

# **NON VENEREAL LESIONS OF GENITALIA**

**DISSERTATION**

*Submitted in partial fulfillment of university regulations for*

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DERMATOLOGY, VENEREOLOGY & LEPROSY**

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## **CERTIFICATE**

This is to certify that this dissertation entitled “**NON VENEREAL LESIONS OF GENITALIA**” is a bonafide work done by Dr.T.K.ANANDHI, Postgraduate student of Department of Dermatology and Leprosy and Institute of STD, Madras Medical College, Chennai – 600 003 during the academic year 2003 – 2006 for the award of degree of M.D. (Dermatology, Venereology and Leprosy) – Branch XII A. This work has not previously formed the basis for the award of any Degree or Diploma.

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# INTRODUCTION

A number of dermatoses and skin tumors affect the genitalia in an unique (or) distinct manner that they warrant separate discussion. The normal characteristics of common dermatoses are modified on genitals. For most of them this may be the only one of the many sites involved while in others it may be predominantly confined to the genitalia. The features are frequently modified by moisture in local environment.

The genital area differs between the sexes being the good example of regional human variation. There is a considerable variability in size, shape, pigmentation and amount of hair distribution. Moreover, perineal area is plentifully endowed with functional eccrine, non-functional apocrine sweat glands and holocrine sebaceous glands usually in association with hair follicles.

In males natal cleft, perianal skin, distal penile shaft, prepuce and glans penis are devoid of hair. Circumcision can alter the incidence and appearance of dermatoses on the glans and corona. Rugose and thin skin of scrotum allows excellent penetration of topical agents.

In females vulva is the anterior portion of perineum within it are the clitoris, urethra and vagina. Vulva itself is subdivided into mons pubis, labia majora and labia minora. Medial aspect of labia

majora is smooth and hairless with numerous sebaceous glands. Vulvar vestibule which extends between clitoris anteriorly to the posterior fourchette and laterally bounded by labia minora is the major site for inflammatory disorders.

Sex hormones play a role in regional differentiation and maturation of skin in this area and may undergo atrophy after menopause. Vulval dermatoses may confer persistent discomfort in the form of chronic itch (eg. LSA, eczema) and may be painful (eg. Erosive LP, Pemphigus), which may interfere with normal activities of daily living. Sometimes it causes relationship problem due to sexual dysfunction (eg. LSA) and some patients with chronic symptom may have symptoms and signs of depression.

Since, genital disease caused by dermatoses, frequently resemble those used by sexually transmitted diseases, it is important to be aware of this. It causes extreme anxiety in patients, because venereal disease is often patient's primary concern.

In premalignant conditions it is important to recognize them at an earliest stage. Most of the dermatoses are of non-infectious origin and once this is established patient must be reassured. If it occurs in children, the question of sexual abuse may arise.

It is a general belief that genital dermatoses are poorly understood, difficult to diagnose and treat. But, careful history taking



which includes sexual practices, environmental factors, topical agents application, presence of other cutaneous diseases and complete dermatological examination with relevant investigations enable for easy diagnosis and satisfactory medical and surgical management in most of the cases.

This study highlights the conditions and features of non-venereal genital dermatoses, of both the sexes.

## **REVIEW OF LITERATURE**

Though there is no uniform classification for the non venereal genital lesions, various authors have described them as follows:

Tomaz F has categorized skin diseases producing genital lesions into four groups<sup>(1)</sup>.

1. Those caused by infective agents such as bacteria, fungus and viruses.
2. Benign tumors
3. Premalignant and malignant conditions.
4. Miscellaneous category that includes allergic conditions, atrophic lesions and skin diseases of unknown etiology.

Cutaneous diseases of female genitalia have been described by Pincus HS as follows<sup>(2)</sup>:

1. Vulvar manifestations of common diseases.
2. Unique vulvar diseases
3. Infections
4. Vulval neoplasia
5. Vulvar manifestations of systemic diseases.

Johnson R.A. has classified cutaneous diseases of male genitalia as follows:

**1. Generalised cutaneous diseases**

- a. Papulosquamous eruptions
- b. Dermatitis
- c. Bullous diseases
- d. Infestations
- e. Drug eruptions
- f. Mucosal disorders

**2. Diseases related to specialized anatomy or function**

**3. Infections**

- a. Bacterial
- b. Fungal
- c. Viral
- d. AIDS

**4. Neoplasia**

- a. Benign
- b. Premalignant
- c. Malignant

The available literature on the different diseases affecting the genitalia is reviewed here. In both males and females it can be discussed under the following conditions.

- I. Congenital
- II. Variation from normal conditions.
- III. Infections and Infestations.
- IV. Inflammatory disorders
- V. Genital manifestations of cutaneous diseases
- VI. Genital manifestations of systemic diseases.
- VII. Adverse cutaneous drug reactions.
- VIII. Bites and stings
- IX. Benign tumors
- X. Premalignant tumors.

## **I. CONGENITAL**

### **Males**

Haemangioma of glans penis  
Median raphe cyst  
Melanocytic naevi

## **II. VARIATION FROM NORMAL CONDITIONS**

### **Common to both sexes**

Fox-Fordyce disease  
Cutis anserina  
Acrochordans

### **Males**

Pearly penile papule  
Phimosis  
Paraphimosis  
Hypospadias

### **Females**

Vestibular papillomatosis

### **III. INFECTIONS AND INFESTATIONS**

#### **BACTERIAL:**

##### **Common to both sexes**

Staphylococcal aureus

Streptococcal infections

Trichomycosis pubis

Ecthyma gangrenosum

Erythrasma

Mycobacterium tuberculosis

Leprosy and rarely others

#### **MALES:**

Fournier's gangrene

#### **FEMALES :**

Streptococcal vulvovaginitis

#### **VIRAL:**

##### **Common to both sexes**

Herpes Simplex

Varicella Zoster

Molluscum contagiosum

Human papilloma viral infections and others

#### **FUNGAL:**

##### **Common to both sexes**

Dermatophytosis

Candidiasis

Pityriasis versicolor  
Cutaneous cryptococcosis  
Rarely other deep mycoses

## **INFESTATIONS:**

### **Common to both sexes**

Scabies  
Pediculosis  
Lymphatic filariasis  
Cutaneous larva migrans  
Schistosomiasis  
Amoebiasis and others

## **IV GENITAL MANIFESTATIONS OF CUTANEOUS DISEASES**

### **Common to both sexes**

Psoriasis  
Lichen planus  
Lichen nitidus  
Pityriasis rosea  
Seborrheic dermatitis  
Vitiligo  
Pemphigus vulgaris and its variants  
Bullous and Cicatricial pemphigoid  
Erythema multiforme and Steven Johnson syndrome  
Lichen sclerosus et atrophicus  
Primary amyloidosis of skin  
Avitaminoses

## **MALES:**

Balanitis xerotica obliterans

Plasma cell balanitis

## **V INFLAMMATORY DISORDERS**

### **Common to both sexes**

Eczema

Allergic contact dermatitis

Irritant contact dermatitis

Contact urticaria

Atopic dermatitis

Hidradenitis suppurativa

Crohn's disease

Toxic epidermal necrolysis

### **MALES:**

Balanitis

Balanoposthitis

Acute Scrotum

Aphthosis

Priapism

Peyronie's disease

### **FEMALES :**

Vulval vestibulitis

Plasma cell vulvitis

Vulvar burning Syndrome

## **VI GENITAL MANIFESTATIONS OF SYSTEMIC DISEASES**

### **Common to both sexes:**

Reiter's disease

Behcet's syndrome

Phlebothrombosis and thrombosis

Collagen vascular disorders

## **MALES**

Sclerosing lymphangitis of penis

Scrotal/ Penile oedema

## **VII ADVERSE CUTANEOUS DRUG REACTIONS**

### **FIXED DRUG ERUPTION**

1. Antibiotics-Cotrimoxazole, Tetracycline, Ampicillin
2. Foscarnet
3. Topical 5 FU Cream
4. Imiquimod Cream
5. Glucocorticoid induced atrophy
6. Papaverine induced ulcer
7. Isotretinoin
8. Warfarin necrosis
9. PUVA therapy
10. Injecting drug users

## **VIII BITES & STINGS**

## **IX MECHANICAL INJURIES**

Trauma

Foreign body

Zip fastner injuries in males

Cosmetic ring occlusion injuries

## **X BENIGN TUMORS**

### **Common to both sexes:**

Verruciform xanthoma

Fordyce Angiokeratoma



Syringoma  
Other tumors

**MALES:**

Idiopathic calcinosis of scrotum  
Benign penile melanosis/ lentiginosis  
Scrotal cyst  
Dartoic leiomyoma  
Leiomyosarcoma and Rhabdomyosarcoma of Penis and Scrotum

**FEMALES :**

Hidradenoma papilliferum

**XI PREMALIGNANT AND MALIGNANT TUMORS**

**PREMALIGNANT**

Erythroplasia of Queyrat  
Bowenoid papulosis  
Extramammary paget's disease [EMPD]  
Buschke- Lowenstein tumor.

**MALES :**

Balanitis xerotica obliterans  
Cutaneous horn  
Pseudo Epitheliomatous, Keratotic, Micaceous Balanitis of  
Civatte.

**FEMALES :**

Lichen sclerosus et atrophicus.

## **MALIGNANT :**

Squamous cell carcinoma

Basal cell carcinoma

Malignant melanoma

Bowen's disease of the vulva

Connective tissue tumors [ sarcomas]

## **CONGENITAL GENITAL LESIONS IN MALES**

### **HAEMANGIOMA OF GLANS PENIS**

Haemangiomas of the glans penis are a rare but distinctive disorder. The origin of these vascular lesions is controversial<sup>(3)</sup>. It has been hypothesized that they may represent either a maldevelopment of cavernous tissue or a congenital herniation of cavernous tissue. Kopf and Bart have suggested that they represent venous ectasias similar in pathogenesis to the venous lakes of the oral lips<sup>(4)</sup>.

Clinically, penile haemangiomas are asymptomatic vascular lesions usually first noted during childhood or adolescence. The primary lesions are solitary or multiple and reddish-purple to blue haemangiomas that empty on compression. Occasionally, an underlying defect in the tunica albuginea can be detected on palpation.

Microscopic examination demonstrates multiple , dilated, blood-filled vascular spaces lined by endothelium. A distinct pseudocapsule of fibrous tissue is absent. The vessels are thin-walled and do not demonstrate

significant smooth muscle. Occasional vascular thrombi may be observed. Penile haemangiomas are benign and rarely of clinical importance except that they might be confused with Kaposi's sarcoma.

### **MEDIAN RAPHE CYST**

It is an uncommon developmental defect noticed within the first three years of life. It denotes defects in the embryologic development of the male genitalia<sup>(5)</sup>. It has been proposed that they develop secondary to incomplete closure of the urethral or genital folds or they arise from outgrowths of embryologic epithelium after primary closure of folds. The presence of serotonin storing cells in the lining of three of four cysts suggests an origin from the endodermal portion of the urethra which contains similar endocrine cells<sup>(7)</sup>.

Clinically, they present as translucent cysts that most commonly occur along the ventral aspect of the penis but may also occur anywhere along the midline from the urethral meatus to the anus. Puncture of the cyst wall characteristically yields clear watery fluid. Occasionally infections like gonorrhoea may develop<sup>(8)</sup>. The cyst may be histologically confused with apocrine cystadenoma of the penis. It does not communicate with either the overlying epithelium or the urethra.

### **FOX FORDYCE DISEASE**

It involves the mons pubis and labia and is extremely pruritic. The pink follicular papules may be obscured by secondary infections or lichenification.

The itching distinguishes this condition from syringomas, but apocrine or miliarial retention cysts may cause difficulty.

## **MELANOCYTIC NAEVI**

Congenital and acquired melanocytic naevi are common. Divided or kissing naevus has been reported, with one component located on the glans and the other on the distal penile shaft or prepuce, separated by uninvolved skin across the coronal sulcus<sup>(9)</sup>.

