A Clinico-Epidemological Study of Genital Dermatoses of Adolescent and Adult Males

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ABSTRACT:

BACKGROUND:

Male genital dermatoses are one of the commonest problems in Dermatologist practice. This study is an overview of patterns of dermatoses affecting male genitalia which induce a concern for the patients and inflect a real psychological trauma.

OBJECTIVE:

To study the frequency and pattern of infectious & non- infectious dermatoses and find out most common condition of the male genital region attending Dermatological Department at Baghdad Medical City.

PATIENTS AND METHODS:

This is a descriptive clinico-epidemiological case series study that was carried out on 350 cases at the Centre of Dermatology and Venereology, Baghdad Teaching Hospital, Medical City, Iraq during the period from the February 2019 to the March 2020.

RESULTS:

The third (32%) and the forth (25%) decade of life were the commonest age groups affected. Genital dermatoses of infectious causes comprised of 46.5% of cases. The percentages of each contagious genital dermatoses from the total recruited patients were as follow: scabies (22%), genital warts (11.7%), molloscum contagiosum (6%), herpes genitalis (4.6%). While the other non-communicable dermatoses were psoriasis (11.4%), Contact dermatitis (6.8%), vitiligo (8.9%), lichen planus (7.7)

CONCLUSION:

Infective diseases (scabies and genital wart) are more prevalent in adult males reflecting the status of health, personal hygiene & socioeconomic status.

This study suggests the need Health education strict sexual activity and proper use of medications and antiseptics may help in preventive many of the genital dermatoses.

KEYWORDS: Infective, Non-infective, Genital dermatosis

INTRODUCTION:

Males with genital skin disease may present to dermatology, clinicians in primary care or urology clinics which can include a wide range of diseases with different etiology, some of which are effect the genital area alone or can be as a part of generalized cutaneous dermatosis. [1]

Dermatoses involving genital areas are not always infectious or sexually transmitted. They can be classified into: infectious (venereal &non-venereal) and non-infectious dermatoses. [1, 2]

A- The non-infectious dermatoses

Non- infectious genital dermatoses, include a wide range of diseases. They can either limited to genitalia or may affect other body part also.[2]

These no infectious disorders are the cause of considerable concern to patients causing mental distress and guilt feeling in them. No infectious dermatoses are quiet often a diagnostic dilemma to the treating physician, who has to effectively manage the condition and also allay the associated anxiety. [1,2]

The non- infectious dermatoses can be classified into four groups based on pathogenesis:

1) Inflammatory diseases (psoriasis, vitiligo, dermatitis, lichen planus),
2) Benign abnormalities (angiokeratoma of Fordyce, sebaceous cyst),
3) Congenital disorders (median raphe cyst),
4) Premalignant and malignant lesions (eryrthroplasia of Queyrat, Bowenoid paplpmatosis, Squamous cell carcinoma).

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As these groups include a wide array of disorders, the identification of diseases is challenging. [2]

B- The Infectious Dermatoses

This is a broad term which includes infections by virus, bacteria, fungi and protozoa that can infect genitalia alone or involve other parts of the body also. [3]

Infectious dermatoses are divided into venereal (sexually transmitted) and non-venereal diseases. Sexually transmitted diseases (STD) are infections that are transmitted by sexual contacts. [2, 3]

The number of new STD cases among adults is significantly increasing, this is probably related to: early fulfillment of sexual needs (associated with access to such information in the media and internet), earlier sexual initiation, casual sexual contacts with no barrier protection and without contraception, faster somatic development with psycho-emotional development that falls behind and a low level of sexual and health education. Moreover, this can lead to increasing opportunistic bacterial infection from the external genitals and large bowel to the vagina. [4]

PATIENTS AND METHODS:

This is a descriptive clinico-epidemiological case series study that was carried out at the Centre of Dermatology and Venereology, Baghdad Teaching Hospital, Medical City, Iraq during the period from the 2nd February 2019 to the 12th March 2020.

Inclusion criteria: All male patients with age more than 14 years old complaining from genital skin problem or skin body problems with genital involvement.

