordyce in 5 (3.3%), phimosis in 5 (3.3%), lichen simplex chronicus in 5 (3.3%) and lichen sclerosis et atrophicans in 5 (3.3%) patients were found in our study .

We found 4 cases (2.6%) each in the following conditions like psoriasis ,Fordyce spots and scrotal calcinosis.

We found 2 cases (1.3%) each in the following conditions like Zoon'sbalanitis, erythroderma, pemphigusvulgaris, seborrhic dermatitis, tinea cruris, furunculosis, penile melanosis and paraphimosis and one case (0.66%) each in the following conditions like bullous pemphigoid, lichen nitidus, Bartholin's cyst, ,vulval skin tag, molluscum contagiosum and erythema multiforme .

Colour Plates

BENIGN CONDITIONS AND NORMAL VARIANTS

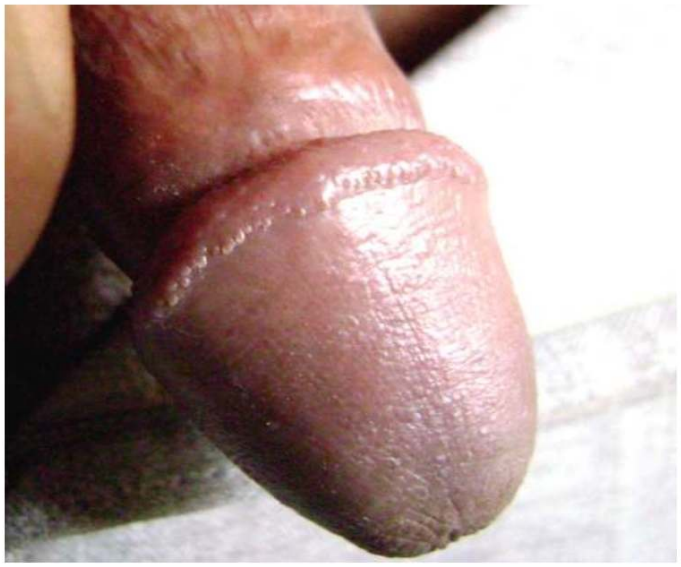


Fig 1: Pearly Penile Papule

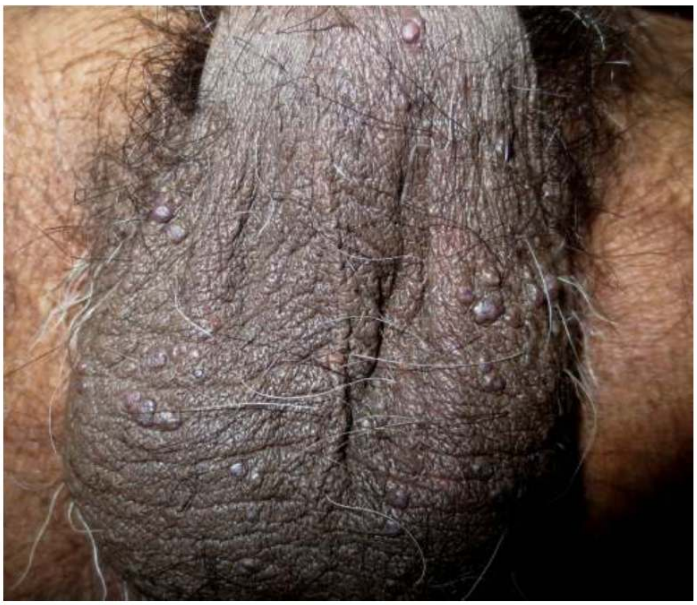


Fig 2:Angiokeratoma of Fordyce

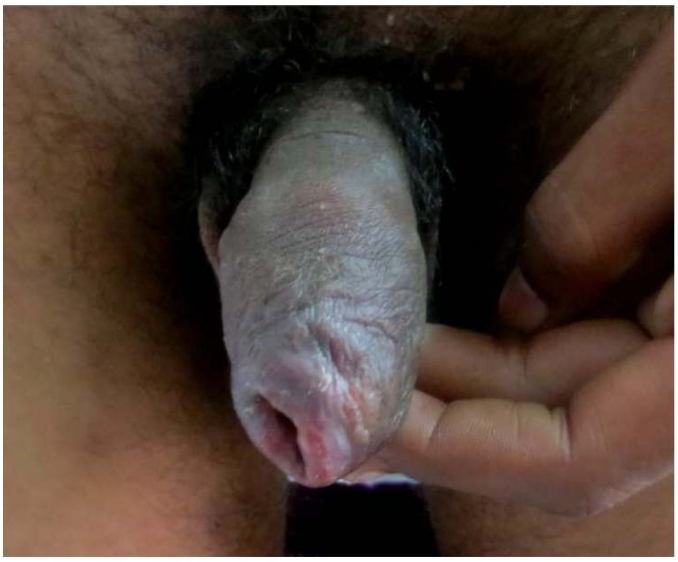


