

A Study on Patients of Scrotal Dermatitis

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Abstract

Scrotal dermatitis is among one of the very common dermatological condition that has been easily overlooked by dermatologists, treating physicians as well as by patients. The condition is easily mistaken for the common skin disorders affecting the area, like Tinea and scabies. This study will try to find out the various etiological factors and the management of the condition. 85 Male patients between the age group of 15 to 78 years were enrolled in a study period of 8 month. Majority of patients (48.2%) were wearing jeans regularly. 54% of patients were wearing Jocky type of underwear. Medicated soaps were used by 30% of patients. 23% of patients were using antiseptic liquids for cleaning the area. Deodorant spray was used by More than 21% of patients. 75.6% of patients used combination creams (self medicated). On examinations 63.5% of patients were having erythema of some grade. Thickening of scrotal skin were observed in 60% of cases. Superficial to deep ulceration /erosion were present in 41.2% of patients. Scabies nodules were present in 22.4% of patients. Associated Tinea cruris was observed in 32.9% of patients. However, fungus infection of scrotum was found in 17.6% of cases. 17.6 % of cases were having associated bacterial infections. Irritant reactions/contact dermatitis was most common cause of scrotal dermatitis observed in 44.7% of cases, followed by neurodermatitis (LSC) in 30.5% of cases.

Key words: Scrotal dermatitis, Irritant dermatitis scrotum, Scrotal pruritis

Introduction

Scrotal dermatitis may present in different morphological features and is characterized by severe itching, erythema, scaling, erosion, fissuring and lichenification of the scrotal skin. Apart from these, there may be loss of hairs, Multiple factors are responsible for the condition, the most important being psychological stress and contact dermatitis either allergic or irritant. The condition has been easily diagnosed as fungal infection of the scrotal area. Due to wide spread use of antiseptics, irritant, soaps, sprays, hygiene wash and many topical agents, now this condition has become very common.

Though very common condition, very limited literature has been published on scrotal dermatitis either because of under reporting by the practitioners. Probably "scratching the balls" is considered as a common male habit.

Though the condition can be treated easily, it causes significant physical and psychological morbidity to the patient in the form of persistent or recurrent symptoms and social embarrassment. Also there is tendency for recurrence, as mostly we stress on medicines part but we ignore the factors behind the condition. Mostly busy practitioners do not explain in detail the factors behind it and the preventive measures to be taken.

Aims and Objectives

1. To classify the different dermatosis affecting the scrotum.
2. To find out the various physical, psychological and chemical factors responsible for this.
3. To treat and to educate the patient to prevent future recurrences.

Material and Method

A total of 85 male patients above age of 15 years attending dermatology OPD in Saraswathi institute

of medical Sciences, Hapur and School of Medical Sciences & research, Gr Noida were included in study. The duration of study was from January 2019 to August 2019. A questionnaire was prepared and all the details including socioeconomic status, personal habits, dressing pattern, type of underwear, toiletries including perfume spray, hygiene wash, antiseptic lotions was also noted. Informed consent was also taken. Proper examinations of the area in good day light condition was done. Any sign of inflammation, thickening, lichenification, ulcerations /erosions, loss of hairs were also recorded. In

suspected patients KOH examination was done to rule out dermatophytosis. The final diagnosis was made. The patients were treated and observed for 2 months after successful treatment. Any recurrence was recorded. The patients were advised to change their habits and change their toiletries and dressing pattern.

The data was recorded, tabulated and analyzed by using SPSS software version 20. Percentage, mean and chi square test was used for statistical significance and P value <0.05 & <0.001 were considered significant.

Results

The total numbers of 85 cases were recorded in the department of dermatology were as follows:

Table 1: Characteristics of patients

Age group (Years)	No.	Percentage
15-29	27	31.8
30-44	30	35.3
45-59	15	17.6
60-74	10	11.8
75+	3	3.5
Socio-economic status		
High	12	14.1
Lower	13	15.3
Lower Middle	30	35.3
Middle	30	35.3
Associated Diabetes Mellitus		
Yes	12	14.1

The age of patients was in the range of 15 years and 78 years with mean age of 39.6 years. Majority of patients belonged to between age group of 30 to 45 years (35%) followed by age group of 15 to 29 years (31.8%). Only 3.5% patients were above age of 75 years.