Three hundred fifty (350) conditions which were observed in three hundred thirty eight (338) patients were included in this study and verbal consent was taken from each patient after full explanation of the goal and the nature of the study. The demographic and physical examination was done in each case. Investigations were done according to the need to confirm the clinical picture.

Data were statistically described in term of range, mean, standard deviation, frequencies and relative frequencies by using SPSS® Software.

RESULTS:

Three hundred thirty eight (338) male patients with different genital dermatoses were involved in the study, only 12 patients have 2 genital dermatoses at the time of presentation while the others suffer from single genital disease. All patients included in this study were circumcised.

The study has shown that the age of patients at time of presentation ranged from 14-77 years with mean ± standard deviation (SD) of the age was 35.5 ± 13.2 years.

The third (32%) and forth (25%) decades of life were the commonest age groups affected.

Most of patients (85.8%) included in the study attended the dermatology center complaining from genital skin problem while the other (14.2%) complained from extra-genital skin problems with genital involvement.

This study shows that most of genital dermatoses are asymptomatic (44.6%) while the others are complaining form pruritus (37.7%) , pain (14%) , skin discoloration (2%) and bleeding from lesions(1.7%).

Regarding to the type of diseases, the study shows (46.8%) 164 of the cases have infectious dermatoses while (53.2%) 186 are non-infectious dermatoses.

Eighty five patients (25.1%) admitted practicing illegal sexual relationship

[37 single, 45 married and 3 divorced] and only 15 patients used condom.

The frequency of sexually transmitted diseases was (29.1%) 102 cases which was illustrated in table (1).

The frequency of individual genital dermatoses in order of decreasing frequency is illustrated in table (2).

Table 1: Frequency distribution of patients with sexually transmitted diseases according to marital status and illegal relationship.

Diagnosis	Marital status			Illegal Relationship		Total	Percent
	Married	Single	Divorced	Yes	No		
Genital Wart	28	11	2	32	9	41	40.2%
Scabies*	12	9	0	21	0	21	20.6%
Molluscum Contagiosum	11	10	0	12	9	21	20.6%
Herpes Genitalis	12	3	1	11	5	16	15.7%
Syphilis	3	0	0	3	0	3	2.9%
Total	66	33	3	79	23	102	100%

*included only scabitic patient with history of illegal sexual relationship.

Table 2: Analysis of cases of genital dermatoses and their percentage.

Genital Dermatoses	Frequency	Percent	Cumulative Percent	Mean and SD of patients age (years)
Scabies	77	22.0	22	31.8 ± 14.9
Genital Wart	41	11.7	33.7	32 ± 12.3
Psoriasis	40	11.4	45.1	36.6 ± 12.1
Vitiligo	31	8.9	54	35.2 ± 13.8
Lichen planus	27	7.7	61.6	37.4 ± 11
Contact Dermatitis	24	6.8	68.4	31.8 ± 9.4
Molluscum Contagiosum	21	6.0	74.4	39.8 ± 12.8
Herpes Genitalis	16	4.6	79	39.4 ± 12.6
Sebaceous Cyst	10	2.9	81.9	29.3 ± 8.8
Angiokeratoma of Fordye	9	2.6	84.5	44.2 ± 9.5
Fixed Drug Eruption	6	1.7	86.2	39.1 ± 9.3
Lichen Simplex Chronicus	6	1.7	87.9	41.5 ± 8.6
Behçet's disease	5	1.4	89.3	34 ± 6.9
Lichen Nitidus	4	1.1	90.4	31.7 ± 7.6
Calcinosis Cutis	4	1.1	91.5	35.5 ± 6.4
Steatocystoma Multiplex	4	1.1	92.6	27.7 ± 4.6
Erythema multiforme	3	.9	93.5	32.3 ± 4.8
Syphilis	3	.9	94.4	39 ± 3.4
Boil	3	.9	95.3	49.5 ± 4.5
Pearly Penile Papules	2	.6	95.8	40 ± 3
Pyoderma Gangrenosum	2	.6	96.4	64 ± 0
Aphthous ulcer	1	.3	96.7	66
Penile Cellulitis	1	.3	97	44
Dermatitis artifacta	1	.3	97.3	21
Erythroplasia of queyrat	1	.3	97.6	59
Candidiasis	1	.3	97.9	52
Hailey Haiely disease	1	.3	98.2	43
Lichen Sclerosus Et Atrophicus	1	.3	98.5	55
Pemphigus Vulgaris	1	.3	98.8	59
Pyogenic Granuloma	1	.3	99.1	77
Circinate Balanitis	1	.3	99.4	23
Scrotal Abscess & Fistula	1	.3	99.7	19
Steven Johnson Syndrome	1	.3	100	14
Total	350	100.0		100.0