## **PEARLY PENILE PAPULES**

They are common normal anatomic structures located on the proximal glans penis. Clinically, they appear as asymptomatic skin colored 1 to 2 mm, discrete domed papules, evenly distributed circumferentially around the corona & extending proximally on each side of the frenulum. Microscopic studies suggested that these represent angiofibromas<sup>(10)</sup>.

However, it has also been proposed that these may represent a form of lichen simplex chronicus induced by trauma or rubbing. It may be found in over 30% of all males but significantly increased incidence is found in young adults, black & uncircumcised males. It is uncommon in males over the age of 60 years<sup>(11)</sup>. Histopathological examination reveals a proliferation of fibroblasts in the papillary dermis associated with increased connective tissue and vascular spaces.

## **PHIMOSIS**

A narrowing of the prepuce due to lack of expansion of the preputial ring or of Ehrmann's dorsal fibre bundle, results from a congenital stenosis (or from a later secondary balanitis.) with lack of retraction of the prepuce, whose opening has been severely narrowed. The concomitant impaired urinary secretion may lead to formation of a smegmolith.

## **PARAPHIMOSIS**

In this the prepuce is retracted behind the glans and cannot be brought back without manual help, thus causing severe oedema in the area of the glans and surrounding tissue. Such condition has been observed with congenital or acquired phimosis & in various forms of balanoposthitis & infections.

## **HYPOSPADIAS**

In the male it signifies that the urethra is located on the underside of the penis. This can lead to difficulties in sexual act and insemination.

# **BACTERIAL INFECTIONS**

## **CELLULITIS OF THE SCROTUM AND PENIS**

This is an uncommon condition probably because of the rich vasulature of the tissue. In the immunocompetent host, aggressive pathogens such as Group A Streptococci, Group B Streptococci, or Staphylococcus aureus can enter a break in the epithelium. Group B Streptococci is the most common bacterial pathogen in the neonatal period and can cause cellulitis following

circumcision. In the immuno compromised host pathogen such as *Pseudomonas aeruginosa* can cause soft tissue infections such as ecthyma gangrenosum. Symptomatically, early infection is associated with local pain and fever. Clinically, the genital skin is red, warm and tender and may be associated with an obvious portal of entry.

## **STAPHYLOCOCCUS INFECTIONS**

These organism causes primary infections in the anogenital region (folliculitis, impetigo, bullous impetigo, furuncles, carbuncles), secondary infections of dermatoses (atopic dermatitis, lichen simplex chronicus and at times, psoriasis) or superinfections (genital herpes, chancre, candidal intertrigo).

## **TRICHOMYCOSIS PUBIS**

*Corynebacterium* species causes asymptomatic yellow, red (or) black micronodules around hair shaft <sup>(12)</sup>.

## **ERYTHRASMA**

It is caused by diphtheroid gram positive corynebacterium *minutissimum*. They are present mostly in the groin and sometimes also in the axillae and the interdigital spaces of the toes. They appear as uniformly coloured pink to tan, well demarcated, mildly scaly plaques over the upper thighs with bilateral symmetrical distribution. It is more common in diabetics and under wood's light they show a coral red fluorescence.

## **FOURNIER'S GANGRENE (IDIOPATHIC SCROTAL GANGRENE)**

It is a necrotising soft tissue infections of the genital and anorectal region characterised by tissue necrosis and rapid progression and lack of suppuration with severe systemic toxicity<sup>(13)</sup>. The infection is usually polymicrobial with urinary extra vasation, indwelling catheter after trauma<sup>(14)</sup>, intra venous drug abuse into the dorsal vein of the penis and infiltration of the urethra from a bladder cancer. The infection is limited to skin and subcutaneous tissue and extends to the base of the scrotum<sup>(15)</sup>. The testis, glans penis and spermatic cord are usually spared.

## **MYCOBACTERIUM TUBERCULOSIS INFECTIONS**

Acute tuberculous ulcers on the penis are small erythematous nodules, rapidly breaking down to form painful shallow ulcers with undermined bluish border of size less than 2 cm<sup>(16)</sup>. If successive crops of lesions occur, the eventual scarring leads to remarkable worm eaten appearance. Papulonecrotic tuberculide of the glans penis and lupus vulgaris of the vulva has also been reported<sup>(17)</sup>.

## **LEPROSY**

Involvement of the genitals in leprosy can be seen in all varieties and is manifested as nodules, infiltration, ulceration, shrinkage of testicles, thinning of pubic hair and vitiligo like depigmentation. In the early classic observation

of this disease by Danielson and Boeck, involvement of the penis, prepuce and coronary sulcus was reported in about 20 % of cases.

Pathologically, according to G. Klingmuller<sup>(18)</sup> we can distinguish chiefly four different conditions 1) Atrophy of the testicles 2) Distinct thickening of the tunica vaginalis 3) Thickening with hyalinization of the basal membrane, ending in complete replacement of the renal tubules by hyalinized fibrous tissue 4) Hypertrophy of the Leydig cells with clumping is seen.

Four hundred and sixty seven male patients with leprosy were screened for genital involvement. Genital lesions were observed in 6.6% of all male cases of leprosy<sup>(19)</sup>. They were seen most frequently in lepromatous leprosy (25.8%) followed by borderline lepromatous (13.3%) and borderline tuberculoid (1.4%) leprosy.

## **VIRAL INFECTIONS**

### **HERPES SIMPLEX :**

Occasionally, genital herpes simplex may be acquired non-sexually<sup>(20)</sup> (eg. during contact sports such as rugby foot ball).

### **HERPES ZOSTER**

Herpes Zoster infections of the third or fourth sacral nerves involves penis, scrotum and perineal skin. Clinically, zoster is characterized by grouped vesicles in a dermatomal distribution often associated with varying degrees of



neuritic pain and may be associated with disturbances of defaecation and urination<sup>(21)</sup>.

## **MOLLUSCUM CONTAGIOSUM**

Molluscum contagiosum is seen commonly on the scrotal, perineal skin of children and young adults<sup>(22)</sup>. This is a pox virus infection characterised by clustered 1-5 mm domed papules with central umbilication, commonly it varies from this classic description following trauma or spontaneous involution, becoming hyperkeratotic and/ or inflamed, such that the skin coloured, centrally umbilicated domed becomes a red scaly papule.

## **HUMAN PAPILLOMA VIRUS [HPV]**

Non sexual acquisition of anogenital warts in adults is assumed to be possible. HPV 1 and 2 may occur in genital warts<sup>(23)</sup>. The sensitivity of PCR analysis has shown that HPV – DNA may be present on underwear and fingers of patients with genital warts suggesting that transmission could occur by a number of routes<sup>(24)</sup>. Clinically, it is soft, pink, elongated and sometimes filiform (or) pedunculated usually multiple on the glans, shaft and vulvar region<sup>(25)</sup>.

# **FUNGAL INFECTION**

## **GENITAL CANDIDIASIS**

Skin of glans penis in uncircumcised men, may sometimes be colonized by candida asymptotically<sup>(26)</sup>. This is common in uncontrolled diabetes,

immunosuppressed and severe debilitating illness. Candidal intertrigo in males usually represents over growth of endogenous candida albicans with recurrent balanoposthitis, the source is exogenous from the sexual partner. It may present with soreness, fissuring, irritation, transient tiny papules or pustules on the glans which ruptures leaving a peeling edge. In females, pregnancy, contraceptive use, IUD have been associated with elevated carrier states, presenting with itching, soreness, dusky erythema of vaginal mucosa and vulvar skin with thick creamy white discharge.

### **DERMATOPHYTOSIS**

This commonly involves the inguinal area i.e. Tinea cruris, but rarely caused superficial infection of the scrotum or penis. But scaling is minimal and inflammation is inconspicuous against a background that is normally rugose and erythematous<sup>(28)</sup>. Chronic scratching may induce an eczematous or lichen simplex chronicus on the scrotum or less commonly on the penis. The causative agents are Trichophyton rubrum or Epidermophyton floccosum.

### **PITYRIASIS VERSICOLOR**

This occurs uncommonly as an asymptomatic scaling hypo or hyper pigmented macular eruption on the shaft of the penis. This superficial fungal infection may occur only on the penis, but is usually present on the upper trunk as well. Rarely affects the penis but almost never in isolation<sup>(29)</sup>.

### **DEEP FUNGAL INFECTIONS**

Rarely genital involvement of histoplasmosis, blastomycosis, paracoccidioidomycosis have been reported

## **PARASITIC INFECTIONS**

### **SCABIES**

Scabies presents with pruritus associated with small serpiginous tunnels on the penis and/or scabetic nodules on the scrotum and penis<sup>(30)</sup>. They are intensely itchy and may persist for weeks or months after the effective treatment of scabies<sup>(31)</sup>. Histology of the lesion may simulate lymphoma<sup>(32)</sup>. Eczematous dermatitis occurs secondary to scratching. Hyperkeratotic scabies occurs in the immunocompromised individuals, presenting with hyperkeratotic and crusted lesions of the penis.

### **PEDICULOSIS PUBIS**

It is most commonly manifested in the public hair. Clinical findings include adult lice, appearing as 1 to 2 mm brownish grey specks in the pubic, scrotal and inguinal hairy sites<sup>(33)</sup>. Nits are attached to the hair. Papular urticaria, secondary changes of lichenification, excoriation, impetiginized excoriation and maculae caeruleae – slate grey or bluish grey macules 0.5 to 1 cm in diameter on the lower abdomen, buttocks, and upper thighs.

### **LYMPHATIC FILARIASIS**

This is caused by filarial worm *Wuchereria bancrofti*, *Brugia malayi* and *B. timori* and are estimated to infect approximately one quarter of a billion

individuals in tropical clinics<sup>(34)</sup>. In many endemic upto 25% of adult male population have lymphatic filariasis with thickened scrotal skin and hydrocoele. Adult worms lodge in lymphatic vessels, resulting in a chronic inflammatory lymphatic obstruction and chronic lymphoedema. Clinically early signs of infection include swelling, erythema and tenderness of scrotum<sup>(35)</sup>. Long standing disease may result in orchitis, hydrocoele, thickening of scrotal skin, scrotal elephantiasis, secondary bacterial cellulitis or lymphangitis and a verrucous epidermal hypertrophy.

### **CUTANEOUS LARVA MIGRANS :**

This is caused by nematodes and as they wander, a serpiginous track is created about the sites of penetration, i.e. the groin or buttocks.

### **SCHISTOSOMIASIS :**

Rarely genital lesions occur as ova shed by schistosoma haematobium enter the perineal vessels<sup>(36)</sup>. The papules and nodules may be skin coloured, pink or brown, scattered or grouped affecting the penis and scrotum and may rarely ulcerate. In females vulval lesions are chronic, scarring and granulomatous and may ulcerate and calcify<sup>(37)</sup>.

### **AMOEBIASIS**

Genital and perianal ulceration occur either at the site of penetration of amoeba, *E.histolytica*, most commonly on the penis of homosexual males or as a consequence of enteric amoebiasis<sup>(38)</sup>. Serpiginous ulcer with distinct raised, thickened often undermined edges with an erythematous rim of about 2 cm

wide are seen, which are intensely painful. It is covered with mucopurulent exudates and necrotic slough. Vulval amoebiasis is usually secondary to intestinal amoebiasis<sup>(39)</sup>.

## **GENITAL MANIFESTATIONS OF COMMON DERMATOSES**

### **PSORIASIS**

This is the most common non infectious dermatosis occurring on the penis. In circumcised males, appears as a well demarcated erythematous plaque with varying degrees of scaling. In uncircumcised males, plaques occur on both the glans and the inner aspect of the foreskin and lack scaling (inverse psoriasis).

In females, often found on the labia majora (or) mons pubis<sup>(40)</sup>. Genital psoriasis is frequently accompanied by asymptomatic, unrecognized intertriginous psoriasis, perianally and in the intergluteal cleft, which appears as an elongated, well-demarcated erythematous plaques. The frequency with which the genital area alone is involved appears to be low, but this area is not uncommonly involved together with other areas<sup>(41)</sup>.