Fig 3: Phimosis

Fig 4:Paraphimosis

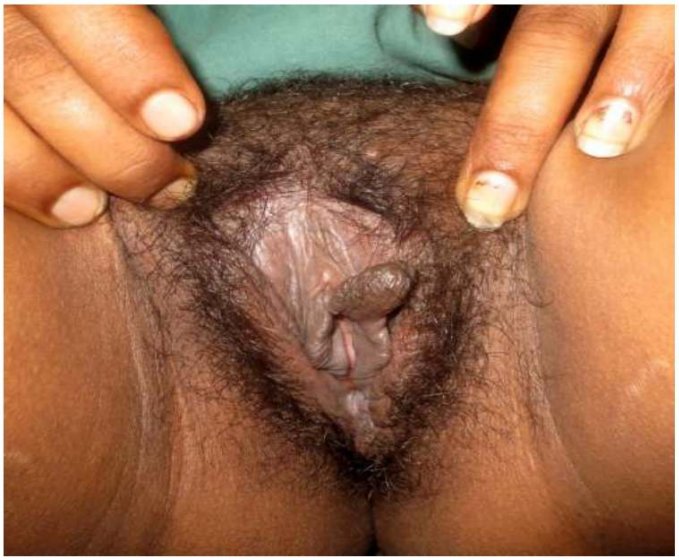


Fig 5: Vulval Skin tag

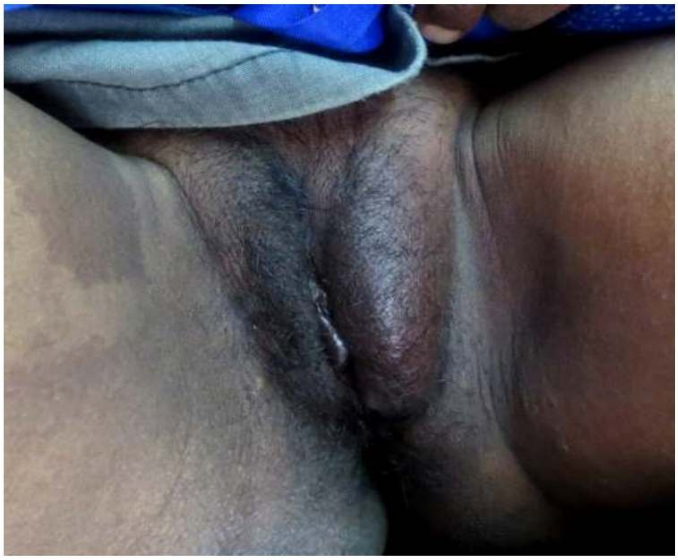


Fig 6:Bartholin's Cyst

INFECTIONS AND INFESTATIONS

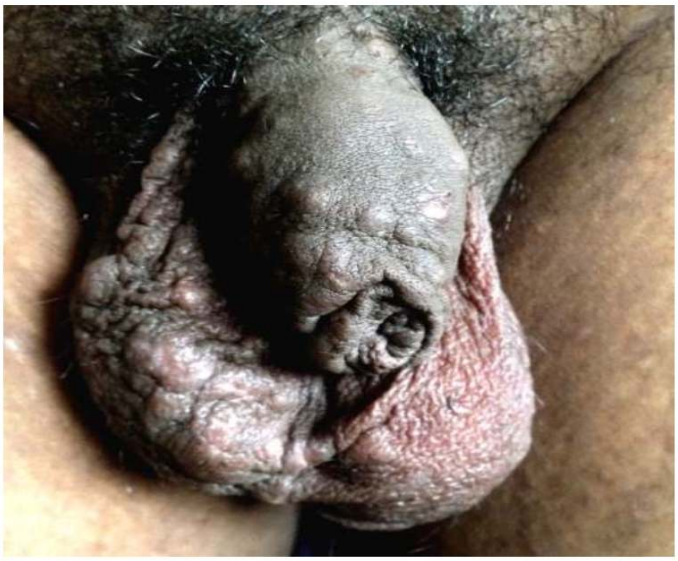


Fig 1: Nodular scabies

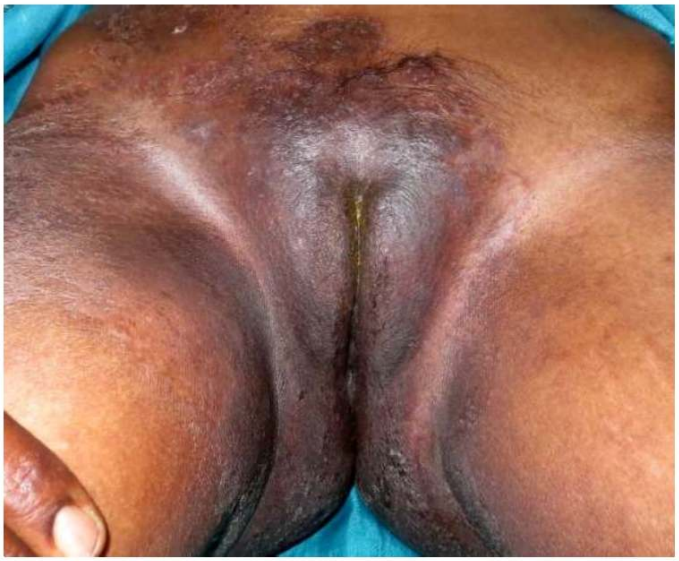


Fig 2:Tinea cruris

Fig 3 : Fournier's gangrene

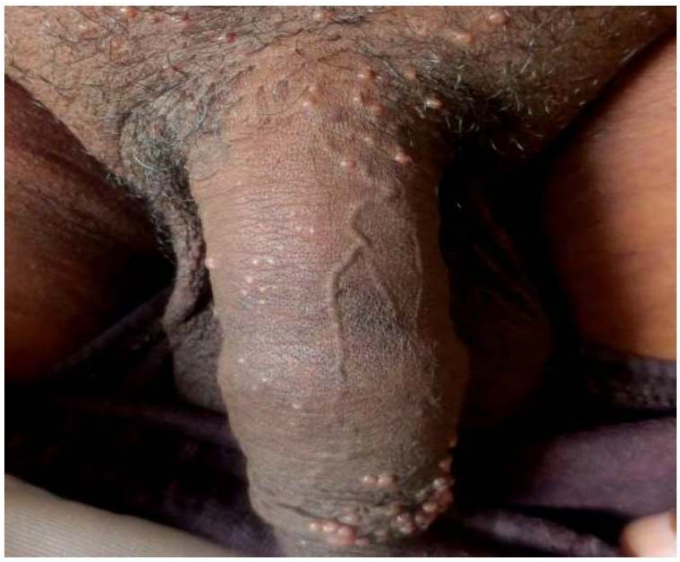


Fig 4 : Molluscum contagiosum

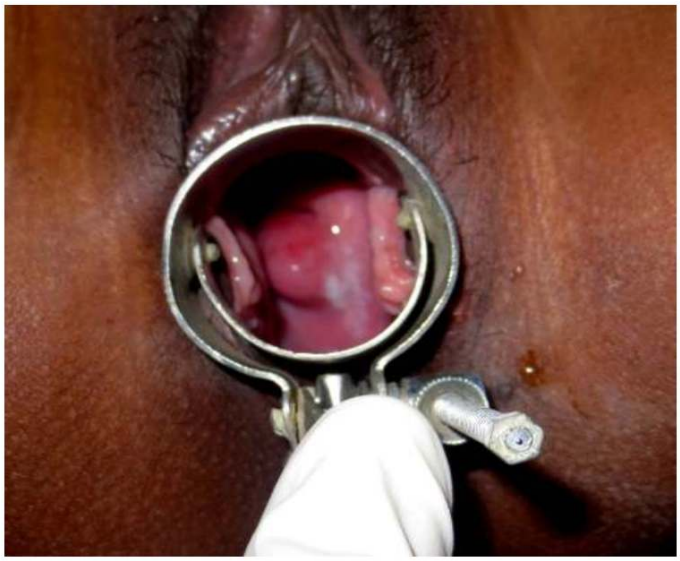


Fig 5a : Candidosis (VVC)

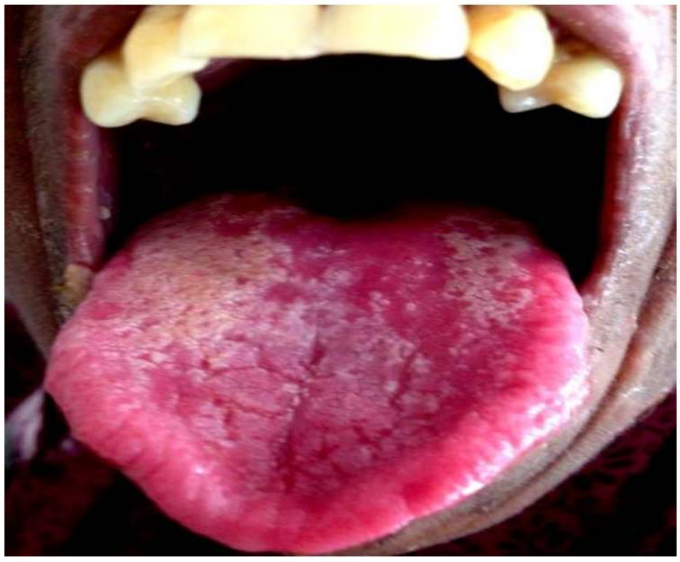


Fig 5b : Candidosis (oral)

INFLAMMATORY CONDITIONS

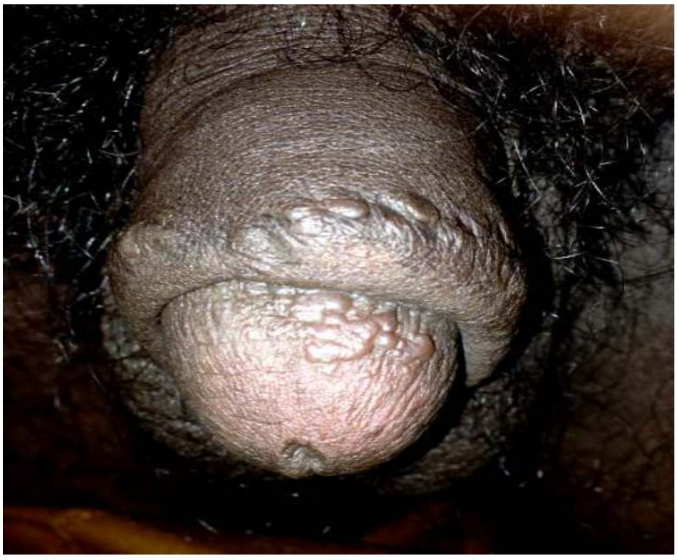


Fig 1: Bullous FDE

Fig 2: Lichen planus

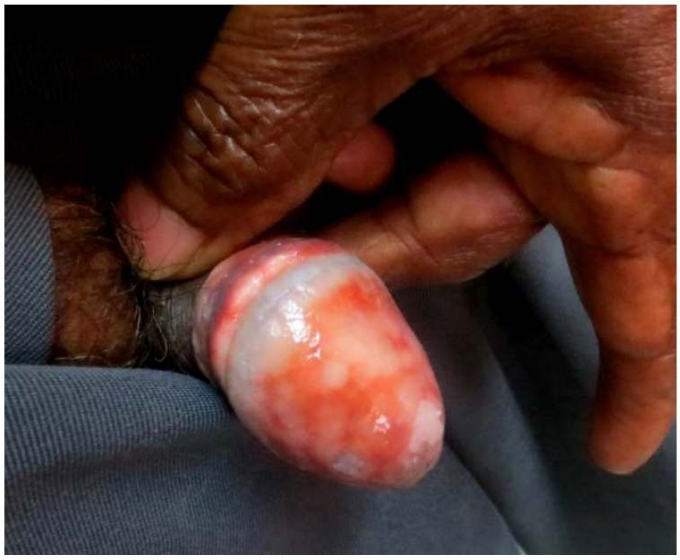


Fig 3a: Zoon's balanitis

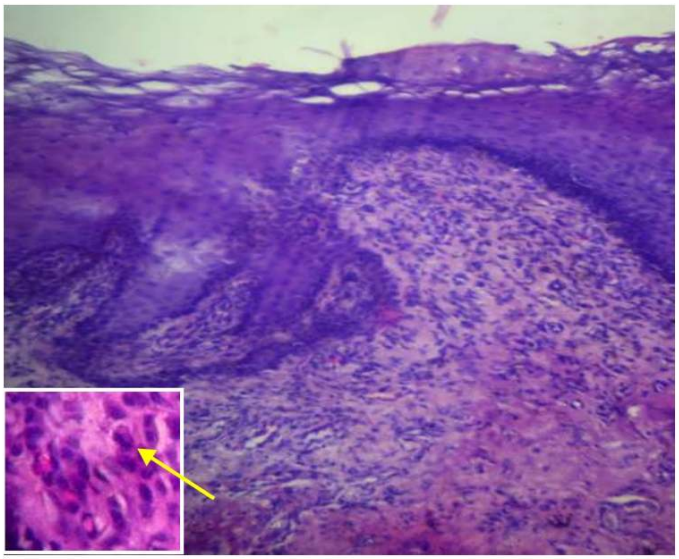


Fig 3b: Zoon's balanitis (HPE)
Dense Plasma Cells infiltration (H & E) x 10
Arrow - Plasma Cell