DISCUSSION:

Genital dermatoses often cause a diagnostic dilemma to the physician [1]

The prevalence and pattern of certain skin diseases in genital area may reflect the status of health, personal hygiene, external environment and socio-economic status. Patient education and communication are very important in understanding and removal of suffering of patients with genital dermatoses. [1,5]

The principal concern of the patient is venereal disease, the patient feel stressed and guilty. So it is crucial to determine if the genital dermatoses are sexually transmitted (venereal) or not. [6]

There are very few studies on the pattern of genital dermatoses in males from our country.

The age ranged from 14 to 77 years in the present study with the mean age of 35.5 years while the age ranged from 1 to 60 years with a mean age 32.7 years in a study by *Al-Mashhadani et al.* [5] and 12-60 years with a mean age 31.5 years in a study by *Kinaan et al.* [7]

About third of the patients belong to the age group of 20-29 years in the present study which is in contrast to other study [1, 5, 7], where the commonest age group affected was 30-39 years.

The present study described 33 different genital dermatoses which is much more than Al-Mashhadani *et al.* study [5] and Nagireddy *et al.* study[1] (10 & 22 categorized genital dermatoses consequently), this can be explained by a larger number of cases in this study in comparison to the other study.

The present study showed that 25.1% of patients had history of illegal sexual contact which was comparible with *Al-Mashhadani et al. study* [5] in which 27.7% of patients admitted practicing illegal sex.

The most common disorder was **scabies** which account for 22% in this study, *Al-Mashhadani et al. study* also showed that the scabies is a frequent disorder among penile dermatoses, which was 17.8% in 2004 [5].

The present study shows that the frequency of scabies among Iraqi male patients is in agreement with previous Iraqi study [5] and higher from similar study in India at 2018 [1] which showed that the frequency of scabies was only 5%, which is probably due to that scabies is endemic in Iraq.

Genital warts are the most common STD worldwide [4]. The present study shows the frequency of genital wart is higher than Nagireddy *et al.* study 5% in India and compatible with *Al-Mashhadani et al. study in 2004 (*15.6%) [5].

Penile shaft is the commonest site involved; this finding is the same with other published study [7].

Infection with **Molluscum Contagiosum** is one of commonest STD in young adults [2]. The frequency of genital MC was 6.6% among penile dermatoses in 2004 [5] while it is 2% among genital dermatoses in India at 2018 [1] which was in agreement with this study.

Herpes Genitalis are among the most common STD. It is caused by the herpes simplex virus type 2 (HSV-2) and increasingly, the herpes simplex virus type 1 (HSV-1) [21]. The frequency of herpes genitalis was 8.8% in 2004 among Iraqi male patients [7] and 6% among genital dermatoses in India. [1] which are comparable with this studies.

Syphilis is a bacterial infection transmitted by sexual contact. The frequency of Syphilis was 1.1% among penile dermatoses in 2004[5], which was agreeable with this study and indicate that syphilis is still founded in Iraq but with low prevalence.

The present study recorded the frequency of STD (**genital wart, molluscum contagiosum, herpes genitalis** and **syphilis)** is comparable with Kinaan *et al.* study of sexually transmitted diseases among Iraqi patients in 2007. [7]

Bacterial infection (with exception of syphilis) was found in only 1.5% cases in this study which is in agreement with *Al-Mashhadani et al. study which* was 2.2% [5]

The frequency of genital bacterial infection was 7% in Nagireddy *et al.* study at 2018[1] and this indicate dropping in frequency of bacterial infection among Iraqi patients in comparison to Indian study [1], this can be explained by a heavy used of topical and systemic antibiotics that are prescribed by pharmacist and medical sub which may get rid of genital bacterial infections.