### **LICHEN PLANUS (L P)**

LP of penis may be the sole manifestation of the condition, but it is most often part of a more wide spread eruption. Clinically, violaceous flat topped papules with a lacy white surface pattern is seen. Most commonly on the glans

penis and also on the penile shaft, prepuce. Older scrotal lesions may have a greyish hue associated with melanin incontinence into the dermis. Annular lesions occur on the glans and penile shaft. Erosive LP with oral involvement may persist for decades. In majority of cases, penile LP undergoes spontaneous remission in due course with residual post inflammatory hyperpigmentation. Squamous cell carcinoma is a rare complication of chronic LP<sup>(42)</sup>.

LP female genitalia are fairly common. The clinical presentation may be subtle, fine reticulate papules to severe erosive disease which is painful and its accompanied by scarring and loss of normal vulvar architecture<sup>(43)</sup>. Association of erosive LP of the vulva and vagina with desquamative gingivitis has been termed the Vulvo vaginal – syndrome<sup>(44)</sup>. In older females the association of co-existing vulvar and lichenoid oral lesions has been described<sup>(45)</sup>.

### **LICHEN NITIDUS [LN]**

An uncommon asymptomatic cutaneous disorder characterized by the appearance of small, discrete, skin coloured papules occurring most commonly on the penis, abdomen and arms<sup>(46)</sup>. Clinically shiny 1-2 mm, well demarcated domed, skin coloured papules are seen on the shaft of the penis. The course of penile LN is chronic and extending over years.

### **PITYRIASIS ROSEA**

The first manifestation called Herald patch which is large and more conspicuous than the later eruption, rarely may be seen on the penis<sup>(47)</sup>.

Clinically, sharply defined bright red, round or oval plaque covered by a fine scale.

## **SEBORRHEIC DERMATITIS**

Seborrheic dermatitis may occasionally involve the groin, scrotum, vulva, where it appears as an erythematous scaly thin plaque. The nature of the scales, as well as the more diffuse nature of the process and the presence of seborrheic dermatitis in other areas, may help distinguish this condition from psoriasis.

## **VITILIGO**

Amelanotic macules in vitiligo are found in areas that are normally hyperpigmented as in genitalia<sup>(48)</sup>. Both vitiligo and occupational leukoderma may involve the scrotum. Of 54 patients with occupational vitiligo, the penis and scrotum was affected in 38 patients<sup>(48)</sup>.

## **BULLOUS DERMATOSES**

### **Pemphigus Vulgaris**

It may first develop on the penis with flaccid bullae rupturing readily to form erosions and crusts. In females, urethra and vulva may be involved, erosion extending peripherally with shedding of epithelium<sup>(50)</sup>.

### **Pemphigus Vegetans**

It is exceedingly rare.





## **Bullous Pemphigoid**

It is more common in males. In females, it is a rare entity characterized by recurrent blistering confined to the vulva of young girls, which does not result in scarring<sup>(51)</sup>.

## **Pemphigoid gestationis and Dermatitis herpetiformis**

They have predilection for the genital area<sup>(51)</sup>.

## **Benign mucosal Pemphigoid**

It is rare in males, but may involve the corona (or) glans and scarring may produce meatal strictures. Genitals are involved in half of female patients with blisters and erosions of vulva<sup>(53)</sup>. Scarring leading to obliteration of vulvar architecture with labial fusion, introital shrinkage and end stage scarring resembling lichen sclerosus<sup>(54)</sup>.

## **Chronic Familial Benign Pemphigus**

Flaccid vesiculopustules, crusted erosions or expanding circinate plaques appear in perineum, groin. Hypertrophic vulvar lesions are seen<sup>(56)</sup>. Localized perineal papules and plaques with an acantholytic histology and without other features has been reported.

## **Linear IgA Dermatoses**

Involvement of perineum and vagina leads to scarring<sup>(56)</sup>.

## **Erythema Multi formae**

Bullae are commonly over the penis.

## **Epidermolysis Bullosa**

It may affect vulva but seldom affects the vagina.

## **LICHEN SCLEROSUS ET ATROPHICUS [LSA]**

This is a chronic idiopathic asymptomatic dermatosis characterized by white papules or plaques often occurring on the anogenital skin. Penile LSA is diagnosed most commonly in middle age. Symptomatic individuals report itching, burning with urination, painful erections, diminished sensation of the glans, or diminution in the caliber and force of the urinary stream in uncircumcised males, a sclerotic, constricting band forms 1 to 2 cm from the distal end of the prepuce sometimes causing phimosis and urinary obstruction. Clinically ivory white macules and plaques are noted in all patients<sup>(56)</sup>. It occurs most commonly on the glans and inner aspect of the prepuce, in some individuals, it may occur circumferentially around the urethral meatus. Untreated sclerotic lesions progress to BXO. In females mean age of onset is 5<sup>th</sup> or 6<sup>th</sup> decade and is more common than men at the ratio of 6 : 1 to even 10 : 1. It manifests as intensely itchy, hypo or depigmented, small polygonal papules or atrophic plaques with thin cellophane paper like texture, with telangiectasia, purpura, erosions or tender fissures in the labial sulci and perianal area. Vagina is never involved in LSA.

## **AVITAMINOSIS**

Deficiency of Vitamin A, C, Riboflavin and Nictotinamide produces mucocutaneous lesions. Pellagrous vulvitis presents markedly dirty brown,

blackish coarsely lamellar scaling or hyperkeratotic erythemas that form a rhagadiform pleated aspect. Erythema with seborrheic scaling may be seen. In males scrotal dry dermatitis occurs.

### **BALANITIS XEROTICA OBLITERANS (BXO)**

This is the end stage of some cases of chronic balanoposthitis. The most common disorder associated with BXO is lichen sclerosus<sup>(57)</sup> Clinically prepuce is thickened, contracted, fissured and fixed over glans penis and phimosis may result. Ivory white macule, papule are plaque is seen on the glans penis are prepuce. Risk of carcinoma is about 4-6%.

### **PLASMA CELL BALANITIS**

This presents as a solitary, persistent plaque on the glans of uncircumcised, middle aged to older men. The etiology and pathogenesis are unknown. Clinically an erythematous, shiny, moist and glistening macular to slightly raised plaque on the glans penis<sup>(58)</sup>. Coronal sulcus and inner prepuce may be involved. The color of the lesion is usually bright red due to microhaemorrhage resembling cayenne pepper appearance usually solitary but multiple and erosive, vegetative types have been reported<sup>(59)</sup>. Histologically, thinned epidermis with lozenge keratinocytes and spongiosis seen. Dense band like plasma cell infiltrate in dermis with vascular proliferation is seen.

# **INFLAMMATORY DISORDERS**

## **ALLERGIC CONTACT DERMATITIS [ACD]**

This occurs on the penis, scrotum and vulva often is more florid and symptomatic than on other sites. In non sensitized individuals, a minimum of 5 to 7 days elapses from the time of contact to onset of symptoms. In a previously sensitized individual, however the time varies with the quality of allergen and the individual reactivity but can be as short as 4 to 6 h. The extreme reactivity and tremendous vascularity of the penis maximizes the intensity of the ACD.

The risks of ACD of genital skin come from:

- (i) Direct contact with the allergen (eg. medicaments – even coal tar allergy has been reported<sup>(60)</sup>, contraceptive usage and prosthetic limbs in amputees<sup>(61)</sup>).
- (ii) Transfer of allergen (eg. urushiol as in poison oak, poison ivy)<sup>(62)</sup> to the genitalia and possibly subsequent exposure to sunlight (eg. psoralen from fig or citrus plants)
- (iii) Involvement in a more generalized eczematous response (eg. to a medicament )

Clinically, genital ACD presents with erythema and marked oedema and, in time, with microvesiculation and exudation seen on the penis. On the vulva, exudative, painful plaques occur.

## **IRRITANT CONTACT DERMATITIS**

Genital skin is more susceptible to topical irritants with high transepidermal water loss, predisposing the area to irritant and allergic contact dermatitis. This is commonly caused by condoms, douching agents, applied medicaments soaps, home remedies and underwear.

Clinically characterized by erythema and oedema on the scrotum and penis rather than vesiculation. In chronic cases lichenification, fissured dermatitis with (or) without papulovesiculation occurs. In females poorly demarcated erythema and hyperpigmentation which later on becomes lichenified.

## **ATOPIC DERMATITIS**

Individuals with atopic dermatitis frequently have involvement of the penis or scrotum as part of either flexural or generalized dermatitis. Atopic patients can have the dermatitis confined to single area of lichen simplex chronicus on the scrotum for year or decades.

## **HIDRADENITIS SUPPURATIVA**

Hidradenitis suppurativa, sometimes called apocrine acne or inverse acne, generally is manifested by the red papules and nodules that suppurate and drain, sometimes causing ulcerations.<sup>(63)</sup>

One manifestation of hidradenitis suppurativa is that of chronic ulceration as inflamed cysts break down. This can occur on keratinized, hair-bearing areas of the vulva but also can occur on the modified mucous

membranes.<sup>(64)</sup> Ulcerations are especially likely to occur in the setting of chronic oedema.

### **CROHN'S DISEASE:**

Crohn's disease of the penis is rare. Metastatic cutaneous ulceration of the penile shaft, multiple scrotal urinary fistulae and destruction of the proximal urethra have been reported<sup>(65)</sup>. In females vulval oedema<sup>(66)</sup> which is firm and often associated with fissures and sinus formation.

### **BALANITIS & BALANOPOSTHITIS**

Balanitis is an inflammatory condition of the glans penis, posthitis is an inflammation of the foreskin. Balanoposthitis is an inflammation of the contiguous & opposing mucosa of the glans penis and prepuce. It occurs in uncircumcised males. It may occur due to infection, trauma & irritants such as retained smegma & soaps<sup>(67)</sup>. Incidence is higher in 2 to 5 years of age, where it is characterized by erythema, swelling, discharge, dysuria, bleeding & ulceration of the glans. In adult uncircumcised males, it commonly occurs as an intertrigo with no specific etiologic agent identifiable .

Diabetes & glycosuria is a common predisposing condition<sup>(68)</sup>.

### **PEYRONIE'S DISEASE**

This is an idiopathic disorder of the penis that leads to distortion or angulation of the erect penis. Onset is usually in middle age. Symptomatically, erection may be associated with pain, caused by fibrosis of the tunica albuginea, the covering sheaths of the corpora cavernosa<sup>(69)</sup>. The inflammatory

plaque begins in the dorsal midline connective tissue near the base and extends to the adjacent tissue.

## **VULVODYNIA AND VESTIBULITIS**

This includes vulvodynia and vestibulitis, where patients complaints of chronic sensation of burning or redness of the vulval skin<sup>(70)</sup> in the former condition, and triad of dyspareunia, vestibular tenderness to light touch and erythema of the vestibular epithelium in the later condition<sup>(71)</sup>.

## **GENITAL MANIFESTATIONS OF SYSTEMIC DISEASES**

### **REITER'S DISEASE**

This is characterized by an episode of peripheral arthritis and urethritis and frequently is accompanied by circinate balanitis (CB), conjunctivitis, stomatitis, and keratoderma blenorrhagica. In uncircumcised males with CB, superficially erosive plaques with ragged margins occur around the corona, with smaller satellite lesions on the glans and prepuce<sup>(72)</sup>. In circumcised males, balanitis circinata sicca is seen associated with urethral discharge and periurethral erythema.

### **BEHCET'S SYNDROME**

It is the association of recurrent aphthous stomatitis with genital ulceration and eye disease<sup>(73)</sup>. Large, painful, deep aphthous- type ulceration

occur commonly on the scrotum and penis. In the females the genital ulcers are very painful.

## **PHLEBOTHROMBOSIS AND THROMBOPHLEBITIS**

Severe Raynaud's phenomenon associated with progressive systemic sclerosis can reduce penile arterial blood flow and cause impotence. In diabetics, occlusion of arterioles commonly results in neuropathy and erectile dysfunctions and rarely, infarction/gangrene of the penis. Penile gangrene can be associated with urolithiasis, urinarytract infections, infected piles, anaemia and penile calciphylaxis, occurring in diabetes mellitus with renal failure<sup>(74)</sup>. Clinically, they present as a subcutaneous cord that is usually nontender and lacks any signs of inflammation.