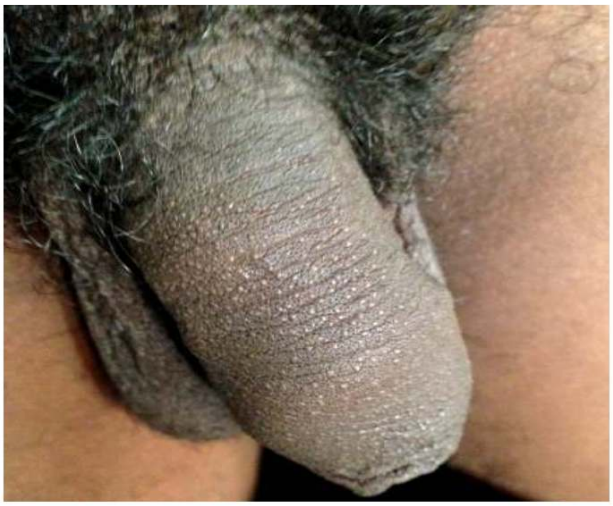


Fig 4 : Lichen nitidus

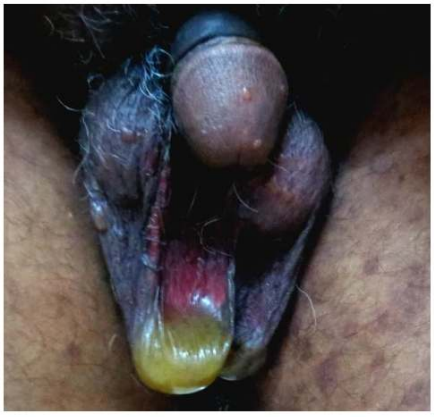


Fig 5 : Pemphigus vulgaris

Fig 6 : Psoriasis

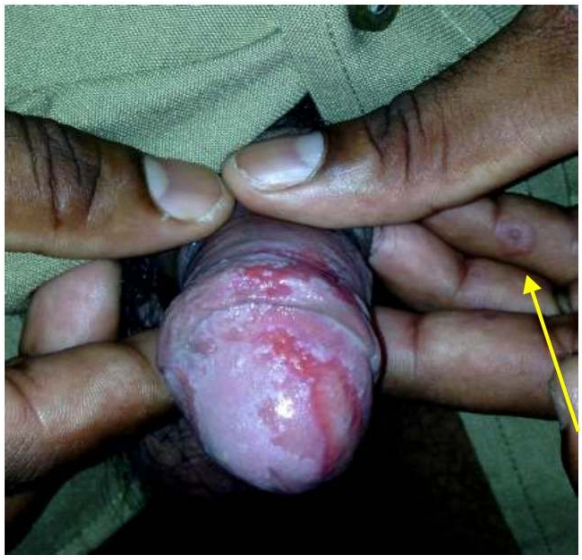


Fig 7a: Erythema multiformae
Arrow - Target Lesion

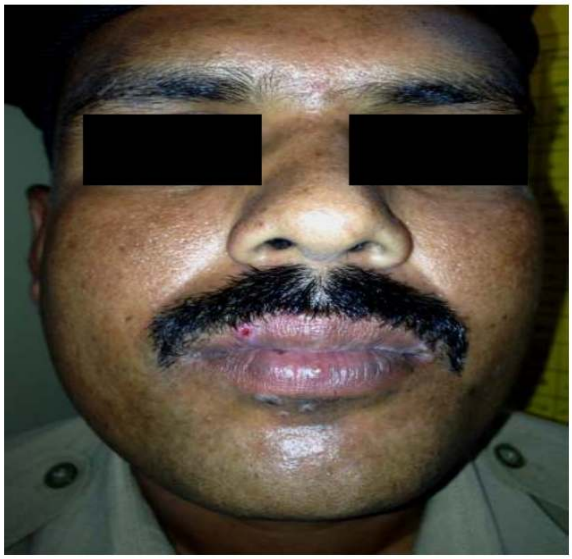


Fig 7b : Erythema multiformae
Lesions seen over lip

Fig 1: Vitiligo

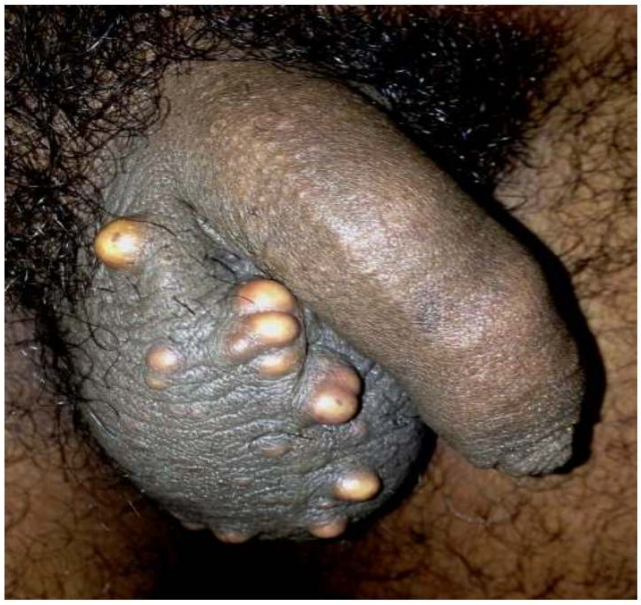


Fig 2: Scrotal calcinosis

INTERESTING CASES:

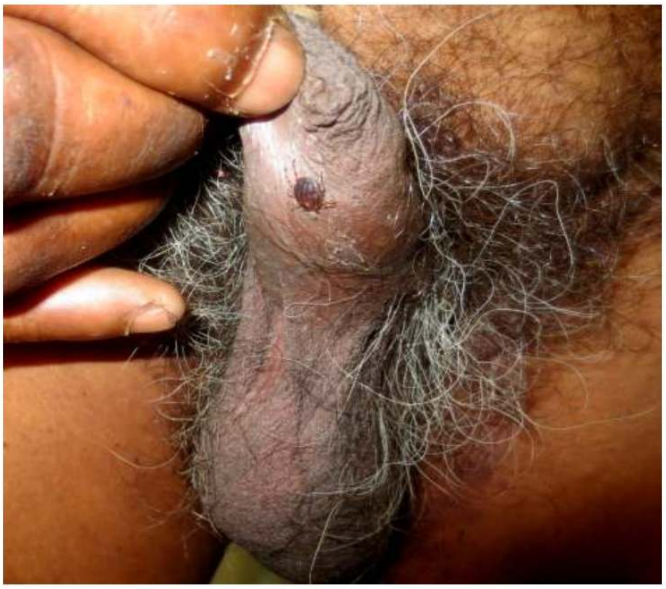


Fig 1: Tick bite

Fig 2: Lymphangiectases

Fig 3a : Verrucous carcinoma

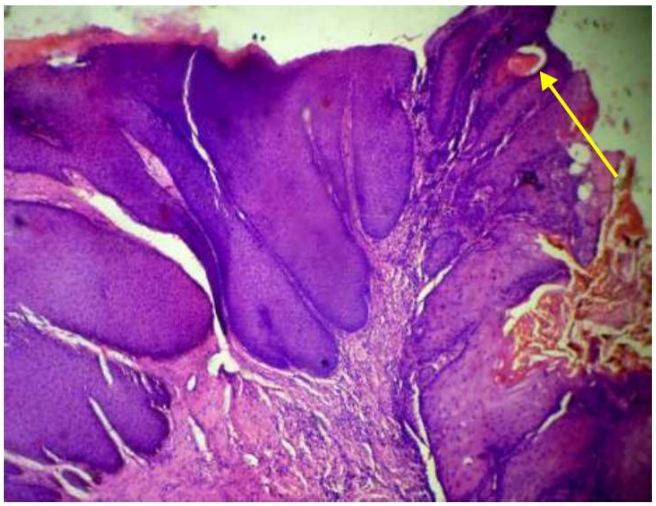


Fig 3b :Verrucous carcinoma (HPE)
Keratin cyst (arrow) and large, bullbous down ward proliferation that push collagen aside (bulldozing) H & E (x 10)

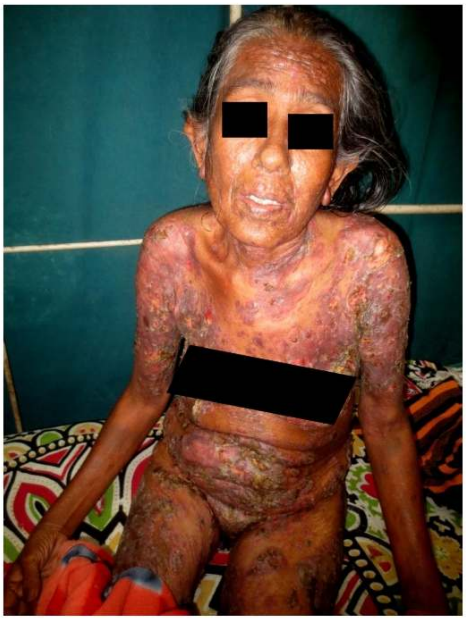


Fig 4a: Erythroderma (Mycosis fungoides)

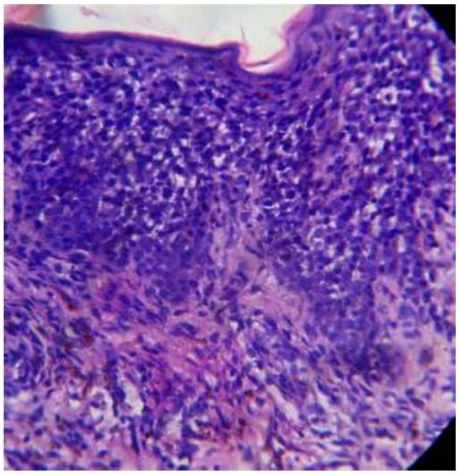


Fig 4b: MF (HPE)
Infiltration of Atypical Lymphocytes, Epidermotropism (H & E) x 10

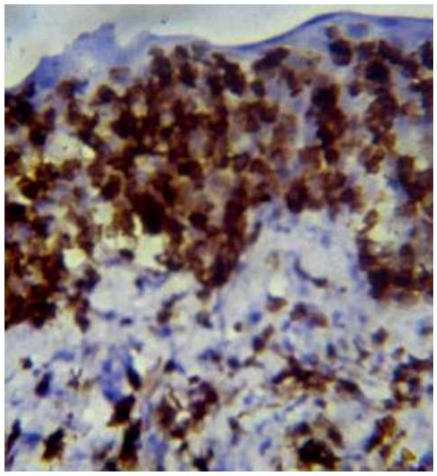


Fig 4c: MF (IHC)
CD_3 Positive Lymphocytes

DISCUSSION

This study was conducted mainly to know the prevalence and clinical pattern of the non venereal genital dermatoses in the patients (above 12 years) who attended the Skin and STD out patient clinic of our hospital during study period. Only few studies were found in the literature. Neerja puri et al conducted a study of non venereal genital dermatoses in 50 cases [148]. Basheer ahammed et al encountered 232 cases of non venereal genital dermatoses [149]. Acharya et al reported 200 cases of non venereal genital dermatoses [150]. Karthikeyan k et al done a similar type of study in 100 male patients [151]. Singh N et al conducted a study of female nonvenereal genital dermatoses in 120 cases[152]. A study of non venereal genital dermatoses was done by Khool LS et al in 467 male patients at Singapore [153].

Prevalence :

Prevalence of the non venereal genital dermatoses in our study was 2.6 per 1000 cases. In a study by, Basheer ahammed et al the prevalence of the non venereal genital lesion was 6.1 per 1000 patients. In a study by Karthikeyan K et al, the prevalence of non venereal genital dermatoses in male patients was 1.4 per 1000. In our study, the prevalence of non venereal genital dermatoses in male patients was 3.7 per 1000 cases.

Age and Sex distribution :

In our study, age of the patients with non venereal genital dermatoses were found between 12 and 72 years. Mean age of the patients with non venereal genital dermatoses was 40.74 years. Majority of them belonged to the age group of 33 to 42 years .

In a study by ,Basheer ahammed et al patients were found between 8 months and 77 years and majority of them belonged to the age group of 21 to 30 years. In a study by, Acharya et al the patients were found between 1 month and 80 years.In a study by, Neerja puri et al majority of patients belonged to the age group of 21 to 40 years and mean age of the patients was 32 years.

In a study by, Karthikeyan K et al patients were found between 9 and 70 years and mean age of the patients was 33.7 years . In their study,most of them belongs to the age group of 21 to 30 years .

