

## INCIDENCE OF DERMATOPHYTOSIS OF THE PENIS AND SCROTUM

Nitin S Vora, Jayendra N Dave, Amiya Kumar Mukhopadhyay, Krina B Patel,  
Kathakali Roy, Dipal H Patel

Clinical presence of dermatophytosis of the penis and scrotum has been studied in 256 patients with dermatophytosis elsewhere in the body. 54 patients showed the dermatophytosis of the penis and / or scrotum in total. Of these 9 patients had only tinea penis, 10 had only scrotal involvement while 24 had both. All the 54 patients had tinea cruris. Maximum (70.37%) patients belonged to 21-40 years age group among those who had dermatophytosis of the penis and / or scrotum. *Trichophyton* spp. was the commonest dermatophyte found on culture. Wives of the patients were free from any clinical sign or symptoms of the involvement of the genitalia.

**Key words :** Dermatophytosis, Penis, Scrotum, Clinical incidence

### Introduction

Dermatophytosis of the penis and scrotum has been regarded as a rare entity. Hebra (1860) commented, "When a patient thus affected lies with both thighs abducted and flexed, the whole extent of the disease is visible at a glance and it is then seen how remarkably exempt the penis and scrotum remain".<sup>1</sup> The same opinion has been published by many other authors.<sup>2,3</sup> But on the other hand studies from different researchers showed that the dermatophytosis of the penis and scrotum is not very rare at all.<sup>4,5</sup> This controversial opinions regarding the rarity of this entity prompted us to undertake the task of finding out the incidence of clinically present dermatophytoses of the penis and scrotum in individuals with dermatophytosis of the skin.

### Materials and Methods

All the 256 patients attending our department during the period of 1st July to

31st August, 1993, having dermatophytosis any where in the body were asked about the history regarding the symptoms, chronicity, recurrence, personal habit, occupation, marital status, sexual practice, presence of diabetes, tuberculosis, history of local/systemic usage of steroids, history of similar disease in the spouses etc. Then physical examination was done to see the presence of involvement of the genitals. Complete blood count, ESR, blood sugar estimation, ELISA test for HIV infection, chest X-ray etc. were done. Scrapings were taken for KOH smear examination and cultures were done in Sabouraud's medium.

### Results

All the 256 patients with dermatophytosis of the skin belonged to the industrial zone of Ahmedabad city of Gujrat. Of these 54 (21.09%) showed the involvement of the penis and / or scrotum. Their age distribution has been shown in the Table I. Of the 54 patients having dermatophytosis of the penis and scrotum, maximum patients (40.74%) belonged to 21-30 years age group, followed by 31-40 years age group (29.63%). No patients belonged to age group below 10 or above 50 years of age.

From the Department of Skin and STD,  
Bapunagar General Hospital, (ESIS)  
Ahmedabad - 380 024 Gujrat, India.

Address correspondence to : Dr Nitin S Vora  
F-1, Premanand Apartment (Opp to Punjabi Hall)  
Navrangpura, Ahmedabad - 380 009 Gujrat, India

Typical ring like lesions with active border were seen in lesions on the penis, but scrotal lesions showed more scaling. Every patient complained of itching. No patient gave any history of diabetes, tuberculosis or any other immunosuppressive condition in the recent past; 4 patients gave history of local steroid application.

The type of involvement has been shown in the Table II. Of the 54 patients, penile tinea only was found in 9 patients (16.67%), scrotal tinea in 10 patients (18.52%), both penile and scrotal lesions were found in 24 patients (44.44%). All the patients having tinea infection of the penis and/or scrotum had infection of the inguinal intertriginous area. Associated tinea corporis was found in 21 patients (38.89%). Nail or scalp involvement were found in none.

All the laboratory investigations to determine any systemic disorder were within normal limits. Scraping and smear with KOH was found positive in 54 patients (100%). Culture was found positive in 43 patients (79.63%). Of these 33 patients (76.74%) had *Trichophyton rubrum* infection, 9 patients (20.09%) had *T. Mentagrophyte* infection and 1 patient (2%) showed *E. floccosum* infection.

Out of 54, 40 patients were married and had active sexual life. But none of their wives had any history suggestive of the dermatophytosis of the genitalia and were found free from the same on clinical examination.