Remaining other infections like gonorrhea, chancroid, LGV & granuloma ingunali were not included during the period of this study

Candidiasis was observed only in one case which was diabetic elderly patient presented with inguinal erythema with satellite lesions involved scrotum, candidal balanitis was not foundin present study while Nagireddy *et al.* study showed the frequency of candidal balanoposthitis was 5% among Indian patients. [1]

The low frequency of Candidal infection in present study and other Iraqi study [5] comparing to Indian study [1] can be explained by low incidence of candida infection in healthy circumcised person and all patients in this study are circumcised..

Non-infectious genital dermatoses was observed in 53.2% of cases, **Psoriasis** was encountered in 11.4% cases which represent the most common non-infectious disorder in this study while *Al-Mashhadani et al. study* showed that frequency of psoriasis was 5.7% among penile dermatoses [5]

All the cases in Al-Mashhadani et al study had another classical lesions of psoriasis elsewhere in the body while our study show ¾ of cases have psoriatic lesion elsewhere and only ¼ presented as single psoriatic lesion on genitalia.

Vitiligo was the second common non-infectious disorder in this study which was in agreement with Nagireddy *et al. study* [1] and *Al-Mashhadani et al. study* at 2004. [5]

Lichen planus and **Lichen nitidus** were observed in this study which are comparable with *Al-Mashhadani et al. [5],* Saraswat, *et al. [2] and* Aicha *et al*. [6] studies.

Contact dermatitis (CD) accounted for 6.8% cases in this study. All the Patients complain of itching on penis or scrotum, it was either irritant or allergic CD [9]

Al-Mashhadani et al. study showed the frequency of penile CD was 11.1% [5] and scrotal CD was 14% among non-venereal dermatoses in Aicha *et al*. study. [6]

This study shows decrease frequency of contact dermatitis, this might be due to different population and probably different exposure to variant etiological factors including over-washing, use of various toiletries and indigenous preparations, tight clothing, maceration, friction and atopy.

Lichen simplex chronicus was diagnosed in 1.7% in this study which was in agreement with *Al-Mashhadani et al. study at 2004 (1.1%) [5], and with* Rajalakshmi *et al. study which showed the* frequency of anogenital LSC among patients presenting with anogenital pruritus was 2.54%. [10]

Fixed drug eruption is an uncommon adverse allergic drug reaction, presenting as erythematous macules in the same site each time the responsible drug is administered. [11] The present study showed decrease frequency of FDE compared to. *Al-Mashhadani et al. study which shows* frequency of FDE was 11.1% among penile dermatosis. [5]

Although the list of offending drugs is very long, this study shows that acetaminophen was the most common medication while in *Al-Mashhadani et al. and* Yazdanpanah *et al. study which* sulfonamide drugs is most causative drug of genital FDE.[5,11] Decrease frequency in FDE can be explained by decreased use of sulfonamide drugs in recent years in Iraq which is most common cause of FDE in the world.

Behçet disease is a multisystem, polysymptomatic disease, the genital aphthae involve primarily the scrotum and sometime penis. [12] Unfortunately, Behçet disease was not presented in other male genital dermatoses studies. So this study encourages suggesting more studies about genital presentation of Behçet disease in Iraqi because it was common in this country.