In our study, male patients were between 16 and 72 years and their mean age was 40.37. majority of them belonged to the age group of 23 to 32 years .Female patients in our study were between 20 and 72 years and their mean age was 41.75 years .Majority of them were in the age group of 33 to 42 years .

Male to female ratio of the patients in our study and study by Neerja puri et al was 3.16 :1 and 1.5 :1 respectively.Very few female patients with genital lesions were attending the skin and STD out patient clinic of our hospital due to their unawareness about the conditions. This could be the reason for higher male to female ratio of our study.

Occupational status :

Majority of the Female and Male patients in our study were housewives (21.3%) and students(17.3%) respectively. In contrast to our study, Karthikeyan K et al found that majority of patients were labourers . Since the study was conducted in Department of Dermatology in Command Hospital AF Bangalore, Soliders and their families formed the majority of patients in the study by Basheer ahammed et al .

Commonest non venereal conditions:

We found 35 different types of non venereal dermatoses in our study. Basheer ahammed et al encountered 34 different types of non venereal genital diseases.Karthikeyan k et al and singh N et al reported 25 and 19 different cases in their respective studies.

We found 19 (12.6%) cases of scabies and it was the most common non venereal genital dermatosis in our study . Acharya et al

also reported similar finding in their study. In a study by, Basheer ahammed et al , found more number of patients with genital vitiligo .Neerja puri et al reported scrotal dermatitis as the commonest non venereal disease in their study .Khool LS et al and Singh et al found pearly penile papule and lichen sclerosus as the commonest disorder in their respective studies.

Benign conditions and normal variants:

Pearly penile papule:

Ten (6.6%)cases of pearly penile papule were seen in our study and it was the commonest normal variant . Khoo LS et al and Basheer ahammed et al reported similar findings in their respective studies .In a study by Neerja puri et al , 3 cases(10%) of pearly penile papule were encountered.

Angiokeratoma of Fordyce:

In our study, we found 5 cases (3.3%) of angiokeratoma .In a study by Basheer ahammed et al, found 3 cases of angiokeratoma. Karthikeyan k et al and Acharya et al found two cases in their studies. Neerja puri et al and Khool LS et al have not reported any case of Angiokeratoma of Fordyce.

Phimosis:

In our study, we found 5 cases (3.3%) of phimosis and recurrent candidial infection was the main etiology for phimosis. 3 out of 5 cases in our study were diabetic and it could be the cause for candidial infection. In a study by Basheer ahammed et al 4 cases of phimosis have been reported. Karthikeyan k et al reported 5 cases of balanoposthitis in their study and all of them were diabetic.

Fordyce spot:

In our study, we reported 4 cases (2.6%) of Fordyce spot. Basheer ahammed et al found a case of Fordyce spot in their study.

Paraphimosis:

In our study we found 2 cases (1.3%) of para phimosis similar to the study by Basheer ahammed et al.

Vulval skin tag:

In our study ,we found a case of vulval skin tag which differ from the study by Basheer ahammed et al and Singh N et al who reported 4 cases and 3 cases in their studies respectively.

Bartholin's cyst:

In our study we found a case of Bartholin's cyst similar to study by Basheer ahammed et al . In a study by, Neerja puri et al found 2 cases of bartholin's cyst. Though Bartholin's cyst occur at any age , reproductive age group was most commonly affected and in our study the age of the patient was 32 years.

Lymphangiectasia:

In our study , we found a case of Lymphangiectasia over scrotum . He had received radiotherapy a month back . Horinaga M et al have reported a case of scrotal elephantiasis after treatment of penile carcinoma [154] .

Infections and infestations :

Scabies :

In our study, scabies was the most common condition encountered.we found 19 cases (12.6%) of scabies.Acharya et al reported scabies as the most common infestation and it was similar to our study.In a study by Neerja puri et al, found 3 cases (10%)of scabies. Karthikeyan k et al reported 9 cases in their study.Khoo Ls et al reported 7 cases (1.5%) in their study.In a study by Basheer ahammed et al, found 21 cases (9%) of scabies .In our study out of 19 cases , 14 cases had

similar disease in family members probably due to close contact and sharing of clothes .In addition to scabies, 2 females had pediculosis capitis and two students had secondary bacterial infection which may be due to their poor personal hygiene.

Candidosis :

In our study ,we found 8 cases of candidosis in male patients almost similar to the report of karthikeyan k et al and Basheer ahammed et al.In a study by, Khoo LS et al found 7 cases (1.5%) of candidial balanoposthitis .In our study 4 females had vulvovaginal candidosis .Out of 4 female patients, one had oral candidosis in addition to vulvovaginal candidiasis probably due to intake of broad spectrum antibiotics. In a study by Basheer ahammed et al,Singh N et al and Neerja puri et al found 6 cases (13.6%),11 cases (9.2%) and 3 cases (15%) of vulval candidosis respectively.In our study ,majority of the males were clerk by occupation and were known smokers ,alcoholics and had high BMI. The above mentioned factors with their sedentary life style attributed to diabetes in most of the patients which was the root cause for candidosis.

Furunculosis:

In our study, we found 4 cases(2.6%) of furunculosis including 2 males and 2 females. In their study by Basheer ahammed et al and Khoo LS et al found furunculosis in 3 males and 8 males respectively.

Tinea cruris :

In our study , we found 3 cases(2%) of tinea cruris including 2 males and a female. Four cases of tinea cruris were reported by Basheer ahammed et al.In our study ,one male had high BMI and another patient was salesman by occupation .So increased sweating and warm , humid climate could be the cause for Tinea infection in these patients .

Fournier's gangrene:

We found a rare case of Fournier's gangrene in our study. In their study Acharya et al , Basheer ahammed et al and Geraci G et al [155] found a case of Fournier's gangrene which was similar to our study.

Tick bite :

We found a case of tick bite who presented with pain over penis and scrotum and a similar case was reported by Asvestis c et al [156].

Molluscum contagiosum:

We found a case of molluscum contagiosum which was similar to Basheer ahammed et al study.

Inflammatory conditions:

Contact dermatitis:

In our study, we found 8 cases (16%) of contact dermatitis including 4 males and 4 females.Seven patients in our study had history of application of soap, savlon, and after shave lotion . One patient presented with history of application of hair removal cream. In a study by, Basheer ahammed et al, found 11 cases (4.74%) of contact dermatitis with history of application of hair removing cream,moisturizing cream,soframycin cream and tretinoin gel. Singh N reported two cases of contact dermatitis with history of cetrimide and chlorhexidine application. Karthikeyan et al reported 13 cases of scrotal contact dermatitis .In our study ,we found glans penis as the common site of involvement in contact dermatitis.

Lichen planus :

In our study ,we found 6 cases of lichen planus including 4 males and 2 females Basheer ahammed et al reported 13 cases of lichen planus including 8 males and 5 females which showed higher involvement of the disease in males similar to our study. In their study neerja puri et al , reported 2 cases of lichen planus in male patients. Karthikeyan et al found a case of annular lichenplanus with no evidence of lesion elsewhere in the body.In our study,we found involvement of genitalia and other skin sites in 2 cases and also genitalia ,skin and oral mucosa in 4 cases which almost similar to study by Basheer ahammed et al.

Drug reaction:

Fixed drug eruption:

We found 5 cases (4.3%) of fixed drug eruption mainly due to intake of ciprofloxacin in 2 patients, and also by other drugs like diclofenac sodium and metranidazole . Basheer ahammed et al reported 10 cases of fixed drug eruption due to intake of drugs like piroxicam, paracetamol, norfloxacin and cotrimoxazole. we encountered one case of FDE with bullous lesions over glans, prepuce with history of intake of cotrimoxazole similar to study by Basheer ahammed et al . Karthikeyan et al found 3 cases of fixed drug eruption due to

cotrimoxazole. Sehgal et al reported 25 cases of genital fixed drug eruption due to tetracycline and 2 cases of FDE due to cotrimoxazole.In our study , two patients had lesions over genitalia , skin (other sites) and three patients had lesions over genitalia,oral mucosa and skin(other sites) .In a study by, Basheer ahammed et al found 6 cases of genital lesions only followed by two were oro-genital involvement and one each with genital , oro-genital and skin involvement.

Steven Johnsons syndrome:

We encountered 2 patients (1.3%) with SJS including a male and female with history of intake of antiepileptic and ciprofloxacin respectively. Basheer ahammed et al reported a case of toxic epidermonecrolysis which is severe variant of steven Johnson syndrome.

Lichen simplex chronicus :

We found 5 male patients(4.3%) of lichen simplex chronicus . Neerja puri et al and Karthikeyan k et al reported 2 cases in their study. In contrast to our study , Singh et al and Basheer ahammed et al found 16 (13.3%) and15 (6.4%) cases of LSC respectively.

Lichen sclerosus et atrophicans :

We encountered 5 cases (3.3%) including 3 males and 2 females of LSA and majority of them belonged to the age group of 63 to 72 years. In their study Basheer ahammed et al , reported 8 cases(3.44%) of LSA including 4 male and 4 female patients and majority of them were between 40 and 60 years. Neerja puri et al reported 3 female patients in their study. Karthikeyan k et al and meyrick et al [157]found two cases of LSA in their studies respectively.

Psoriasis :

We found 4 cases(3.5%) of psoriasis which differ from study by Basheer ahammed et al who found 2 cases(6.06%). Neerja puri et al and Karthikeyan k et al reported 2 cases and one case of psoriasis in their studies respectively.

Hailey Hailey disease :

We found 3 cases (2%) of Hailey hailey disease including 1 male and 2 female patients. Deeptara pathak thapa et al [158] reported a case report of Hailey hailey disease in a female patient with involvement of vulva and groin region which was similar to our study. Basheer ahammed et al reported 2 male patients of Hailey hailey disease.

Seborrhoic dermatitis:

We found 3 cases (2%) including 2 males and a female in our study. Basheer ahammed et al and Karthikeyan k et al found a case of seborrhoic dermatitis in their studies .

Pemphigus vulgaris :

We encountered 2 cases of pemphigus vulgaris with involvement of penis and scrotum . Basheer ahammed et al reported one female patient with pemphigus vulgaris .Marren p et al [159] found a case of pemphigus vulgaris with vulval involvement.