Out of 85 patients, highest number of patients belonged middle and lower mid socioeconomic status 35.3 % each.

Out of the 85 patients, majority (41) were wearing jeans daily for the most of the time (48.2%). 30 patients (35.3%) were wearing pant daily. Pajamas were worn daily by 12 patients (14.1%). Only 2 patients (2.45) were wearing dhoti regularly.

Jocky type (V shaped) underwear were regularly worn by majority of patients 46(54.1%) . Loose Desi or boxer type were worn by 26 patients (30.6%). Long and

tight underwear were worn by 13 patients (15.3%).

Except 5 patients (5.9%) all were using soaps for cleaning the area involved and for regular bathing. Majority of patients were using mild soaps (31, 35.3%). Soap with chemicals were used by 26 patients (30.6%). Herbal soaps were used by 12 patients (14.1%). While 2 patients were using detergent bars for bathing. Surprisingly 3 patients (3.5%) were using V wash (Female hygiene wash) over the area.

20 patients (23.6%) used liquid antiseptics like Dettol, Savlon etc. for cleaning the area or for bathing purposes.

Deodorants over the area was used by 18 patients (21.2 %).

4 Patients (4.6%) used Dithranol (a highly irritant ointment used in treatment of psoriasis) leading to severe irritant contact dermatitis.

35 (41.2%) patients were using various antifungal creams over the scrotum. Most commonly been Luliconazole and Miconazole. One patient used Zalim lotion (containing salicylic acid and herbal ingredients) leading to acute irritant contact dermatitis.

Antihistamines were used by majority of patients 75(88.2%) most commonly being Cetirizine and Pheniramine Maleate.

Clinical Features

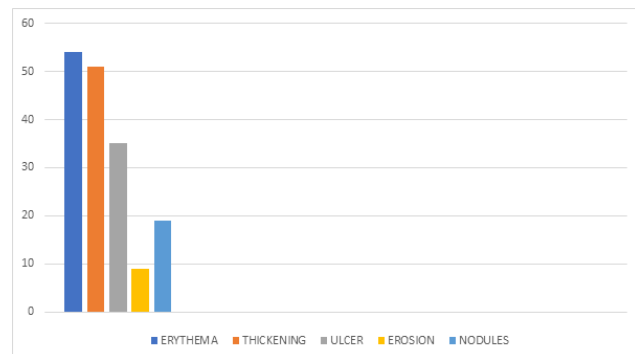


Fig 1. Clinical features

Various grade of Mild to deep erythema were observed in 54 (63.5%) cases. Some grade of thickening of scrotal skin was observed in 51 (60%) cases. Superficial to deep painful ulceration were observed in 35 cases (41.2%), Nine patients(10.6%) showed erosion with serous discharge.

Nodules over the scrotal skin (old or active scabies) were observed in 19 (22.4%) of patients.

Associated Tenia Cruris were observed in 28 patients (32.9 %). Associated Intertrigo was observed in 9 patients (10.6 %). Skin scrapping and KOH mount tests were performed in suspected cases. 15 patients were found positive for superficial dermatophytosis.

15 patients (17.6 %) were also having associated bacterial infections like folliculitis, furunculosis and infected eczema over the scrotal skin.

11 patients were having diabetes with HbA1c level more than 7.

Table.2 Age wise distribution of non venereal dermatosis of scrotum

Age Group Non- Venereal Genital Dermatitis	15-29 Years	30-44 Years	45-59 Years	60-74 Years	75 +	Total	Chi- Squre Value	P Value	Result
*Irritant / Contact Dermatitis	20	11	5	1	1	38	57.317	<0.004	Highly significant
Scabies	3	7	6	4	1	20			
Fungal Infection	3	7	2	1	0	13			
Bacterial Infection Alone	1	1	0	3	0	5			
Lichen Simplex Chronicus	2	9	9	6	1	26			

Irritant and /or contact dermatitis was most common cause of scrotal dermatitis in 38 cases (44.7%) of cases , followed by Lichen simplex chronicus (Neurodermatitis) was present in 26 cases (30.5%). Scabies infestation over scrotum was present in 20(23.5%) cases.Fungus infection could be confirmed mycologically only in 13 cases (15.3%). Bacterial infections like folliculitis were present in 5 cases (5.9%).a highly significant association was observed between type of dermatitis & age ($p<0.004$).