Lichen sclerosis et atrophicans (LSA) is a chronic inflammatory cutaneous disease of unknown etiology. [8] LSA was recorded in 3% in Nagireddy *et al* study. [1] LSA was seen in one patient in this study, this is due to LSA is rarely seen in the circumcised male.[8]

Pemphigus Vulgaris was recorded also in one patient in our study which was similar to Nagireddy *et al* study. [1]

Circinate Balanitis which is associated with reactive arthritis was found in one case. The distinction between circinate balanitis and psoriasis is difficult and made clinically. [13]

Angiokeratoma of Fordyce is a benign vascular tumor of ectatic veins presenting as asymptomatic (sometime bleeding) purple to red papules involving the scrotum. [14]

It was seen in 2.6% cases in this study which was comparable with Nagireddy *et al* study. [1]

Pearly penile papules (PPP) are common disorder, present as flesh colored, rounded papules, often arranged in parallel rows or concentric rings of the glans. [17] It was observed in 0.6% in this study while it was 5% among male genital dermatoses in India at 2018. [1] The low frequency of PPP in this study is due to circumcised males have lower rates of PPP[17]

Erythroplasia of queyrat is the only malignant disease found in present study, it was founded in one patient (0.3%) among genital male genital dermatoses.

CONCLUSION:

- This study was quiet useful in understanding the epidemiological and clinical characteristics of various genital dermatoses.
- Male genital dermatoses were most common among age group 20-29 years.
- Infective disease constituted 46.5% of which scabies was most common (22%).
- Non- infectious dermatoses constituted 53.5%, of which psoriasis was more frequent (11.4%).

Recommendations:

As this is first extensive Iraqi study for male genital dermatoses, we recommend the following:

1- Health and sexual education, proper sexual activity and use of medications and antiseptics properly can help in preventing significant part of the spectrum of the infectious genital dermatoses.
2- Routine and proper examination of genital area in patients presenting with skin disease elsewhere.
3- Accurate treatment and follow up for patients and for their partners if the genital diseases were contagious.

4- Further elaborate study including dermoscopical features of genital dermatoses to confirm the diagnoses

REFERENCES:

1. Himaja N, Bharathi G, Usha G. A Clinical Study on Patterns of Genital …….Dermatoses In Adult Males in A Tertiary Care Hospital In South India.IOSRJ …….Dent Med Sci e-ISSN. 2018;17(1):11–3.
2. Saraswat PK, Garg A, Mishra D, Garg S. A study of pattern of nonvenereal genital dermatoses of male attending skin OPD at a tertiary care center. Vol. 35, Indian Journal of Sexually Transmitted Diseases. 2014. p. 129–34.
3. Kar SK, Dayal S, Panda P, Tripathy S. Sexually Transmitted Diseases: ……..Researchgate Update. August 2017:3113–8.
4. Bielecka GJ, Pawlaczyk M, Krawczyk MP, Kędzia W,Mizgier M. Sexually … ……...transmitted diseases in adolescents. Curr Gynecol Oncol 2015, 13 (1) ,p.20–26.
5. Al-Mashhadani SA. Penile Dermatoses in Out-patient Dermatological Clinic, Iraqi J. ……Comm. Med. April. 2006 (3):268-71.
6. Nassiri A, Aqil N, Baybay H. Male Nonveneral Genital Dermatoses, J Genit Syst ……Disord 2018, 7:2.
7. Kinaan MN. frequency of sexually transmitted diseases among Iraqi male patients, 2007.
8. Bunker CB, Shim TN. Male genital lichen sclerosus. Indian J Dermatol 2015;60:111-7
9. Goldman BD. Common dermatoses of the male genitalia: Recognition of differences in genital rashes and lesions is essential and attainable. Postgrad Med. 2000;108(4):89–96.
10. Rajalakshmi R, Thappa DM, Jaisankar TJ, Nath .Lichen simplex chronicus of anogenital region_ A clinico-etiological study AK - Indian J Dermatol Venereol Leprol. : 2011; 77(1): 28-36
11. Yazdanpanah MJ, Zabolinejad N, Ahmadnia H. Fixed drug eruption in male genitalia: A cross-sectional study from Iran. Iran J Dermatology. 2015;18(3):116–8.
12. Antonieta M, Scherrer R, Garcia LC. Behçet ´ s disease : review with emphasis on …….dermatological aspects . Contin Med Educ. 2014;92(4):452–64.
13. Wray AA, Velasquez J, Khetarpal S. balanitis. StatPearls Publishing December 14.2020
14. Hall A. Atlas of Male Genital Dermatology. Angiokeratoma of Fordyce . Atlas Male Genit Dermatology. 2019;19–20.