Erythroderma :

We found 2 cases of erythroderma(1.3%) including a male and and female. An elderly woman presented with erythema and exfoliation over trunk,limbs ,mons and labia majora .This case was diagnosed as Mycosis fungoides . Maryam Akhyani et al [160]found a case of erythroderma with genital involvement in their study.

Zoon's balanitis :

In our study, we reported 2 cases(1.3%) of zoon's balanitis. Basheer ahammed et al reported a case of zoon's balanitis. Yoganathan et al reported 6 cases of zoon's balanitis and 4 cases of zoon's vulvitis[161]. Neerja puri et al and Karthikeyan k et al have not reported any case of Zoon's balanitis.

Bullous pemphigoid :

We encountered a case of bullous pemphigoid with involvement of mons and labia majora . Roberta Richter Zanella et al reported three cases of Bullous pemphigoid[162] .Out of them one case had involvement of genitalia .

Lichen nitidus :

Incidence of lichen nitidus was almost same in the present study and a study by Karthikeyan K et al. Basheer ahammed et al reported 3 cases of lichen nitidus.

Erythema multiforme:

We found a case of erythema multiforme with history of intake of cotrimoxazole. He had target lesions over limbs,face along with erosion over glans penis and lips. Kedar saraf et al reported a case of erythema multiforme with history of intake of cotrimoxazole and they found the lesions over oral ,genital mucosa and other skin sites [163] .

Malignant condition:

Verrucous carcinoma :

We encountered a case of verrucous carcinoma of penis similar to study by Neerja puri et al . Mukai S et al reported two cases of verrucous carcinoma of penis [164].

Miscellaneous conditions :

Vitiligo :

We found 17 cases (11.3%) of vitiligo including 11 males and 6 females in our study. Neerja puri et al reported 4 males and 3 females of vitiligo in their study. In a study by, Singh N et al, encountered 19 cases (15.8%) of vitiligo over female external genitalia. Basheer ahammed et al and karthikeyan k et al reported 23 cases (13.6%) and 16 cases(16%) in their studies.Vitiligo was the commonest condition in the above said studies.They differ from our study in which vitiligo was the second most common condition among the non venereal genital dermatoses.

Sebaceous cyst :

We reported 6 cases (5.2%) of sebaceous cyst. Neerja puri et al reported 2 cases (6.6%) of sebaceous cyst in their study.karthikeyan k et al found 14 cases (14%) of sebaceous cyst and it was the second

common condition in their study. Singh N et al and Basheer ahammed et al found 3 and 2 cases of sebaceous cyst in their studies.

Scrotal calcinosis :

We found 4 cases(3.5%) of scrotal calcinosis similar to the study by Karthikeyan k et al. In a study by, Basheer ahammed et al reported 10 cases of scrotal calcinosis.

Penile melanosis :

In our study , we found 2 cases of penile melanosis in contrast to Study by Khool LS et al and Basheer ahammed et al who found 13cases and one case of penile melanosis respectively.

Site of involvement :

We divided non venereal dermatoses in to four categories by their involvement of other sites along with genitalia. Similar division was also done by Basheer ahammed et al.In our study we found 87 cases(58%) involved genitalia only in contrast with 141 cases(70.5%) reported by Basheer ahammed et al. Involvement of genital &skin only, genitalia&oral mucosa and skin and genitalia &oral mucosa only were the other 3 categories of our study and we found 42 cases (28%), 20(13.3%) and one case (0.66%) in the respective categories. In contrast

to our study, Basheer ahammed et al reported 33(16.5%),14(7%) and12(6%) cases in the above said categories.

Candidosis was the commonest condition in the category I(affect genital only) in contrast to study by Basheer ahammed et al who found pearly penile papule as the commonest condition. In our study scabies was the common condition in category II (genitalia &skin) found in 19 cases(12.6%) similar to study by Basheer ahammed et al. We found a case of candidosis in category III (genitalia&oral)contrast to study by Basheer ahammed et al.we reported 8 cases of vitiligo and it was the commonest condition of category IV (genitalia,skin and oral) similar with study by Basheer ahammed et al .

In our study, we divided nonvenereal dermatoses into 4 groups according to the sites of involvement in genitalia . Among the groups , we found more number of cases 80[70.18%] seen in group i (involvement of single site in male patients). we found scrotum and labium majora as the commonest site of involvement among male and female patients respectively . In their study Neerja puri et al , found penis and labium majora was the commonest site of involvement in male and female patients respectively. In their study Karthikeyan k et al, reported scrotum was the commonest site of involvement (similar to our study) found in 52% patients.

In our study, we divided the conditions in to 3 categories like exclusively in Men or Women or both sexes. We found pearly penile papule as the common condition in the category of exclusively in Men.We found vulval skin tag , Bartholin's cyst, bullous pemphigoid as the common conditions in the category of exclusively in Women. scabies was the common condition found in both sexes.Since none of the studies had categorized the conditions in the above said manner, no comparison was possible.

SUMMARY

1. A series of 150 cases with non venereal genital dermatoses were encountered among patients attended SKIN and STD out patient clinic of our Hospital in the study period.
2. Prevalence of the non venereal genital dermatoses in the study was 2.6 per 1000 cases.
3. Prevalence of the non venereal genital dermatoses in Male and Female patients were 3.7 and 1.3per 1000 cases respectively.
4. Male to Female ratio of patients with non venereal genital dermatoses in study was 3.16 : 1.
5. Age of the patients with nonvenereal genital dermatoses in this study was between 12 and 72 years and their mean age was 40.74years.
6. Majority of the patients were found in the age group of 33 to 42 years [42 (28%)].
7. male patients [114(76%)] in our study were found to be more while comparing female patients [36 (24%)].
8. Majority of the Female and Male patients in the study were House wives (32 cases)and Students (25 cases).
9. commonest Non venereal genital dermatosis was scabies which found in 19 (12.6%) patients.

10. Among the benign conditions and normal variants in the study, pearly penile papule was found to be more [10 (6.6%)].
11. Among infections and infestations , scabies was seen in more number of patients [19 (12.6%)].
12. Among inflammatory conditions and miscellaneous groups, contact dermatitis and vitiligo were the commonest conditions respectively.
13. One case of verrucous carcinoma of penis was seen.
14. According to the site of involvement ,nonvenereal genital dermatoses divided in to four categories were Genitalia only, Genitalia &skin only, Genitalia & oral mucosa only and Genitalia, skin & oral mucosa.
15. conditions involved Genitalia alone 87(58%) found to be more more in number .
16. Scrotum and Labium majora was the most common site of involvement in male and female genitalia respectively.
17. Scabies was found in 19 patients (12.6%) including 12 Males and 7 Females.Among them , maximum number of affected patients were students (9 patients).
18. Vitiligo was found in17(11.3%) patients including 11 Males and 6 Females. Majority of them were house wives (6 patients) and three female patients had hypothyroidism .

19. Candidosis was found in 12(8%) patients including 8 Males and 4 Females.Majority of the patients were working as clerk.One Female patient with history of intake of broad spectrum antibiotics had oral and vulvovaginal candidosis.
20. We found 8 cases (5.3%) of contact dermatitis and six cases (4%)of lichen planus in the study.
21. Five males (4.3%) were found to have fixed drug eruption with history of intake of drugs ciprofloxacin, cotrimoxazole, diclofenac sodium and metronidazole. Among them, one patient had bullous lesions over glanspenis due to intake of cotrimoxazole.
22. Two cases (1.3%) including one male and one female were diagnosed as Stevens Johnson syndrome with history of intake of phenytoin and ciprofloxacin .
23. Six interesting cases were documented in our study. They were Tick bite, Lymphangiectasia of scrotum found in an elderly man (a case of anorectal carcinoma treated with radiotherapy), a case of Erythroderma diagnosed and confirmed histopathologically as Mycosis fungoides, Verrucous carcinoma of Penis, Fournier's gangrene of scrotum and Hailey-hailey disease.
24. This study was quite useful in understanding the prevalence , clinical and etiological characteristics of various nonvenereal genital dermatoses.

CONCLUSION

A series of 150 cases with non venereal genital dermatoses (NVGD) including 114 males(76%) and 36 females(24%) were found in our study and male to female ratio of patients of our study was 3.16 : 1.Prevalence of the NVGD in our study was 2.6 per 1000 cases.Prevalence of the NVGD in Male and Female patients were 3.7 and 1.3per 1000 cases respectively.We have chosen age of the patients in this study between 12 and 72 years and their mean age was 40.74years. Majority of the patients [42 (28%)] were found in the age group of 33 to 42 years.

Majority of the Female and Male patients in the study were house wives (32 cases)and Students (25 cases) respectively. Commonest NVGD was found to be scabies occuring in 19 (12.6%) patients. pearly penile papule was found to be more [10 (6.6%)] among benign conditions and normal variants. Among inflammatory conditions and miscellaneous groups, contact dermatitis and vitiligo were the commonest conditions respectively.One case of verrucous carcinoma of penis was seen.

Among four categories classified according to the site of involvement, Genitalia alone was found to be involved in more number of patients [87(58%)] Scrotum and Labium majora were the most

common site of involvement in male and female genitalia respectively. Six interesting cases documented in our study were tick bite, lymphangiectasia of scrotum, erythroderma(Mycosis fungoides), verrucous carcinoma of Penis, Fournier's gangrene of scrotum and Hailey-hailey disease.

All lesions occurring over genitalia are not sexually transmitted. Many other non venereal conditions can occur over the genitalia.All clinicians should have an open mind to look for these conditions and treat with appropriate drugs.This unbiased approach will give more confidence to the patient to come for medical help because otherwise they will have shyness and fear to approach the physician.Identifying the common non venereal genital conditions will also remove venerophobia.

Knowing about the prevalence, clinical and etiological characteristics of various nonvenereal genital dermatoses are helpful in arriving at a diagnosis and also creating awareness among patients to improve their personal hygiene and social habits. Some patients particularly females who have fear and lack of knowledge need more attention, privacy and education.