## **COLLAGEN VASCULAR DISORDERS**

Genital involvement in lupus erythematoses and dermatomyositis do occur, but they seem to be non specific<sup>(75)</sup>.

## **NON VENEREAL SCLEROSING LYMPHANGITIS OF THE PENIS**

It is a rare condition due to thrombosed or sclerosed distal lymphatic vessel of penis.<sup>(76)</sup> It's etiology is unknown, but often follows vigorous sexual activity. It has been reported to be frequently associated with trauma to this area and has a minimum inflammatory component. Clinically, a painless, firm, at times nodular translucent cord appears suddenly, usually parallel to the corona or the glans. It is a self limiting condition.



## **SCROTAL/PENILE OEDEMA**

This is characteristically painless, nontender and nonerythematous and may be acute or chronic and occurs as a result of local or distant disorders of lymphatic vessel inflammation, fibrosis, or obstruction. Because of the loose connective tissue support and the abundant vasculature of the genitalia, lymphoedema is often confined to the penis and scrotum and does not involve the abdominal wall. The causes are contact dermatitis, angioedema, parenteral fluid overload, and peritonitis.

## **ADVERSE CUTANEOUS DRUG REACTIONS**

### **FIXED DRUG ERUPTION [FDE],**

They follow ingestion of a sensitizing drug, occurring most commonly on the glans and distal shaft<sup>(77)</sup>. The common drugs implicated are<sup>(78)</sup>,

1. Antibiotics – Cotrimoxazole, Tetracycline, Ampicillin.
2. Foscarnet
3. Topical 5 FU cream
4. Imiquimod cream
5. Glucocorticoid induced atrophy
6. Papaverine induced ulcer
7. Isotretinoin
8. Warfarin necrosis
9. PUVA therapy
10. Injecting drug users

Patients often give a history of having identical lesions occurring at the same site.

Clinically they occur as inflammatory plaque of 2 to 3 cm in diameter that become bullous in some cases. Patients with previous FDEs often have macular, violaceous to brown hyperpigmentation.

The females sometimes erosions occur on the vulva, mostly located in the vestibule (or) on the modified mucous membrane of labia minora (or) medial aspects of labia majora. Erosions are irregular with shaggy border. The deepening hyperpigmentation as in keratinized skin is usually absent. The common drugs implicated are acetaminophen, allopurinol, barbiturates, NSAIDS, tetracycline, penicillin, sulfonamides, OC pills and frusemide.

## **BITES AND STINGS**

The clinical picture following *Latrodectus* bites is called latrodectism, being located most often on the genitals or buttocks as a result of being bitten while seated in a lavatory.

## **MECHANICAL INJURIES**

Traumatic urethral diverticula may be present as soft, compressible, nodulocystic lesions at the site of penile shaft<sup>(79)</sup>. Penile nodule due to self insertion of glass beads may be mobile & inert<sup>(80)</sup>. Fracture of the penis can occur, during sexual act<sup>(81)</sup>. Zip fastner injuries to the penis and strangulation by condom rings<sup>(82)</sup>, rubber bands, string, nuts, bushes may occur.

# **BENIGN EPITHELIAL AND APPENDAGEAL TUMORS**

## **VERRUCIFORM XANTHOMA**

This condition was first described in scrotal skin in 1981<sup>(83)</sup>. It seems to be more pedunculated common in the Japanese. The etiology and pathogenesis are unknown.. No evidence of an infective cause has yet been demonstrated and are rare over vulva<sup>(84)</sup>. Clinically, presents as a painless yellow, brown or red verrucous , sessile or papillary plaque in the anogenital region.<sup>(85)</sup>

## **FORDYCE ANGIOKERATOMA**

Angiokeratoma of scrotum & penis are characterized by ectasia of superficial dermal blood vessels and hyperkeratosis, pathogenesis is unknown <sup>(86)</sup>, but proposed etiologies include vascular ectasia, neoplasia and venous obstruction<sup>(87)</sup>. A defect of elastic fibres of scrotum has also been incriminated as the cause of ectasia.

It most commonly occurs in the scrotum as soft and compressible purple, 1- 5 , usually multiple with upto 50 – 100 caviar like scrotal papules and often lineup along small veins.

A corresponding lesion of the female genitalia has also been occasionally reported<sup>(88)</sup>. The lesions may be solitary or multiple may cause bleeding in pregnancy.

## **SYRINGOMAS**

Benign tumors of the eccrine sweat duct, occur on the penis, presenting as discrete, skin-colored, dome-shaped papules, 1 to 3 mm in size located on the dorsal and lateral aspects of the shaft.

## **SCROTAL CYSTS**

A common occurrence, whereas those arising on the penis are infrequent. Epidermal inclusion cysts may arise in scars.

## **IDIOPATHIC CALCINOSIS OF THE SCROTUM**

It is a benign idiopathic, common condition presenting as rock hard, smooth white papules or nodules on the scrotum. It is much rarer on vulva<sup>(89)</sup>. It may become secondarily infected following trauma.

## **HIDRADENOMA PAPILLIFERUM**

These appear as skin coloured papules or nodules on the vulva, showing apocrine type differentiation histologically.

## **OTHER TUMORS**

Seborrheic keratosis of the male genitalia may be mistaken for viral warts<sup>(90)</sup>. Rarely, Juvenile xanthogranuloma, Fabry's disease, Hansen's disease, Glomangioma, pyogenic granuloma, epitheloid haemangioma<sup>(91)</sup>, lymphangioma circumscriptum<sup>(92)</sup>, neurofibroma, granular cell myoblastoma<sup>(93)</sup> have been described.

# **PREMALIGNANT AND MALIGNANT TUMORS**

## **Buschke – Lowenstein Tumor**

This is a slowly growing squamous cell carcinoma accounting for upto 25% of penile caners, caused by human papilloma virus infection<sup>(94)</sup>. It occurs most frequently on the glans penis, prepuce and less often on the scrotum & perineal region, appearing as a cluster of genital warts. They are locally extremely aggressive and tend to recur repeatedly even after apparently adequate surgery<sup>(95)</sup>. Because of low grade aggressive nature, the prognosis is usually excellent.

## **SQUAMOUS CELL CARCINOMA IN SITU (ERYTHROPLASIA OF QUEYRAT)**

It is a premalignant condition most commonly occurring in uncircumcised males, also in chronic inflammatory dermatoses such as lichen sclerosus, lichen planus, BXO, and HPV infections<sup>(96)</sup>. The penile lesion is situated on the glans, beginning under the foreskin as a red glazed, barely raised, well circumscribed and rather irregularly shaped plaque which typically has a Lacquered appearance<sup>(97)</sup>. It is soft and supple and erosions may occur later. Invasive squamous cell carcinoma, usually presents as warty, exophytic papule (or) nodule, erythematous and indurated. SCC of the scrotum is less common than on the penis. SCC of the vulva presents with firm, indurated papules and nodules which may ulcerate. Metastasis to regional lymphnodes is common in

both penile and vulval carcinoma and has been reported in about 60%<sup>(98)</sup> and 30% of cases respectively<sup>(99)</sup>.

### **EXTRA MAMMARY PAGET'S DISEASE [EMPD]**

In males, it can occur anywhere in the anogenital area, including the glans penis, may be multicentric<sup>(100)</sup> and presents as irritating, itchy, burning, red scaly patches or plaques. In females vulva is the most common involved site, which is subdivided in to primary and secondary disease. The two most common tumors associated with secondary vulval EMPD are anorectal adeno carcinoma, and urothelial carcinoma of the bladder or urethra, and other associated tumors reported include cervix, endometrium, and ovary<sup>(101)</sup>.

### **BOWENOID PAPULOSIS**

It is characterised by multiple, brown, small 2-10 mm, slightly elevated papules. The lesions are asymptomatic, usually seen over penile shaft and glans in men and over perineal area and vulva in women. The histopathological features are identical to erythroplasia of queyrat and bowen's disease, but the cytological atypia is less severe<sup>(102)</sup>. Invasive carcinoma is extremely rare<sup>(103)</sup> and spontaneous regression has been reported<sup>(104)</sup>.

### **PSEUDO EPITHELIOMATOUS, KERATOTIC, MICACEOUS BALANITIS OF CIVATTE [PEMKB] AND PENILE HORN**

PEMKB is a rare penile condition, which presents as thick scaly micaceous patches on glans penis in older uncircumcised men<sup>(105)</sup>. Some consider this as a variant of lichen sclerosus or a form of locally

invasive verrucous carcinoma. Metastatic spread has not occurred except where there was a penile horn<sup>(106)</sup>.

## **BASAL CELL CARCINOMA (BCC) OF THE PENIS AND SCROTUM**

BCC, the most common malignancy in geographic regions populated by fair-skinned individuals, rarely arises in the penis or scrotum. Ultraviolet radiation exposure, which is a major etiologic factor in BCC at other sites, is an uncommon factor in the pathogenesis of anogenital lesions. As with other skin cancers, BCC of the genital skin is much more common in fair-skinned than heavily melanized males. Clinically, the most common presentation of penile and scrotal BCCs is pearly papule with surface telangiectasia but ulcerative, cicatricial, and superficial multicentric variants do occur.

## **BOWEN'S DISEASE OF THE VULVA**

This is best regarded as an analogue of Erythroplasia of Queyrat<sup>(107)</sup>. It is etiologically related to previous HPV infection<sup>(108)</sup>, and is characterized by intractable, severe itching. There are multiple lesions which are flat, red (or) pigmented, velvety (or) granular plaques, with well demarcated hyperpigmented margins<sup>(109)</sup>. Anterior Vulva and especially labia minora are the main sites involved. History of bleeding (or) a palpable mass suggests invasive changes.

## **MALIGNANT MELANOMA**

Melanoma of the penis and vulva are rare and comprise about 1%<sup>(110)</sup> and 4-10%<sup>(111)</sup> of all malignancies at these sites respectively.

## **SARCOMAS**

Sarcomas of the genitalia are extremely uncommon.

## **AIMS OF THE STUDY**

1. To study about the common dermatological disorders affecting the genitalia
2. Age and sex relation ship of the genital dermatoses
3. Clinical presentation of the genital dermatoses and confirmation by relevant histopathological and microbiological tests.



# **MATERIALS AND METHODS**

## **Materials**

The study was conducted from December 2003 – December 2005. All new patients presenting to the Department of Dermatology, Chennai during this period were screened, and those found to have genital lesions were included in this study. A total of eighty cases with different forms of genital lesions formed the subject of study.

All age groups and both sexes were included. A proforma was filled with demographic data, history, clinical features, provisional diagnosis, laboratory investigation and final diagnosis.

## **Methodology**

A detailed history of presenting complaints was taken after which the patients were classified into one of the following groups.

- i). Those who presented with lesion only on the genitals.
- ii). Those who presented with generalised skin lesions but on examination were found to have genital lesion.

iii). Those who have history of exposure to the risk of sexually transmitted diseases, who had genital lesion and associated sexually transmitted diseases were excluded from the study.

Only groups (i) & (ii), which are not transmitted by sexual route formed the subject of study.

Certain specific and relevant history like history of trauma, drug intake, topical irritant application, urethral symptoms, circumcision and history of recurrence were elicited from patients in relevant cases. Menstrual and parturition history were elicited in female patients.

Thorough examination of genital lesion was done with special relevance to the morphology, number, tenderness, regional lymphnode involvement etc. Complete physical and systemic examination was done. Associated skin lesions were noted.

Investigations like complete haemogram, urine examination was done in all cases. Other tests like LFT, RFT, serum cholesterol, CXR, ECG were done in selected cases. Special tests like gram's stain, patch test, Tzanck smear, urine culture and sensitivity, biopsy were done in relevant cases. In suspected cases, VDRL, HIV test were done to rule out STD.

The data obtained from the above studies were analysed and discussed here.

## OBSERVATIONS

Analysis of data about age - sex distribution in 80 patients are given in

Table -1.