Treatment and response

All the patients improved with the treatment, but in 18 patients (21.2%) there was recurrence of symptoms after the successful treatment. Out of these 18 patients, 7 did not follow the instructions.



Lichen Simplex Chronicus



Acute irritant dermatitis

Discussion

Scrotal dermatitis is among one of the very common dermatological condition having multifactorial origin. In a study in year 2017 by Dipali Rathod et al [4] in non-venereal dermatosis in both females and males showed scrotal dermatitis in 16 % of cases, if we take only male patients in consideration the percentage will come 21.3%. In another study by M Kanta Prasad Rao[7] over male patients ,13 % of patients were having Scrotal dermatitis. The etiological factors are multifactorial & can be classified as:

1. Irritant or allergic reactions to soap or detergents
2. Topical antiseptics like Chlorxylenol, Triclosan, Cetrimide ,Chlorhexidine etc
3. Topical antibiotics like Neomycin, Gentamycin etc
4. Topical Antifungal creams and salicylic acid / benzoic acid based preparations.
5. Diabetes Mellitus
6. Dermatological conditions like Atopic dermatitis, seborrheic dermatitis, lichen simplex chronicus
7. Hygiene or perfume spray
8. Occlusive dresses / tight jeans
9. Tight and hugging under wears
10. Infestations by scabies / pediculosis

Etiopathology – The scrotum is an area with remarkable permeability. It provides a unique percutaneous doorway for the entrance of drugs into the circulation and is thus uniquely susceptible to toxic and irritant agents [4].Allergic reactions of the male genital are most often acute. They are influenced by the dependent position, rich vascularity and looseness of the connective tissue in this area [1]. Further the occlusion in form of tight hugging under wears and followed by release of detergent remnants present in undergarments. The detergent works as an irritant to scrotal skin. Other contributory factors includes friction, maceration, overwashing leads to scrotal dermatitis [12, 13].Riboflavin and other Vit B complex deficiency occasionally produce scrotal dermatitis [9].

Clinical features – The Scrotal dermatitis may present itself as severe itching with burning sensation. In Lichen simplex chronicus the scrotal skin shows thickening, hypo or hyper pigmentation^[2].

Krishnan Ajay & Kar Sumit suggested the following classification^[1] depending upon clinical features.

Type 1- Mild & acute type: In it there is severe burning and itching. Heals with mild desquamation after some days or weeks.

Type 2- Severe chronic dry: Scrotum looks bright red and hypopigmented with severe itching.

Type 3 –Chronic wet: Whole of scrotum and inner thighs become macerated with oozing Fetid odor and telangiectasia may present.

Type 4 -Ulcerated and edematous: The scrotal skin is edematous with fluid or pus discharge, associated with severe pain.

The majority of patients(57)in our study were young in age group of 15 to 44 years (67.1%) this is the age when most of the persons were wearing jeans, tight pants etc. also this is the age when the teenager ,students and young adult try various toiletries and perfumes.

In this study 42 % of patients belong to middle and high income group. These group usually have enough surplus money to spend on expensive jeans, toiletries, deodorant and perfume etc. In our study only 12 patients were having Diabetes as shown by blood sugar levels and HbA1C levels.

Jeans were regularly worn by 41 patients (48.2%). The pants were worn regularly by 30 patients (35.3%). The students and young men wear jeans most of the time, wearing the same jeans for days together without washing or drying. The jeans and tight synthetic pants act as occlusive dress preventing evaporation of moisture, increasing local temperature thereby making the environment conducive for growth of bacteria and fungus. It also facilitate transcutaneous absorption of irritants.