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ANNEXURE-I

PROFORMA

NAME : SL.NO: AGE: SEX:
OCCUPATION:

ADDRESS:

PRESENTING C/O :

PAST H/O:

TREATMENT H/O:

PERSONAL H/O:

MARITAL STATUS:

SEXUAL CONTACT(PRE/EXTRA MARITAL) H/O:

FAMILY H/O :

<u>GENERAL EXAMINATION</u>:

PALLOR- CYANOSIS - ICTERUS- PEDAL EDEMA- LYMPHADENOPATHY-

PR- RR- BP-

<u>SYSTEMS</u>- CVS,RS-

P/A-

<u>DERMATOLOGICAL EXAMINATION</u>:

1.MORPHOLOGY-

2.ORAL MUCOSAE-

3..LESION : (SITE OF INVOLVEMENT)

SITE OF LESION	GENITAL ONLY	GENITAL&ORAL	GENITAL &SKIN	GENITAL, ORAL&SKIN
CATEGORY	I	II	III	IV
PRESENT (+) ABSENT (-)				

4.LESION :(SITE IN GENITALIA)

SITE IN GENITALIA	SINGLE SITE (MALE)	MULTIPLE SITES (MALE)	SINGLE SITE (FEMALE)	MULTIPLE SITES (FEMALE)
DIVISION	(i)	(ii)	(iii)	(iv)
PRESENT(+) ABSENT(-)				

5. SCALP

6. NAILS

7. PALMS

8. SOLES

9. ANAL ORIFICE

INVESTIGATIONS :

CBC & RBS-

RPR-

HIV –

KOH MOUNT-

GRAM STAIN -

TZANCK SMEAR-

BIOPSY -

DIF-

IHC-

DIAGNOSIS:

CONDITIONS	BENIGN CONDITION & NORMAL VARIANTS (1)	INFECTIONS & INFESTATIONS (2)	INFLAMMATORY CONDITIONS (3)	MALIGNANCY (4)	MIS CELLANEOUS CONDITIONS (5)
ETIOLOGICAL CLASSIFICATION					

ANNEXURE-II

CONSENT FORM

Dr. A.N.M.Maalik babu , post graduate student in the Department of Dermatology, venereology and leprosy, Coimbatore medical college hospital is conducting a study on " **A CLINICAL STUDY OF NON VENEREAL GENITAL DERMATOSES**" . The study and test procedures were explained to me clearly. I here by give my consent to participate in this study and to give blood sample and to take biopsy if needed. The data obtained here in may be used for research and publication.

Place:

Date: Signature of the patient

(Name:)

ஒப்புதல் படிவம்

பெயர் :

பாலினம் :

முகவரி : வயது :

அரசு கோவை மருத்துவக் கல்லூரியில் தோல் மற்றும் பால்வினை நோய் துறையில் பட்ட மேற்படிப்பு பயிலும் மாணவர் **மரு.ஆ.நா.மு. மாலிக் பாபு** அவர்கள் மேற்கொள்ளும் "**பால்வினை அல்லாத பிறப்புறுப்பு நோய்**" குறித்த ஆய்வில் செய்முறை மற்றும் அனைத்து விவரங்களையும் கேட்டுக் கொண்டு எனது சந்தேகங்களை தெளிவுபடுத்திக் கொண்டேன் என்பதை தெரிவித்துக் கொள்கிறேன்.

நான் இந்த ஆய்வில் முழு சம்மதத்துடன், சுய சிந்தனையுடனும் கலந்து கொள்ள சம்மதிக்கிறேன்.

இந்த ஆய்வில் என்னுடைய அனைத்து விபரங்கள் பாதுகாக்கப்படுவதுடன் இதன் முடிவுகள் ஆய்விதழில் வெளியிடப்படுவதில் ஆட்சேபனை இல்லை என்பதை தெரிவித்துக்கொள்கிறேன். எந்த நேரத்தில் அந்த ஆய்விலிருந்து நான் விலகிக் கொள்ள எனக்கு உரிமை உண்டு என்பதையும் அறிவேன்.

இடம் : கையொப்பம் / ரேகை

நாள் :

Sr.No	Name	Age/Sex	Occupation	Presenting complaints	Duration of illness			Past history		Personal history		Family H/O	H/O Drug intake	General/ Systemic examination	Genital lesion		oral	skin	scalp	Palms and soles	Nails	KoH Mount	Gram's stain	Tzanck smear	Histopathology	Direct immunoflurose	Immuno histochemistr	Ass. Skin disorder	Systemic disorder	Diagnosis of genital de	Category (site of invol	Groups(sites in genit	Divison(etiology basis
					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
1	Selvi	33/F	House wife	Itchy papules	0	0	3	+				+		Anemic	papules with excoriation	mons, l.majora		+										pediculosis		scabies	II	iv	2
2	pandi	46/M	Farmer	White patch	5	0	0								Depigmented patch	Glans, scrotum	+	+												Vitiligo	IV	ii	5
3	kathirvel	16/M	student	Itchy papules	0	0	2	+				+			papules with excoriation	shaft, scrotum		+										pyoderma		scabies	II	ii	2
4	Arul	32/M	student	Itchy plaque with scales	0	1	0	+		+				↑BMI	reddish plaque with scales ,central clearing	genitocrural		+				+						Tinea corporis		Tinea cruris	I	i	2
5	Mahesh	45/M	clerk	Unretracted prepuce	0	6	0		DM	+	+			↑BMI	Unretracted narrow prepuce	prepuce						+						Intertrigo	Diabetes mellitus	Phimosis	I	i	1
6	Valli	56/F	House wife	White patch	2	0	0		HY. THYROID			+			Depigmented patch	mons,l.majora													Hy. Thyroid	Vitiligo	I	iv	5
7	Naren	38/M	Salesman	Itchy papules ,plaques	0	3	0	+	HT	+	+			↑BP	Violaceous Annular plaque	Glans	+	+			thin nail plate								Hyper tension	lichen planus	IV	i	3
8	Mani	52/M	Farmer	Painful lesion	0	0	2								Tick present, surrounding erythema	Scrotum														Tick bite	I	i	2
9	Kaleeswar	48/M	clerk	Burning sensation glans	0	0	7		DM	+	+			↑BMI	Fissures and white patch	Glans, prepuce						+						pityriasis versicolor	Diabetes mellitus	Candidiosis	I	ii	2
10	Eswar	65/M	Driver	Itchy lichenified plaque	1	0	0			+	+				Lichenification	Scrotum														Lichen simplex chronicus	I	i	3
11	saravanan	32/M	Manual labourer	Painful nodule	0	0	5								single tender nodule with pus pointing	mons							+							Furuncle	I	i	2
12	Rajendaran	52/M	Farmer	Painful lesion	0	0	7								well defined ulcer with slough,swollen	Scrotum														Fournier's gangrene	I	i	2
13	saran	18/M	student	Itchy lesions	0	0	5	+				+			nodules	shaft, scrotum		+										pyoderma		scabies	II	ii	2
14	Moorthy	33/M	Driver	multiple papules	0	1	0								multiple small sized papules	Scrotum														Angiokeratoma of Fordyce	I	i	1
15	Sivagami	41/F	House wife	Itchy ,oozing lesion	0	0	2						savlon		diffuse plaque with oozing	mons, l. majora														contact dermatitis	I	iv	3
16	Velmurugan	63/M	retired officer	White patch	1	0	0								depigmention prepuce with phimosis	prepuce														LSA	I	i	3
17	Sanuvel	68/M	retired officer	Reddish plaque	1	0	0			+					plaque with reddish hue,scales	genitocrural		+	+	thick scales	Beau's line									psoriasis	II	i	3

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					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
18	Ravi	46/F	clerk	Painful lesion	0	0	6	+							erosive plaque with oozing	mons, l.majora,gc		+												Hailey -Hailey disease	II	iv	3
19	Anand	33/M	Salesman	Itchy and scaly lesion	0	1	0								erythematous patch with greasy scales	mons, shaft		+	+											Seborrheic dermatitis	II	ii	3
20	Thangavel	38/M	Farmer	painful lesions	0	0	2						phenytoin		erythematous,erosive plaque	glans, prepuce, scrotum	+	+											epilepsy	stevens Johnson syndrome	IV	ii	3
21	Mariappan	42/M	Driver	erosive painful lesion	0	0	15	+							erosive plaque with crusts	Glans, prepuce	+	+						+	+	+				Pemphigus vulgaris	IV	ii	3
22	Durai	66/M	retired officer	dry,scaly lesions	0	1	0	+		+	+				erythema,exfoliation with edema	glans,prepuce, scrotum		+		thick scales										Erythroderma	II	ii	3
23	Sriraj	62/M	Farmer	itchy,reddish plaque	1	0	0								shiny red velvety thin plaque	Glans, prepuce														Zoon's balanitis	I	ii	3
24	Jayanthi	20/F	student	tense blisters	0	0	10	+	DM					↑BMI	multiple tense blisters	mons, l.majora		+							+	+		striae distensiae	Diabetes mellitus	Bullous pemphigoid	II	iv	3
25	Govind	26/M	student	asymptomatic papules	0	1	0								multiple tiny papules	shaft		+												Lichen nitidus	II	i	3
26	Ramu	58/M	Manual labourer	painful verrucous lesion	1	0	0								single welldifined verrucous plaque	shaft									+					Verrucous carcinoma	I	i	4
27	Charli	36/M	Driver	asymptomatic nodules	0	3	0								multiple soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5
28	Sakthi	42/M	clerk	asymptomatic nodules	0	6	0								multiple firm to hard nodules	Scrotum									+					Scrotal calcinosis	I	i	5
29	Nizzam	23/M	student	asymptomatic papules	0	1	0								Yellowish tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
30	Mullai	45/M	Manual labourer	swelling ,painful lesion	0	0	7	+							edema over prepucal attachment	prepuce														Para phimosis	I	i	1
31	Kirubakaran	34/M	Manual labourer	pigmented patch	4	0	0								pigmented patch	glans														Penile melanosis	I	i	5
32	Senthil	26/M	student	asymptomatic papules	0	5	0								multiple tiny, discreate, papules	subpreputial														Fordyce spots	I	i	1
33	Nirmala	34/F	House wife	asymptomatic skin lesion	0	3	0								single bag like pedunculated papule	labia majora														Vulval skin tag	I	iii	1
34	Jothi	32/F	clerk	painful, swelling	0	0	15								tender swelling labia majora	labia majora														Bartholin's cyst	I	iii	1