<i>Age group in years</i>	<i>Male</i>	<i>Female</i>	<i>Total</i>	<i>Percentage of Total</i>
0-10	2	1	3	3.75
11-20	4	2	6	7.5
21-30	13	3	16	20.0
31-40	31	5	36	45.0
41-50	11	2	13	16-25
51-60	4	1	5	6.25
61-70	1	-	-	1.25

Total No. of Males	-	66 (82.5%)
Total No. of Female	-	14 (17.5%)
Total No. of Adults	-	71(88.75 %)
Total No. of Children	-	9(11.25 %)
Male Female ratio	-	4.7:1
Peak incidence in age group	-	31 – 40 years (45%)
Least incidence in age group	-	above 60 years (1.25%) and less than 10 yrs (3.75%)

Sex Distribution in Table 2

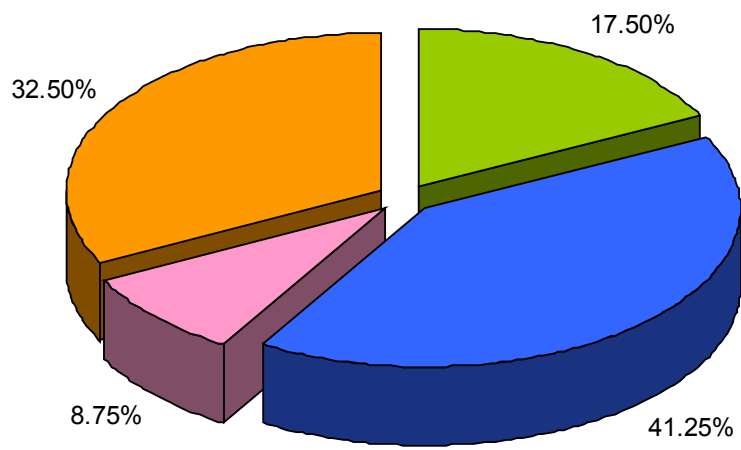
<i>Sex</i>	<i>No. of patients</i>	<i>Percentage</i>
Male	66	82.5
Female	14	17.5
Total	80	100.00

45% of patients were between the ages of 31-40 years, least affected group were children <10yrs (3.75%), adults > 60 yrs (1.25%).

Eighty patients with genital lesions were classified into four major groups, which are, depicted in Chart 1 and Table 3.

1. General cutaneous diseases
2. Infections and infestations
3. Tumors
4. Miscellaneous

**Chart 1 : Distribution of Diagnosis in Non Venereal Genital Lesions**



■ Tumours ■ General Cutaneous Diseases ■ Miscellaneous ■ Infections & Infestations

## NON – VENEREAL GENITAL LESIONS

**TABLE 3**

<b>DIGNOSIS</b>	<b>NO. OF PATIENTS</b>	<b>PERCENTAGE OF TOTAL</b>
<b>General cutaneous diseases</b>	<b>Total No. 33</b>	<b>41.25%</b>
Vitiligo	12	15.0
Lichen planus	5	6.25
Psoriasis	4	5.0
Lichen sclerosus et atrophicus	3	3.75
Bullous disorders	3	3.75
Dermatitis	2	2.5
Drugs	2	2.5
Plasma cell balanitis	1	1.25
Lichen nitidus	1	1.25
<b>Infections and Infestations</b>	<b>Total No. 26</b>	<b>Percentage of total 32.5%</b>
Parasitic infections	10	12.5
Fungal	9	11.25
Bacterial	4	5.0
Viral	2	2.5
Filarial	1	1.25
<b>Tumors</b>	<b>Total No. 14</b>	<b>Percentage of total 17.5%</b>
Benign	11	13.75
Premalignant & malignant	3	3.75
<b>Miscellaneous</b>	<b>Total No. of . Patients =7</b>	<b>Percentage of total 8.75%</b>
Fixed drug eruption	2	2.5
Balano posthitis	2	2.5
Paraphimosis	1	1.25
Fox- fordyce	1	1.25
Mondor's disease	1	1.25
<b>Total</b>	<b>80</b>	<b>100.00</b>

**Distribution of diagnosis in adults and children are given in Table 4.**

<b>Diagnosis</b>	<b>Adults Total - No &amp; % 61+11=72</b>		<b>Children Total - No &amp; % 5+3=8</b>		<b>Total</b>
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	
Vitiligo	7 (11.47)	3 (27.27)	-	2 (66.66)	12
Lichen planus	4 (6.55)	1 (9.09)	-	-	5
Psoriasis	3 (4.91)	1 (9.09)	-	-	4
Scabies	7 (11.47)	-	3 (60)	-	10
Pemphigus vulgaris	3 (94.19)	-	-	-	3
Fungal infection	6 (9.83)	3 (27.27)	-	-	9
Sebaceous cyst	6 (9.83)	-	-	-	6
Toxic epidermal Necrolysis	2 (3.27)	-	-	-	2
Lichen Sclerosus et atrophicus	1 (1.63)	1 (9.09)	-	1 (33.33)	3
Balano posthitis	2 (3.27)	-	-	-	2
Squamous cell carcinoma	2 (3.27)	-	-	-	2
Pearly penile papule	2 (3.27)	-	-	-	2
Eczema	1 (1.63)	-	-	-	1
Seborheic dermatitis	1 (1.63)	-	-	-	1
Molluscum contagiosum	-	-	1 (20)	-	1
Wart	1 (1.63)	-	-	-	1
Lymphangioma circumscriptum	1 (1.63)	-	-	-	1
Lichen nitidus	-	-	1 (20)	-	1
Neuro fibroma	-	1 (0.09)	-	-	1

Plasma cell balanitis	1 (1.63)	-	-	-	1
Filariasis	1 (1.63)	-	-	-	1
Fournier's gangrene	1 (1.63)	-	-	-	1
Para phimosis	1 (1.63)	-	-	-	1
Mondor's disease	1 (1.63)	-	-	-	1
Folliculitis	1 (1.63)	-	-	-	1
Calcinosis cutis	1 (1.63)	-	-	-	1
Fox Fordyce	-	1 (9.09)	-	-	1
Erythroplasia of queyrat	1 (1.63)	-	-	-	1
Hidradinitis suppurativa	1 (1.63)	-	-	-	1
Hansen's disease	1 (1.63)	-	-	-	1
Fixed drug eruption	2 (3.27)	-	-	-	2
<b>Total</b>	<b>61</b> <b>(100)</b>	<b>11</b> <b>(100)</b>	<b>5</b> <b>(100)</b>	<b>3</b> <b>(100)</b>	<b>80</b>

Results about the frequency of each condition is analysed here.



**VITILIGO:** This condition formed the largest group in this study with twelve patients (15%) (Fig. 1 & 2) Age- sex distribution is given in Table - 5.

**Tab -5**

<i>Age group in years</i>	<i>Male</i>	<i>Female</i>
0-10		1
10-20		1
21-30	2	1
31-40	4	1
41-50		1
51-60	1	1
61-70	-	-
Total	7	5

**CLINICAL PRESENTATION**

**Tab - 6**

<i>Complaints</i>	<i>No. of Patients</i>	<i>Percentage</i>
Skin lesion	2	16.66
Genital lesion	10	83.33

**Tab - 7**

<i>Site</i>	<i>No of Patients</i>	<i>Percentage</i>
Prepuce	6	50
Glans	4	33.33
Scrotum	2	16.66
Labium major	5	41.66
Lm, clitoris	3	25

Family history of vitiligo was given in one patient. Two patients (16.66%) gave history of precipitating factors like previous trauma.



**Fig.1 VITILIGENOUS PATCH OVER THE MALE GENITALIA**



**Fig.2 VITILIGENOUS PATCH OVER THE FEMALE GENITALIA**

## II SCABIES

Formed the next commonest condition in the study with ten patients (12.5%) (Fig 3). All patients had genital itching and five (50%) patients gave history of similar complaints in other family members.

**Age- Sex distribution in Tab.8**

<i>Age group in years</i>	<i>Male</i>	<i>Female</i>
0-10	1	-
11-20	2	
21-30	3	-
31-40	4	-
41-50		
51-60		
61-70		

### CLINICAL PRESENTATION

**Tab - 6**

<i>Complaints</i>	<i>No. of Patients</i>	<i>Percentage</i>
Skin lesion	2	16.66
Genital lesion	10	83.33

**Tab - 7**

<i>Site</i>	<i>No of Patients</i>	<i>Percentage</i>
Prepuce	6	50
Glans	4	33.33
Scrotum	2	16.66
Labium major	5	41.66
Labia minora, clitoris	3	25



**FIG 3. SCABETIC PAPULES OVER THE PENILE SHAFT**

**Table - 11**

<i>Morphology</i>	<i>No of Patients</i>	<i>Percentage</i>
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Papules	8	80
Nodules	2	20

Duration of symptoms ranged from a few days to a maximum of 3 months.

### **III FUNGAL INFECTIONS**

Formed the 3<sup>rd</sup> largest group which includes candida and tinea infections in a total number of nine patients (11.25%)

#### **AGE, SEX, DISTRIBUTION IN TABLE 12**

<i>Age group in years</i>	<i>Male</i>	<i>Female</i>
0-10		
11-20		
21-30		
31-40	6	2
41-50		1
51-60		
51-70		

<i>Dermatoses</i>	<i>No. of patients</i>	<i>Percentage</i>
Candida	7	77.77
Tinea	2	22.22

#### **CANDIDA INFECTION:**

All patients with candidal infection were symptomatic with itching and erythema or both (Fig 4). Duration of symptoms ranges from ten days to 8 months. Two patients had prior therapy. 10% KOH examination was done in

all the patients which showed candidal hyphae, confirming the diagnosis (Fig.5).

### **CLINICAL PRESENTATION**

**Table -13**

<i>Sites</i>	<i>No. of Patients</i>	<i>Percentage</i>
Prepuce	4	57.14
Glans	2	28.57
Labium major	3	42.85
Labium minor	2	28.57

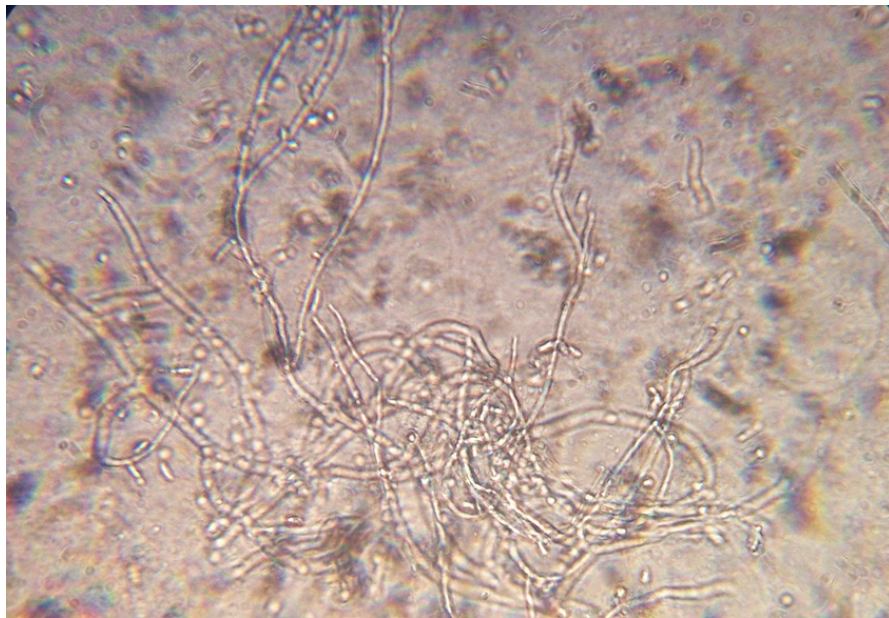
**Table - 14**

<i>Morphology</i>	<i>No. of Patients</i>	<i>Percentage</i>
Erythematous Patch	3	42.85
Whitish plaque	3	42.85
Fissures	2	28.57

**TINEA INFECTIONS:** Two patients (22.22%) had Tinea genitalis with involvement of scrotum and penile shaft. 10 % KOH examination was positive in these patients. One patient had prior treatment.