The jockey type of tight and hugging underwears were worn regularly by majority of patients 46 (54.1%) . these underwears covers scrotum all around and are constantly in contact with scrotal skin. Any remnant of detergent, feces & urine acts as an irritant to scrotal skin.

In this study 26 patients (30.6%) were using antiseptic soaps (Dettol , Savlon , lifebuoy). These soap contains Chlorxylenol (Dettol) and Triclosan. Chlorxylenol or 4 chloro 3,5-dimethylphenol present in various commonly used antiseptics preparations and soaps is also an important cause of dermatitis of the scrotum^[11]. It also causes the removal of normal microbial flora of the skin and facilitates the colonization by pathogenic groups^[1]. Twenty patients (23.6%) were using antiseptics liquids either directly over area or mixing with water for bathing. Cetrimide is one of the most common cause of contact sensitivity ^[11]. Deodorants were used over the area by 17 patients (20%) . Irritant reactions can occur from fluorinated hydrocarbon propellants sprayed too close to the genitals.^[15]

Surprisingly 3 patients were using V wash (vaginal Wash containing Lactic acid & having pH of 2.5) over the area . 2 patients were using highly irritant detergent bar for bathing. To treat itching combination creams containing steroids, antibiotics and antifungals were used by majority of patients 66 (75.6%). 35 patients (41.2%) were using antifungal creams over the scrotum. Since the inflamed skin has a higher permeability, the various over the counter products applied over the lesions further aggravate the condition^[1].

Four patients had used Dithranol ointment which led to development of acute irritant erosive contact dermatitis over the scrotum and surrounding skin.

In this study mild to deep erythema was observed in majority of patients 54 (63.5%). Various grade of thickening in 51 patients (60%).

Superficial to deep painful ulceration were observed in 35 cases (41.2%), leading to difficulty in walking. 9 patients(10.6%) showed painful erosion with serous discharge.

Nodules are very common over genital areas in case of scabies . Scabies nodules in treated or untreated cases were found in 20 cases (23.5%). In a study by M. Kanka Prasad Rao Genital scabies was present in 18.33% of cases of nonvenereal dermatosis ^[7].

An intact skin barrier prevents the penetration of harmful substances into the skin. Irritants and allergens that stay on the skin surface and come into contact with the stratum corneum only do not harm the skin ^[8].

Associated *Tenia cruris* was present in 28 cases (32.9%). However presence of dermatophytes was demonstrated microscopically in 15 cases (17.6%) by skin scraping and KOH examination. *Tenia cruris* cases are very common but spread over the scrotum is rare. Decreased scrotal skin barrier function facilitating permeation of antifungal factors into the stratum corneum and decreased eccrine sweat secretion in the penile skin resulting in lowered skin hydration have been proposed as the mechanism of the relative resistance, but neither has any rigorous proof^[14].

Acute and chronic contact / irritant dermatitis were observed in 38 patients (44.7%). Lichen simplex chronicus were diagnosed in 26 (30.6%) patients. In a study by Bhatia et al over cases of Neuro dermatitis scrotal involvement was present in 12% of cases^[3].

15 patients were also having associated or only bacterial infections. In a study by Woskoff A et al it was found that *Candida* and *Staphylococcus* were most commonly involved^[5].

All the patients were counselled and treated. Most of them were advised to change detergents, soaps, underwear etc. They were also advised not to use combinations creams and antiseptics soap/liquids. Mild steroid creams were given for short periods, in cases of Dermatitis and Lichen simplex chronicus (LSC) along with advice to shun itching. Sedating antihistamines were given at night in cases of LSC. All the patients improved with medicines and changing the toiletries and clothes. However, in 18(21.2) patients there were recurrence of symptoms within two months of completing the treatment.

Conclusion

Though scrotal dermatitis is a very common condition, still it is underreported and underrated condition. For successful treatment, apart from medicines, lifestyle changes are also required.

Source of Support – Nil

Conflict of Interest – None declared

Ethical Clearance- Taken from Institutional Ethics Committee

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