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					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
35	Manivel	66/M	retired officer	vesicles and oozing fluid		4	0								multiple fluid filled vesicles	Scrotum													Anorectal carcinoma	Lymphangiectases	I	i	1
36	Thirumagal	35/F	House wife	itchy lesion	0	0	10						Hair removal cream		Diffuse plaque,oozing	labia majora														contact dermatitis	I	iii	3
37	Mohan	32/M	Driver	asymptomatic papules	0	0	20								multiple umblicated paples	mons														Mollascum contagiosum	I	i	2
38	Raj bagthur	33/M	BSF Jawans	painful lesions	0	0	5								erosive plaque	Glans	+	+												Erythema multiformae	IV	i	3
39	Razim	19/M	student	asymptomatic papules	0	2	0								tiny shiny papules in a row	Glans														Pearly penile papule	I	i	1
40	Vinod	28/M	Manual labourer	multiple papules	0	5	0								Pearly white multiple small sized papules	Scrotum														Angiokeratoma of Fordyce	I	i	1
41	Karim	54/M	clerk	Unretracted prepuce	0	7	0		DM	+	+			↑BMI	Unretracted narrow prepuce	prepuce						+						corn foot	Diabetes mellitus	Phimosis	I	i	1
42	Arumugam	32/M	Salesman	asymptomatic papules	0	2	0								multiple tiny, discreate, papules	subpreputial														Fordyce spots	I	i	1
43	Balu	38/M	Farmer	swelling,painful lesion	0	0	4								edema over prepucal attachment	prepuce														Para phimosis	I	i	1
44	Chandran	32/M	clerk	pigmented patch	2	0	0								pigmented patch	Glans														Penile melanosis	I	i	5
45	Leema	35/F	House wife	Itchy papules	0	0	3								papules with excoriation	mons, l.majora		+												scabies	II	iv	2
46	Dhanasekar	52/M	Farmer	Burning sensation glans	0	0	5	+	DM	+				↑BMI	Fissures and white patch	Glans, prepuce						+						Intertrigo	Diabetes mellitus	Candidiosis	I	ii	2
47	Elanchezzian	34/M	clerk	Painful nodule	0	0	4								single tender nodule with pus pointing	mons							+							Furuncle	I	i	2
48	Venu	26/M	Salesman	Itchy plaque with scales	0	1	0	+		+					Reddish plaque with scales ,central clearing	genitocrural														Tinea cruris	I	i	2
49	Thangamani	53/M	Farmer	Itchy, oozing lesion	0	0	5						antiseptic lotion		diffuse plaque with oozing	Glans												photo sensitive eczema		contact dermatitis	I	i	3
50	Kalaivani	34/F	House wife	Itchy papules,plaque	0	5	0								Violaceous Multiple papules,plaque	labia majora	+	+			ptery gium									lichen planus	IV	iii	3
51	Suraj	52/M	BSF Jawans	painful lesions	0	0	2						ciproflox acin		erosive plaque	glans, prepuce		+												Fixed drug eruption	II	ii	3

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					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
86	Kanthan	46/M	Manual labourer	Itchy,oozing lesion	0	0	4						after shave		diffuse plaque with oozing	Scrotum														contact dermatitis	I	i	3
87	Mani	61/M	retired officer	Itchy lichenified plaque	0	8	0								Lichenification	Scrotum														Lichen simplex chronicus	I	i	3
88	Ramu	56/M	clerk	Reddish plaque	0	7	0								plaque with reddish hue,scales	genitocrural		+												psoriasis	II	i	3
89	John	28/M	student	Itchy papules	0	0	6					+			papules with excoriation	shaft, scrotum		+												scabies	II	ii	2
90	Bharathi	52/F	House wife	pruritis vulva	0	0	10		DM						White,thick curdy discharge,satellite lesions	vulva, vagina						+							Diabetes mellitus	Candidiosis	I	iv	2
91	Arjunan	32/M	Driver	White patch	2	0	0								Depigmented patch	shaft, scrotum	+	+												Vitiligo	IV	ii	5
92	Sambath	35/M	Manual labourer	asymptomatic nodules	0	5	0								multiple,yellowish soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5
93	Boopathy	18/M	student	asymptomatic papules	0	3	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
94	Venu	31/M	Farmer	multiple papules	0	6	0								multiple small sized papules	Scrotum														Angiokeratoma of Fordyce	I	i	1
95	Gismohan	48/M	clerk	Unretracted prepuce	0	5	0		DM						Unretracted narrow prepuce	prepuce														Phimosis	I	i	1
96	Kulali	26/F	House wife	Itchy papules	0	0	4					+			papules with excoriation	mons,l.majora		+										pediculosis		scabies	II	iv	2
97	Vinzi	28/F	House wife	Itchy plaque with scales	0	2	0	+							Reddish plaque with scales ,central clearing	genitocrural		+				+						Tinea corporis		Tinea cruris	I	i	2
98	Shankar	38/M	clerk	Itchy,oozing lesion	0	0	5						soap		diffuse plaque with oozing	Glans														contact dermatitis	I	i	3
99	Sudhakar	42/M	clerk	Itchy papules,plaque	0	2	0			+	+				Violaceous plaque	shaft		+												lichen planus	II	i	3
100	Samikannu	32/M	Farmer	painful lesion	0	0	5						diclofena c sodium		erosive plaque	Glans	+	+												Fixed drug eruption	IV	i	3
101	Mugundan	56/M	clerk	White patch	6	0	0								Depigmented patch	Glans, scrotum	+	+												Vitiligo	IV	ii	5
102	Appand raj	37/M	Manual labourer	asymptomatic nodules	0	2	0								multiple,yellowish soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5

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					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
103	Chozhan	54/M	Manual labourer	White patch	3	0	0								Depigmented patch	Scrotum		+												Vitiligo	II	i	5
104	Deepa	36/F	house wife	Itchy papules,plaque	0	7	0	+							Multiple violaceous papules,plaque	labia majora	+	+												lichen planus	IV	iii	3
105	Ganavel	65/M	retired officer	itchy,reddish plaque	2	0	0								shiny red velvety thin plaque	glans														Zoon's balanitis	I	i	3
106	Bagyam	72/F	House wife	dry,scaly lesions	0	1	0								erythema,exfoliation with erosion	mons, l.majora		+	+	hyperli nearity					+		+		Mycosis fungoides	Erythroderma	II	iv	3
107	Nagaraj	22/M	student	asymptomatic papules	0	3	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
108	Kalpana	50/F	House wife	White patch	1	0	0								Depigmented patch	mons, l.majora														Vitiligo	I	iv	5
109	Karthik	70/M	retired officer	White patch	0	6	0								depigmention prepuce with phimosis	prepuce														LSA	I	i	3
110	Ganesh	27/M	student	Itchy papules	0	0	3	+				+				shaft		+												scabies	II	i	2
111	Ilango	32/M	Manual labourer	asymptomatic nodules	0	2	0								multiple,yellowish soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5
112	Jeya	31/F	House wife	Itchy papules	0	0	6					+			papules with excoriation	mons		+												scabies	II	iii	2
113	Manoj	40/M	clerk	White patch	1	0	0								Depigmented patch	glans, prepuce		+												Vitiligo	II	ii	5
114	Mahendran	25/M	student	Itchy papules	0	0	3					+			papules with excoriation	shaft, scrotum		+												scabies	II	ii	2
115	Mugil	21/M	student	asymptomatic papules	0	5	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
116	Anitha	36/F	House wife	Painful nodule	0	0	4								single tender nodule with pus pointing	mons							+							Furuncle	I	iii	2
117	Priya	58/F	House wife	pruritis vulva	0	0	10								White thick curdy discharge,satellite lesions	vulva,vagina	+					+								Candidiosis	III	iv	2
118	Visnu	25/M	student	asymptomatic papules	0	2	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
119	Gandhimathi	27/F	House wife	Itchy papules	0	0	6					+			papules with excoriation	mons		+	+											scabies	II	i	2

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					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
120	Parthiban	36/M	Farmer	Itchy papules ,plaques	0	2	0								Violaceous annular plaque	Glans		+	+									Photo senisitive eczema		lichen planus	II	i	3
121	Naren karthik	52/M	clerk	White patch	5	0	0								Depigmented patch	Glans, prepuce		+										lichen planus		Vitiligo	II	ii	5
122	Anand raj	65/M	retired officer	Reddish plaque	1	0	0								plaque with reddish hue,scales	genitocrural		+												psoriasis	II	i	3
123	Ram prabhu	26/M	student	asymptomatic papules	0	3	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
124	Shanmugam	23/M	student	Itchy papules	0	0	2					+			papules with excoriation	shaft		+												scabies	II	i	2
125	Balaji	54/M	clerk	Burning sensation glans	0	0	15			+	+				Fissures and white patch	Glans, prepuce						+								Candidiosis	I	ii	2
126	Swarna	42/F	House wife	Itchy,oozing lesion	0	0	5						after shave		diffuse reddish plaque with oozing	mons, l.majora														contact dermatitis	I	iv	3
127	Masood	34/M	Manual labourer	asymptomatic papules	0	0	6								multiple yellowish soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5
128	omasundarar	38/M	Manual labourer	Unretracted prepuce	0	5	0		DM						Unretracted narrow prepuce	prepuce													Diabetes mellitus	Phimosis	I	i	1
129	Asok	28/M	student	asymptomatic papules	0	4	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
130	Saravana kumar	36/M	clerk	multiple papules	0	4	0								multiple small sized papules	Scrotum														Angiokeratoma of Fordyce	I	i	1
131	Ramesh	28/M	student	asymptomatic papules	0	1	0								multiple tiny discreate papules	subpreputial														Fordyce spots	I	i	1
132	Rajsekar	36/M	Driver	Itchy papules	0	0	3					+			papules with excoriation	Scrotum		+												scabies	II	i	2
133	Lavanya	54/F	House wife	pruritis vulva	0	0	5		DM						White thick curdy discharge,satellite lesions	vulva, vagina						+							Diabetes mellitus	Candidiosis	I	iv	2
134	Anuratha	42/F	House wife	Itchy,oozing lesion	0	0	4						savlon		diffuse reddish plaque with oozing	mons														contact dermatitis	I	iii	3
135	Balamurugan	34/M	clerk	painful lesions	0	0	4	+					metronid azole		erosive plaque	glans, prepuce	+	+												Fixed drug eruption	IV	ii	3
136	Natraj	56/M	farmer	Itchy lichenified plaque	0	4	0			+					Lichenification	Scrotum														Lichen simplex chronicus	I	i	3