**Fig.4 WHITISH PLAQUES AND FISSURES OVER THE GLANS AND PREPUCE DUE TO CANDIDIASIS**



**Fig.5 10% KOH MOUNT SHOWING CANDIDAL PSEUDOHYPHAE**

**TUMORS:**

Formed the next common presentation with fourteen patients (17.5%), predominantly of sebaceous cyst in six patients (9.83%), given in Table.15

<i>Type of Lesions</i>	<i>No of Patients = 14</i>	<i>Percentage (17.5)</i>
Sebaceous cyst	6	9.38
Pearly penile papule	2	3.27
Squamous cell carcinoma	2	3.27
Lymphangioma circumscriptum	1	1.63
Calcinosis cutis	1	1.63
Neuro fibroma	1	1.63
Erythroplasia of queyrat	1	1.63

Sebaceous cyst of scrotum formed the majority of tumors (Fig. 6).





**Fig.6 MULTIPLE SEBACEOUS CYST OF THE SCROTUM**



**Fig.7 PEARLY PENILE PAPULES OVER CORONA GLANDIS**

### Age – Sex distribution in Table -16

<i>Age group in years</i>	<i>Male</i>	<i>Female</i>
0-10		
11-20		
21-30		
31-40		
41-50	5	
51-60		
61-70	1	

Age group ranges from 40-70 years. All patients presented with genital symptoms. Four patients (66.66%) had pain and oozing on & off from the lesions. All patients had yellowish papules on the scrotum and one had on the shaft of penis also. Biopsy was done in two cases which was consistent with the diagnosis.

#### ***PEARLY PENILE PAPULE:***

Seen in two patients in the age group of 20-40 years (Fig. 7). They had lesions on the coronal sulcus as row or pin point flesh coloured papules, which were totally asymptomatic.

#### ***SQUAMOUS CELL CARCINOMA:***

Seen in two patients in the age group of 40-60 years (Fig. 8). One had involvement of shaft of penis with destruction of glans penis and other patient had extensive involvement with whole genital destruction. Two patients had pain and bleeding from growth. It presented as a proliferative cauliflower like



**Fig.8 SQUAMOUS CELL CARCINOMA OF MALE GENITALIA WITH LYMPHNODE INVOLVEMENT**



**Fig.9 LYMPHANGIOMA CIRCUMSCRIPTUM OF THE SCROTUM**



**Fig.10 CALCINOSIS CUTIS OF THE SCROTUM**



**Fig.11 NODULES OF NEUROFIBROMATOSIS SEEN OVER MONS PUBIS AND LABIUM MAJUS**

growth with bleeding tendency in both the patients. Biopsy was done in these cases which was consistent with diagnosis

#### ***LYMPHANGIOMA CIRCUMSCRIPTUM***

One male patient [1.63%] in the age group of 40-50 years presented with multiple vesicles over the scrotum which was totally asymptomatic (Fig. 9).

#### ***CALCINOSIS CUTIS***

One male patient [1.63%] in the age group of 50-60 years presented with multiple papules and plaques over the scrotum which was asymptomatic (Fig. 10).

#### ***NEURO FIBROMA***

Seen in one female patient [0.09%] patient in the age group of 20-30 years. Multiple nodules seen over the labia majora and mons pubis with associated skin lesions (Fig. 11).

#### ***LICHEN PLANUS***

Five patients (6.25%) of Lichen planus presented with genital involvement of the age group ranging from 20-40 years (Fig. 12 & 13).

**Age - Sex distribution is given in Tab-17.**

<i>Age</i>	<i>Male</i>	<i>Female</i>
0-10		
11-20		
21-30	1	
31-40	3	1
41-50		
51-60		



**Fig.12 ANNULAR LICHENPLANUS OVER SHAFT OF PENIS**



**Fig.13 LICHEN PLANUS SEEN OVER GLANS PENIS**

## CLINICAL PRESENTATION

**Table 18:**

<i>Complaints</i>	<i>No. of Patients</i>	<i>Percentage</i>		<i>Site</i>	<i>No. of Patients</i>	<i>Percentage</i>
Skin lesion	3	60		Glans, Prepuce	3	60
Genital Lesion	2	40		Penile shaft	2	40
				Scrotum	1	20
				Labia minora	1	20

**Table: 19**

<b>Morphology</b>	<b>No. of Patients</b>	<b>Percentage</b>
Plaques	3	60%
Papules	2	40%

Four patients (80%) had itching and one patient was asymptomatic. Biopsy was done in three patients which was confirmatory.

### **PSORIASIS:**

Four patients (5%) presented with genital involvement of psoriasis with age group ranging from 20-50 years (Fig. 14). All patients had associated lesions on the body and itching over the genital lesion.



**Fig.14 PSORIATIC PLAQUES OVER PENIS AND SCROTUM**



**Fig.15 LICHEN SCLEROSUS ET ATROPHICUS OF VULVA WITH CUTANEOUS INVOLVEMENT**



**Age-sex distribution in Table – 20:**

<i>Age</i>	<i>Male</i>	<i>Female</i>
0-10		
11-20		
21-30	1	
31-40	1	1
41-50	1	
51-60		
61-70		

**CLINICAL PRESENTATION**

**TABLE-21**

<i>Site</i>	<i>No of Patients</i>	<i>Percentage</i>
Shaft of penis	3	75
Scrotum	1	25

**TABLE - 22:**

<i>Morphology</i>	<i>No of Patients</i>	<i>Percentage</i>
Scaly Plaques	3	75
Erythematous patches	1	25

***Lichen Sclerosus et atrophicus [LSA]:***

Three patients (3.75%) presented with genital LSA with age group from 10-50 years.

**Age sex distribution in Table. 23.**

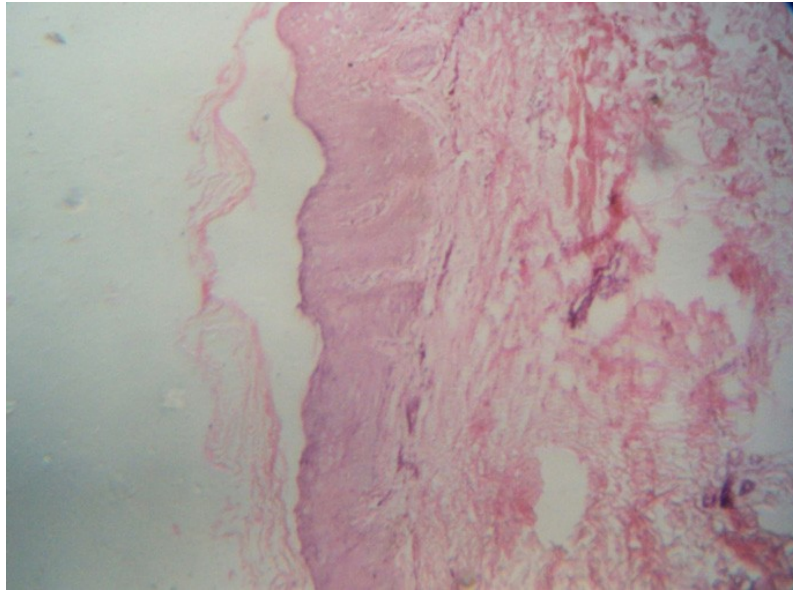
<b>Age Group</b>	<b>Male</b>	<b>Female</b>
0-10		
11-20		1
21-30		
31-40		
41-50	1	1
51-60		
61-70		

All patients presented with atrophic hypopigmented itchy plaques. One child had hypopigmented plaque with central dellings.

In females, it is seen over labia majora & minora & in males seen over the rim of prepuce. Two patients did not have associated skin lesions erupt in one which and female child had involvement of the skin also (Fig. 15). Male patient complained of difficulty in passing urine. Biopsy was done in two patients which was consistent with diagnosis.

***BULLOUS DERMATOSES:***

Three Male patients (3.75%) had generalised bullous dermatoses with involvement of genitalia, in the age group of 30-40 years. They had pain and itching over the lesion. Two patients presented with vesicles and bullae and one patient with erosion. Tzanck test was positive and biopsy was done in two patients which confirmed the diagnosis of pemphigus vulgaris (Fig. 16).



**Fig.16 PEMPHIGUS VULGARIS - H & E SECTION SHOWING SUPRABASAL BULLA WITH ROW OF TOMB STONE APPEARANCE**



**Fig.17 EXTENSIVE GENITAL AND CUTANEOUS INVOLVEMENT IN TOXIC EPIDERMAL NECROLYSIS**

### **TEN (TOXIC EPIDERMAL NETROLYSIS)**

Two male patients (2.5%) in the age group of 30-50 years had genital lesion, following the ingestion of analgesics. All had associated skin lesions. Patient presented with complete erosion and scaling over the shaft of penis, glans and scrotum (Fig. 17).

### **DERMATITIS:**

Seborrheic dermatitis was seen in one (1.63%) patient with involvement of scrotum and penile shaft associated with involvement of other seborrheic areas of the body, consisting of scaly patches with occasional itching.

Erythema over glans penis due to irritant contact dermatitis to dettol was seen in one patient. He had burning sensation of the glans penis after washing the genitalia with dettol.

### **FIXED DRUG ERUPTION:**

Two male (3.27%) patients with age group ranging from 31-40 years presented with ulcer and erythematous patch over the glans penis & prepuce, with exacerbation following ingestion of cotrimaxazole tablets. One patient had associated skin and oral lesions.

### **BALANOPOSTHITIS:**

Two uncircumcised male patients (3.27%) in the age group of 30-50 years presented with erythema, swelling and ulceration of glans. Both were uncircumcised and had very poor genital hygiene. One patient had associated candidal infection.

***FOURNIER'S GANGRENE:***

One male patient (1.63%) in the age group of (20-30 years) presented with ill defined plaque with ulceration showing sloughy base with necrotic debris over the scrotum. He gave history of trauma followed by tissue necrosis. Gram's stain showed streptococci infection.

***PLASMA CELL BALANITIS;***

An uncircumcised male patient (1.63%) in the age group of 30-40 years presented with velvety erythematous shiny patch over prepuce with extension to the glans penis (Fig. 18). Biopsy was done, and it was consistent with the diagnosis.

***HANSEN'S DISEASE:***

One male patient (1.63%) in the age group of 20-30 years presented with hypopigmented anaesthetic patches over the body who on examination showed involvement of shaft of penis. There was a well defined hypopigmented plaque seen over the shaft of penis, which was anaesthetic and biopsy was done which confirmed the border line tuberculoid hansen's disease (Fig. 19).

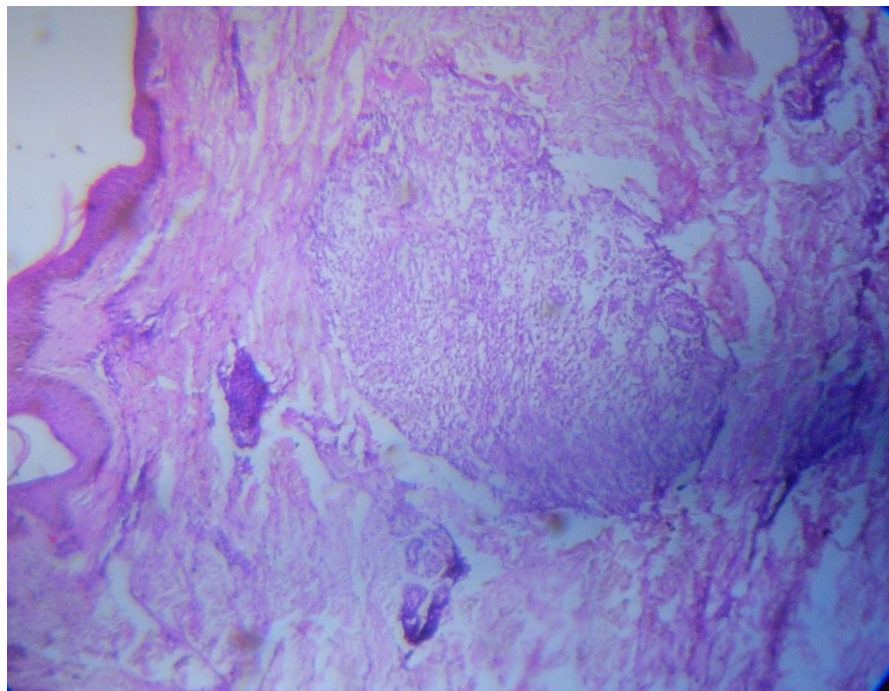
***MOLLUSCUM CONTAGIOSUM:***

One male child (20%) in the age group of 10-20 years presented with multiple dome shaped umblicated papules over the scrotum and shaft of penis and groin (Fig. 20) which was totally asymptomatic of 20 days duration.