## Comments

In this study most of the patients with penile and / or scrotal dermatophytosis (70.37%) belonged to 21-40 years age group which is in consonance with the study of Phadke et al.<sup>6</sup> Surprisingly no patients belonging to age group below 10 or above 51

**Table I.** Age. distribution of probal patients with derma bread phytosis of penis and scrotum

Age Group (in years)	Number of patients
0-10	00
11-20	12
21-30	22
31-40	16
41-50	04
51 and above	00

**Table II.** Different site involvement patient with dermatophyto of the penis and / or scrotu

Site of the Lesion	Number of patients
Penis	09
Scrotum	10
penis and Scrotum	24
Other body sites	21
Inguinal interiginous area	54

showed the dermatophytosis of the genitalia which was also observed by Pandey et al.<sup>5</sup> Although Arnold et al.<sup>3</sup> could find no case of dermatophytosis of the genitalia and Hay et al.<sup>4</sup> maintained that penile involvement occurs rarely, our observation shows an incidence of 21.09% of the total patients examined this to be a relatively common entity. This low incidence in the Western countries may be due to difference in the climate and socio-economic condition. Climate plays an important role has been noted by us also because upsurge of the cases was noted during the rainy season of the year (July-August) when the humidity was more than 95%. This was superadded by the hot environment of the factory where most of our patients worked. Solitary involvement of the penis or scrotum without the involvement of the crural region was not found which showed that the infect



It probably started in the crural region and spread later to the genitalia. Some authors attributed the rarity of the genital involvement to the capric acid and some fungistatic serum factor and sebum<sup>9,10</sup>. In this study another important observation was the absence of dermatophytosis of the genitalia in the wives of the patients. Although we have not included female patients in our study but it is our common observation that the labia of the females are exempted from the tinea infection. Similarly no patient was found below 10 years or above 50 years of age. This peculiarity in the age and sex group involvement requires further investigations.

So it can be concluded that the dermatophytosis of the genitalia is not that rare as it has been thought to be, particularly in a tropical country like India.

## References

Hebra F. Handbuch der Speciellen Pathologie and Therapie (Virchow R, Erlangen eds, Enke III, 1860-31. (Translated by) Hilton-Fagge and Pye-Smith PH. In 'On disorders of the skin', London, New-Sydenham Society', in La Touche CJ: Scrotal dermatophytosis: an insufficiently documented aspect of tinea cruris, Brit J Dermatol 1967; 79: 339-44.

2. Palleschi GM, Guadagni R, Difonzo E, et al. Tinea of the penis: A rare occurrence. Internat J Dermatol 1986; 25: 52-3.
3. Arnold HL, Jr, Odom RB, James WD. Andrews' Diseases of the skin-clinical dermatology, 8th edn, WB Saunders Co., Philadelphia, 1990: 330.
4. Hopking JG, Hillegas AB, Ledin RB, et al. J Invest Dermatol, 1947; 8: 291. In La Touche CJ: Scrotal dermatophytosis: an insufficiently documented aspect of tinea cruris. Brit J Dermatol 1967; 79: 339-44.
5. Gupta R, Banerjee U. Tinea of the penis. Ind J Dermatol Venereol Leprol 1992; 58: 99-101.
6. Phadke SN, Gupta DK, Agarwal S. Dermatophytosis in Jabalpur, Ind J Pathol Bacteriol 1973; 16: 42.
7. Pandey SS, Chandra S, Guha PK, et al. Dermatophyte infection of the penis-Association with particular undergarments. Internat J Dermatol 1981; 20: 112-4.
8. Hay RJ, Roberts SOB, Mackenzie DWR. Mycology, In: Text Book of Dermatology, (Champion RH, Burton JL, Ebling FJG, eds), 5th Edn, Vol. 2, Oxford: Black Well Scientific 1992; 1157.
9. Higuchi K, Urabe H, Takaki K. In: Kyushu J Med SC. 1957; 8: 88 in La touche CJ: Scrotal dermatophytosis: an insufficiently documented aspect of tinea cruris, Brit J Dermatol 1967; 79: 339-44.
10. Pavitran K. Dermatophytosis of the scrotum, penis and lip. Ind J Dermatol Venereol Leprol 1987; 53: 174-5.