Sr.No	Name	Age/Sex	Occupation	Presenting complaints	Duration of illness			Past history		Personal history		Family H/O	H/O Drug intake	General/ Systemic examination	Genital lesion		oral	skin	scalp	Palms and soles	Nails	KoH Mount	Gram's stain	Tzanck smear	Histopathology	Direct immunoflurose	Immuno histochemistı	Ass. Skin disorder	Systemic disorder	Diagnosis of genital de	Category (site of invol	Groups(sites in genit	Divison(etiology basis
					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
52	Tamilvanan	72/M	retired officer	Itchy lichenified plaque	0	6	0								Lichenification	Scrotum													BPH	Lichen simplex chronicus	I	i	3
53	Arivu	66/M	Farmer	White patch	2	0	0								depigmention prepuce with phimosis	glans, prepuce														LSA	I	ii	3
54	Basith	52/M	clerk	Reddish plaque	0	6	0			+					plaque with reddish hue,scales	genitocrural		+												psoriasis	II	i	3
55	Robert	51/M	Manual labourer	painful lesion	0	0	8	+							erosive plaque with oozing	genitocrural		+												Hailey -Hailey disease	II	i	3
56	Kavitha	34/F	House wife	Itchy and scaly lesion	0	2	0								erythematous patch with greasy scales	mons			+											Seborrheic dermatitis	II	i	3
57	Anbu	38/M	Manual labourer	erosive painful lesion	0	0	7	+		+	+				erosive plaque with crusts	Glans,scrotum	+	+						+						Pemphigus vulgaris	IV	ii	3
58	Kalaiarasi	34/F	House wife	painful lesions	0	0	3						ciproflox acin		erythematous ,erosive plaque	mons, l.majora	+	+												stevensJohnson syndrome	IV	iv	3
59	Veni	64/F	House wife	White patch	3	0	0		HY.THYRO ID						Depigmented patch	mons, l .majora, l.minora	+	+											HY. THYROID	Vitiligo	IV	iv	5
60	Mari	38/M	Driver	asymptomatic nodules	0	4	0								multiple soft to firm nodules	Scrotum														Sebaceous cyst	I	i	5
61	Vinayagam	22/M	student	Itchy papules	0	0	2	+							papules with excoriation	shaft, scrotum		+												scabies	II	ii	2
62	Kogila	56/F	clerk	pruritis vulva	0	0	7	+							WhiteThick curdy discharge,satellite lesions	vulva, vagina						+								Candidiosis	I	iv	2
63	Malaisami	28/M	Salesman	White patch	4	0	0								Depigmented patch	glans, prepuce	+	+												Vitiligo	IV	ii	5
64	Masood	38/M	Manual labourer	Itchy papules	0	0	5					+			papules with excoriation	Scrotum		+												scabies	II	i	2
65	Gani	46/M	clerk	Burning sensation glans	0	0	5			+	+				Fissures and white patch	Glans, prepuce						+								Candidiosis	I	ii	2
66	Sarala	28/F	House wife	Itchy papules	0	0	3								papules with excoriation	mons		+												scabies	II	iii	2
67	Kulali	50/F	House wife	White patch	4	0	0								Depigmented patch	mons, l.majora	+	+												Vitiligo	IV	iv	5
68	Dhalia	58/F	House wife	White patch	6	0	0								Depigmented patch	mons, l.majora		+												Vitiligo	II	iv	5

Sr.No	Name	Age/Sex	Occupation	Presenting complaints	Duration of illness			Past history		Personal history		Family H/O	H/O Drug intake	General/ Systemic examination	Genital lesion		oral	skin	scalp	Palms and soles	Nails	KoH Mount	Gram's stain	Tzanck smear	Histopathology	Direct immunoflurose	Immuno histochemist	Ass. Skin disorder	Systemic disorder	Diagnosis of genital de	Category (site of invol	Groups(sites in genit	Divison(etiology basis
					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
69	Bharath	36/M	salesman	Itchy scaly lesions	0	3	0								erythematous patch with greasy scales	shaft, mons		+	+											Seborrheic dermatitis	II	ii	3
70	Ajith	32/M	Driver	Itchy papules	0	0	5					+			papules with excoriation	shaft		+												scabies	II	i	2
71	Manikandan	56/M	clerk	Burning sensation glans	0	0	7		DM	+	+				Fissures and white patch	Glans, prepuce						+							Diabetes mellitus	Candidiosis	I	ii	2
72	Nanda	29/M	student	asymptomatic papules	0	2	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
73	Prabhu	52/M	Farmer	Unretracted prepuce	0	4	0								Unretracted narrow prepuce	prepuce														Phimosis	I	i	1
74	Nevile	30/M	student	Itchy lesions	0	0	7								nodules	shaft		+												scabies	II	i	2
75	Mansoor	60/M	retired officer	Burning sensation glans	0	0	10		DM						Fissures and white patch	Glans, prepuce						+						Skin tag	Diabetes mellitus	Candidiosis	I	ii	2
76	Duraisamy	37/M	Manual labourer	White patch	2	0	0					+			Depigmented patch	Glans, scrotum	+	+												Vitiligo	IV	ii	5
77	Cheran	39/M	Manual labourer	asymptomatic nodules	0	5	0								multiple,white coloured firm to hard nodules	Scrotum														Scrotal calcinosis	I	i	5
78	Ravikumar	50/M	clerk	White patch	1	0	0								Depigmented patch	Glans, prepuce	+	+												Vitiligo	IV	ii	5
79	Sankari	48/F	House wife	painful lesions	0	0	10	+							erosive plaque with oozing	mons, l.majora,gc		+							+					Hailey -Hailey disease	II	iv	3
80	Sivaranjini	30/F	House wife	Itchy papules	0	0	5					+			papules with excoriation	mons, l.majora		+												scabies	II	iv	2
81	Raman	58/M	retired officer	Burning sensation glans	0	0	15		DM	+				↑BMI	Fissures and white patch	Glans, prepuce						+						striae distensae	Diabetes mellitus	Candidiosis	I	ii	2
82	Abirami	31/F	House wife	Painful nodule	0	0	7								single tender nodule with pus pointing	labia majora							+							Furuncle	I	iii	2
83	Sreeja	52/F	House wife	White patch	6	0	0	HY.THYROID							Depigmented patch	mons, l.majora		+											HY.THYROID	Vitiligo	II	iv	5
84	Kalaikumar	32/M	Farmer	Itchy papules and plaque		4	0								Violaceous,Annular plaque	Glans	+	+												lichen planus	IV	i	3
85	Lenin	28/M	student	painful lesion	0	0	5						cotrimox azole		Reddish ,bullous lesions	glans, prepuce	+	+												Fixed drug eruption	IV	ii	3

Sr.No	Name	Age/Sex	Occupation	Presenting complaints	Duration of illness			Past history		Personal history		Family H/O	H/O Drug intake	General/ Systemic examination	Genital lesion		oral	skin	scalp	Palms and soles	Nails	KoH Mount	Gram's stain	Tzanck smear	Histopathology	Direct immunoflurose	Immuno histochemist	Ass. Skin disorder	Systemic disorder	Diagnosis of genital de	Category (site of invol	Groups(sites in genit	Divison(etiology basis
					Y	M	D	similar episode	others	Smoker	Alchoholic				morphology of the lesion	site																	
137	Nasreen	48/F	House wife	White patch	2	0	0								depigmented patch vulva,atrophy	mons, l.majora, l.minora														LSA	I	iv	3
138	Mammon	36/M	Salesman	asymptomatic nodules	0	3	0								multiple whitefirm to hard nodules	Scrotum														Scrotal calcinosis	I	i	5
139	Ramalingam	29/M	Manual labourer	White patch	0	6	0								Depigmented patch	Scrotum														Vitiligo	I	i	5
140	Mahesram	24/M	student	asymptomatic papules	0	2	0								tiny shiny papules in a row	glans														Pearly penile papule	I	i	1
141	Jowahar	26/M	student	multiple papules	0	3	0								multiple small sized papules	Scrotum														Angiokeratoma of Fordyce	I	i	1
142	Ramani	30/M	Manual labourer	asymptomatic papules	0	1	0								multiple tiny discreate papules	subpreputial														Fordyce spots	I	i	1
143	Ranganathan	20/M	student	Itchy papules	0	0	2					+			papules with excoriation	shaft		+												scabies	II	i	2
144	Narayanan	49/M	clerk	Burning sensation glans	0	0	6		DM	+	+				Fissures and white patch	Glans, prepuce						+							Diabetes mellitus	Candidiosis	I	ii	2
145	Prakash	42/M	Manual labourer	Itchy,oozing lesion	0	0	2						soap		diffuse reddish plaque with oozing	Glans														contact dermatitis	I	i	3
146	Pravin	46/M	clerk	Painful lesions	0	0	4	+					ciproflox acin		erosive plaque	glans, prepuce		+												Fixed drug eruption	II	ii	3
147	Sudharsan	38/M	Driver	White patch	2	0	0								Depigmented patch	Glans, prepuce														Vitiligo	I	ii	5
148	Prasanth	58/M	retired officer	Itchy lichenified plaque	0	4	0								Lichenification	Scrotum														Lichen simplex chronicus	I	i	3
149	Vignesh	38/M	Manual labourer	asymptomatic nodules	0	6	0								multiple,white firm to hard nodules	Scrotum														Scrotal calcinosis	I	i	5
150	Anuseya	56/F	House wife	White patch	1	0	0			+					depigmented patch vulva,atrophy	mons, l.majora														LSA	I	iv	3

KEY TO MASTER CHART

Duration of illness	:	Y-Years M-Month D-Days
+	:	means present or positive
DM	:	Diabetes mellitus
HT	:	Hypertension
HY. Thyroidism	:	Hypothyroidism
BMI	:	Body mass index
Ass.skin disorder	:	Associated skin disorder
LSA	:	Lichen simplex et atrophicans
Category (site of involvement)	:	I-Genital only
		II-Genital and skin only
		III-Genital and oral mucosa only
		IV-Genital ,skin and oral mucosa
Divison(etiology basis)	:	1. Benign conditions and normal variants
		2. Infections and infestations
		3. Inflammatory conditions
		4. Malignancy
		5. Miscellaneous conditions
Groups(sites in genitalia)	:	i. single site (male)
		ii. multiple sites(male)
		iii. single site (female)
		iv. multiple sites(female)