Molluscum bodies were extruded with tincture iodine puncture confirming the diagnosis.



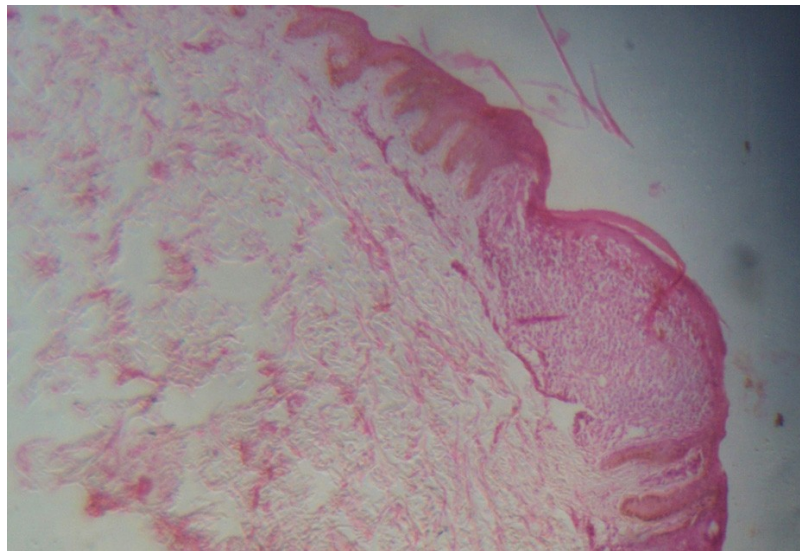
**Fig.18 PLASMA CELL BALANITIS OF MALE GENITALIA**



**Fig.19 BORDERLINE TUBERCULOID HANSEN - H & E SECTION SHOWING GRENZ ZONE AND TUBERCULOID GRANULOMA IN THE DERMIS**



**Fig.20 MOLLUSCUM CONTAGIOSUM OVER THE SCROTUM AND PENIS.**



**Fig.21 LICHEN NITIDUS- H & E SECTION SHOWING DENSE INFILTRATE OF LYMPHOCYTES AND HISTIOCYTES IN AN**

## **EXPANDED DERMAL PAPILLA, WITH VACUOLAR ALTERATION OF BASAL LAYER AND FOCAL PARAKERATOSIS**

### ***LICHEN NITIDUS:***

One male child (20%) in the age group of 0-10 years presented with multiple small discrete skin coloured papules over the shaft of penis, which was totally asymptomatic of 2 months duration. He had involvement of arms, and abdomen. Biopsy was done which confirmed the diagnosis (Fig. 21).

### ***FOX-FORDYCE DISEASE:***

One female patient (9.09%) in the age group of 20-30 years presented with multiple itchy, follicular papules over the mons pubis and labia of 3 months duration.

### ***PARAPHIMOSIS:***

One male patient (1.63%) in the age group of 20-30 years presented with severe pain and oedema over the glans and prepuce (Fig. 22) of 3 days duration. He had phimosis prior to onset. Surgical reduction was done followed by circumcision.

### ***WART:***

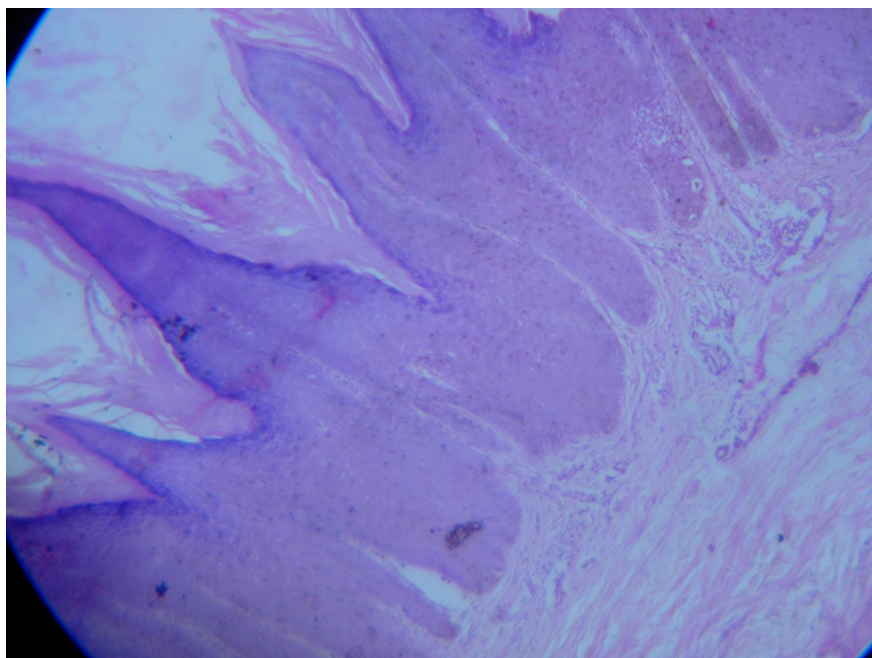
One male patient (1.63%) in the age group of 20-30 years presented with hyperpigmented, verrucous plaque over the shaft of penis of one month duration. He had occasional itching. Biopsy was done which was consistent



with the diagnosis (Fig. 23). He did not give any history of exposure to sexually transmitted diseases and serological tests were negative.



**Fig.22 PARAPHIMOSIS WITH ODEMA OF PREPUCE.**



**FIG 23. GENITAL WART - H & E SECTION SHOWING  
HYPERKERATOSIS, HYPER GRANULOMATOSIS ACANTHOSIS  
AND PAPPILOMATOSIS WITH KOILOCYTES**



**FIG 24. FILARIAL SCROTUM WITH RAM'S HORN PENIS.**



**FIG 25. MONDOR'S DISEASE SHOWING THROMBOPHLEBITIS OF PENILE VEIN.**

***FILARIAL SCROTUM:***

One male patient (1.63%) in the age group of 40-50 years presented with elephantiasis of the scrotum with partially buried penis (Fig. 24) with non pitting edema of right lower limb of 5 years duration. He had dragging pain over the scrotum and itching.

***HIDRADENITIS SUPPURATIVA:***

One male patient (1.63%) in the age group of 40-50 years presented with hyperpigmented, hypertrophic plaque with scarring and sinus tracts over the groins and scrotum of 6 months duration. He had pain and discharge on and off from the lesions. He had prior treatment and he was a cook by occupation.

***FOLLICULITIS:***

One male patient (1.63%) in the age group of 20-30 years presented with painful, follicular pustules over the glans, monpubis and over the scrotum of 12 days duration following shaving of genital area. Gram's stain showed staphylococcal infection.

***MONDOR'S DISEASE:***

One male patient (1.63%) in the age group of 20-30 years had thrombophlebitis of vein over penis (Fig. 25). He had pain on and off over the lesion.

## **DISCUSSION**

The present study was undertaken to identify the different non-venereal genital dermatoses in patients attending the dermatology clinic during December 2003 to December 2005. A total of eighty patients were found to have non -venereal genital dermatoses.

The common age group found to be affected were between 21-40 years, which correlates with the previous study conducted by Thappa DM et al <sup>(112)</sup>. Peak incidence in adults were between 31-40 years (45%) and least affected age group were children less than 10 years (3.75%) and adults older than 60 years (1.25%)<sup>(113)</sup>. Sex ratio was found to be 4.7:1 (M:F) which correlates with the previous study of ratio 4.4:1<sup>(113)</sup>.

The common genital dermatoses in the order of frequency were general cutaneous diseases (41.25%), infections and infestations (32.5%), tumors (17.5%), and other conditions (8.75%), which correlates with the previous study <sup>(113)</sup> showing following percentages, 42.37%, 39.22%, 9.64% and 8.74% respectively. Tumors show increased frequency of occurrence (17.5%) in the present study compared with the previous study (9.64%)<sup>(113)</sup>.

### ***VITILIGO:***

Genital vitiligo was the most common disorder accounting for twelve patients (15%), confirming the results of study by Thappa et al

<sup>(112)</sup>. Male predominance was seen in the age group of 20-40 years. Koranne et al had found onset in the first three decades in 85% of cases <sup>(114)</sup>. Prepuce (50%) and glans penis (33.33%) were the commonest sites of involvement, confirming the results of previous study <sup>(113)</sup>.

Among the infections and infestations scabies was the commonest condition, like the previous study by Thappa et al <sup>(112)</sup>. Ten patients (12.5%) were found to have genital lesions with male predominance in the age group of 31-40 years <sup>(113)</sup>, six patients (60%) had extra-genital classical scabies lesions. Persistent pruritic nodule was seen in two (20%) patients. Shaft of the penis (90%) was the most commonly involved site.

#### ***FUNGAL INFECTIONS:***

Seven patients (77.77%) with candidal infection in the age group of 31-40 years, showed genital candidiasis, which include four male patients and three female patients. Clinically, presented as an erythematous patch (42.85%) and whitish plaque (42.85%) most commonly over the prepuce (57.44%) in males, and labia (42.85%) in females <sup>(113)</sup>. 10% KOH was positive in five cases (73%). Two patients had Tinea genitalis with involvement of scrotum and shaft of penis <sup>(113)</sup>. 10% KOH examination was positive in these patients.

### ***TUMORS:***

Sebaceous cysts in six male patients (9.83%) of age group between 41-50 years were reported, with all the patients (100%) having cysts over the scrotum <sup>(113)</sup>. All patients (100%) presented with genital symptoms. Four patients (60.66%) had complaints of pain and oozing on and off from the genital lesions.

### ***LICHEN PLANUS:***

Five patients (6.25%) had genital involvement of lichen planus with male predominance in the age group of 20-40 years. Three patients (60%) had associated skin lesions. Three patients (60%) presented with plaques and two patients (40%) with papules.

Glans penis and prepuce (60%) were the most common sites involved in males<sup>(113)</sup>, and labia minora (20%) in females. Four patients (80%) had genital itching.

### ***PSORIASIS:***

Four male patients (5%) had genital involvement of psoriasis, in the age group of 20-50 years. Scaly plaques (75%), were the chief clinical presentation and shaft of the penis (75%) was the most common site involved<sup>(113)</sup>. All patients had associated skin lesions over the body<sup>(41)</sup>.

### ***LICHEN SCLEROSUS ET ATROPHICUS:***

Three patients (3.75%) presented with genital lichen sclerosus et atrophicus, in the age group of 10-50 years. In two (68%) female patients labia majora and minora were found to be involved<sup>(113)</sup>, and in one male patient prepuce was involved. One female child in the age group of 11-20 years had associated skin lesions with central delling. All patients presented with atrophic hypopigmented plaques with genital itching<sup>(56)</sup>.

### ***BULLOUS DERMATOSUS:***

Three male patients (3.75%) in the age group of 40-50 years had genital involvement of bullous dermatoses. Glans penis was the usual site of involvement and all patients had associated skin lesions<sup>(115)</sup>.



## **CONCLUSION**

1. The common non venereal genital dermatoses in males in the order of frequency were vitiligo, fungal infections, scabies and tumors whereas in females were vitiligo and fungal infections.
2. Other dermatoses were Lichen nitidus, Seborrheic dermatitis, Plasma cell balanitis, Hansen's disease, Fournier's gangrene, Filariasis, Paraphimosis, Molluscum contagiosum, Wart, Hidradinitis suppurativa, Neurofibroma, Folliculitis, Fox Fordyce Disease and Mondor's disease.
3. Sex ratio was found to be 4.7:1 (Male :Female).
4. Non venereal genital dermatoses were more common in males, seen in the age group of 31-40 years. Children less than 10 years (3.75%) and adults older than 60 years (1.25%) were the least affected groups.
5. Most of the patients (80%) presented for their genital lesions.
6. The commonest sites of involvement in males were scrotum (50%) followed by prepuce and shaft of penis(36%). In females labia majora (93%) followed by labia minora (57%) were found to be the commonly involved sites.
7. 45% of patients with genital dermatoses had associated skin lesions of the same condition.
8. The non venereal genital dermatoses had classical morphology and histopathology in almost 90% of cases.
9. Hence thorough knowledge about the classical morphology and histopathological features is essential for the accurate diagnosis and management.

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# **PROFORMA**

**Name:**

**Address:**

**Age:**

**Marital status:**

**Sex:**

**Occupation:**

**Case no.:**

**Hospital no.:**

**Present complaints:**

**H/o present illness:**

**General examination:**

**1. Built**

**2. Height**

**3. Weight**

**4. Pallor**

**5. Vital signs: PR**

**BP**

**RR**

**4. Systemic examination:**

**CVS**

**RS**

**ABD**

**CNS**

**6. Examination of Bones and Joints:**

**DERMATOLOGICAL EXAMINATION:**

**1. Site**

- 2. Morphology of lesion**
- 3. Extent of lesion**
- 4. Associated skin lesions**
- 5. Examination of Hair, Nails & Mucosa**
- 6. Any specific diagnostic sign**

For e.g. in case of pemphigus

1. Bulla spreading sign Positive/Negative
2. Nikolsky sign Positive/Negative

# **INVESTIGATIONS**

**1. Hb%            TC            DC            ESR**

**2. Urine examination**

**3. Urine culture & sensitivity if needed**

**4. Liver function test**

**5. Renal function test**

**6. Tzanck smear**

**7. Biopsy**

**8. 10% KOH mount**

**9. Gram's stain**

**10. Pus culture & sensitivity**

**11. CXR, ECG**

**12. Patch test**

**13. Wood's lamp examination**

**14. Immuno fluorescence test**

## MASTER CHART

S. No.	Age	Sex	Presenting Complaints	Duration of genital lesion	Precipitating Factor	Prior Treatment	Genital Lesion			Skin Lesion	Investigations				Diagnosis
							Morphology	Sites	No		KOH	Gram stain	Biopsy	Others	
1.	30	M	SK	< 1m	-	+	P	G,P	M	S					Lichen Planus
2.	34	M	Ge	< 2m	-	-	PI	Pe,S	S	-			□		Lichen Planus
3.	40	M	SK	< 1m	-	+	PI	G,P	M	S					Lichen Planus
4.	35	F	SK	< 2m	-	-	P	LM	M	S			□		Lichen Planus
5.	25	M	Ge	3 yrs	-	+	P	Co	M	-					Pearly Penile papulae
6.	10	M	Ge	< 1m	-	+	P	Pe	M	S					Lichen hitidus
7.	22	M	Ge	3 ds	+	+	O	P	-	-					Paraphimosis
8.	25	F	Sk	10 yrs	-	+	N	M,L	M	S					Neuro fibroma
9.	48	M	Ge	5 yrs	-	+	O	S,Pe	M	-					Filariasis
10.	40	M	Ge	12 ds	+	+	Pu	M,S	M	-		+			Folliculitis
11.	30	M	Ge	5 yrs	-	+	O	Pe	S	-					Mondors
12.	30	F	Ge	3m	-	-	P	M,L	M	-					Foxfordyce
13.	389	M	Ge	2 ds	+	-	U	P	S	-					FDE
14.	40	M	Ge	5 m	+	+	U	P,S	M	-			□		Zoons Balanitis
15.	38	M	Ge	1 yr	-	-	Pa	P	S	-			□		Pemphigus Vulgaris
16.	39	M	SK	2 m	-	+	U	S	FEW	S			□		Pemphigus Vulgaris
17.	45	M	Ge	5 Yr	-	+	N,T	S	M	-					Sebaceous cyst
18.	28	M	Ge	2 m	+	+	U,PI,O	S	S	-		+			Fournier's Gangrene
19.	62	M	Ge	10 yrs	-	-	N	S	M	-					Sebaceous cyst
20.	48	M	Ge	5 yrs	-	+	N,PI	S	M	-			□		Sebaceous cyst
21.	22	M	Ge	1 yr	-	-	Pa	G,P	S	-					Vitiligo
22.	55	M	SK	6 m	-	+	M	G,P	M	S					Vitiligo
23.	39	M	Ge	2m	-	-	Pa	P	M	S					Vitiligo
24.	40	M	SK	4 yrs	+	+	Pa	S	S	S					Vitiligo
25.	24	M	Ge	2 yrs	-	-	Pa	S,P	S	-					Vitiligo
26.	38	M	Ge	5 yrs	-	-	Pa	G,P	S	-					Vitiligo



S. No.	Age	Sex	Presenting Complaints	Duration of genital lesion	Precipitating Factor	Prior Treatment	Genital Lesion			Skin Lesion	Investigations				Diagnosis
							Morphology	Sites	No		KOH	Gram stain	Biopsy	Others	
27.	52	F	Ge	7 yrs	+	-	Pa	L,LM,C	S	-					Vitiligo
28.	12	F	Ge	2 yrs	-	-	Pa	L,C	S	-					Vitiligo
29.	30	F	Ge	5 yrs	-	-	Pa	L	S	-					Vitiligo
30.	38	M	Ge	1 yr	-	-	Pa	G	S	-					Vitiligo
31.	9	F	Ge	6m	-	+	Pa	L,LM,C	S	S					Vitiligo
32.	40	F	Ge	5 yrs	-	+	Pa	L,LM,C	S	-					Vitiligo
33.	38	M	Ge	1 m	-	-	F	G,P	M	-	☐				Candidiasis
34.	40	F	Ge	3 m	+	+	Pa	L	M	-	☐				Candidiasis
35.	45	F	Ge	8 m	+	+	Pa	L,C	M	-	☐				Candidiasis
36.	36	M	Ge	1 yr	+	-	Pa, F	G,P	M	-	☐				Candidiasis
37.	12	M	SK	< 1m	-	-	P	Pe,P	M	S					Scabies
38.	28	M	Ge	2 m	-	-	P	Pe	M	S					Scabies
39.	40	M	Ge	6 m	-	-	P	Pe,P	M	S					Scabies
40.	32	M	Ge	< 1m	-	-	P,N	Pe	M	S					Scabies
41.	38	M	SK	1 m	-	-	P	Pe, S	M	S					Scabies
42.	45	M	Ge	2 yrs	-	+	Pl	Pe,G	S	-					BXO
43.	38	F	SK	5 m	-	+	Pl	L	M	S					Psoriasis
44.	42	M	Ge	6m	-	+	Pl	S, Pe,P	S	-			☐		SCC
45.	38	M	Ge	1 yr	-	+	Pl	S,Pe,P,M	S	-			☐		SCC
46.	51	M	SK	2ds	+	-	Pa,U	s,Pe,P	M	S					TEN
47.	30	M	Ge	20ds	-	+	P	Pe,S	M	S					Scabies
48.	22	M	SK	5ds	-	-	P,N	Pe	M	S					Scabies
49.	35	M	SK	2ds	-	-	P	Pe,S	M	S					Scabies
50.	28	M	SK	3ds	-	-	P	Pe,S	M	S					Scabies
51.	28	M	Ge	2m	-	-	P	G,P	M	S				☐	Lichen Planus

S. No.	Age	Sex	Presenting Complaints	Duration of genital lesion	Precipitating Factor	Prior Treatment	Genital Lesion			Skin Lesion	Investigations				Diagnosis
							Morphology	Sites	No		KOH	Gram stain	Biopsy	Others	
52.	12	F	SK	7 yrs	-	+	PI	L,Lm,C	M	S			□		LSA
53.	48	F	Ge	2 yrs	-	+	PI	L,Lm,C	S	-			□		LSA
54.	26	M	SK	8m	-	+	PI	Pe,S	M	S					Psoriasis
55.	38	M	SK	6m	-	-	PI	S,G	M	S					Psoriasis
56.	44	M	SK	6m	-	+	PI	G	M	S					Psoriasis
57.	40	M	SK	2m	-	+	U	S	M	S					Pemphigus Vulgaris
58.	52	M	Ge	1 yr	-	+	PI	S	S	-					Erythraplasia of queyrat
59.	46	M	Ge	8m	-	+	V	S	M	-					Lymphangioma circumsriptum
60.	40	M	Ge	3 yrs	-	+	PI	S	M	-	□				Tinea genitalis
61.	50	M	Ge	8 yrs	-	+	N, T	S	M				□		Sebaceous cyst
62.	46	M	Ge	2 yrs	+	-	Pa	S	M						Balanoposthitis
63.	36	M	Ge	4 yrs	-	-	Pa	S, P	M		□				Tinea genitalis
64.	48	M	Ge	8 yrs	-	+	N, T	S	M						Sebaceous cyst
65.	46	M	Ge	10 yrs	-	+	N, T	S	M						Sebaceous cyst
66.	52	M	Ge	5 yrs	-	+	Pa, PI	S	M						Calcinosiscutis
67.	38	M	Ge	1 yrs	+	-	PI	G,P	S						Balanoposthitis
68.	32	M	Ge	2 yrs	-	-	P	Co	M						Pearly Penile Papule
69.	50	M	Ge	6 m	+	+	PI	S	M						Hidradenitis suppurativa

S. No.	Age	Sex	Presenting Complaints	Duration of genital lesion	Precipitating Factor	Prior Treatment	Genital Lesion			Skin Lesion	Investigations				Diagnosis
							Morphology	Sites	No		KOH	Gram stain	Biopsy	Others	
70.	29	M	SK	2 m	-	-	PI	Pe	S			□			Hansens disease
71.	35	M	SK	8 ds	-	-	P	Pe	M						Scabies
72.	40	M	Ge	1 m	+	-	PI	G, P	S		□				Candidiasis
73.	38	F	Ge	10 ds	-	-	Pa	Lm	S		□				Candidiasis
74.	40	M	Ge	20 ds	+	+	PI	G, P	M		□				Candidiasis
75.	12	M	Ge	20 ds	-	-	P	Pe, S	M						Molluscum Coontagiosum
76.	30	M	Ge	1 m	-	-	PI	Pe	S			□			Wart
77.	38	M	Ge	3 ds	+	+	u	G, P	M						FDE
78.	36	M	SK	10 ds	+	+	U,V	Lm, L	M						Toxic Epidermal Necrolysis
79.	38	M	SK	1 m	-	+	PI	S,Pe	M						Seborrheic dermatitis
80.	38	M	SK	2 m	+	+	PI	S,Pe	M						Eczema

## KEY TO MASTER CHART

1. Sex : M - Male  
F - Female

### 2. Preventing Complaints

SK - Skin Lesion  
Ge - Genital Symptoms  
O - Others

### 3. Percipitatory Factors:

D - Drugs  
T - Trauma  
En - Environment  
O - Others

### 4. Morphology

P	-	Papule	U	-	Ulcer	N	-	Nodule
Pu	-	Pustule	V	-	Vesicle	T	-	Tumor
Pa	-	Papule	Pl	-	Plaque	O	-	Others
M	-	Macule	F	-	Fissure			

### 5. Sites

G	-	Glans Penis	M	-	Mons pubis
P	-	Prepuce	L	-	Labia majora
Pe	-	Shaft of penis	Lm	-	Labia minora
S	-	Scrotum	C	-	Clitoris
Co	-	Coronal sulcus	V	-	Vestibule

### 6. Skin Lesions

S - Same as genital lesion  
O - Others.

FDE - Fixed Drug Eruption  
BXO - Balanitis Xerotica Obliterans  
SCC - Squamous Cell Carcinoma  
TEN - Toxic Epidermal Necrolysis  
LSA - Lichen Sclerosus et Atrophicus