Annular lesions on genitalia

AK Douieb,[1] MD, Bayoumi Essa,[2] MD

[1]*Consultant, Department of Dermatology, HPLM, Larache, Morocco*
[2]*Department of Dermatology, Venereology & Andrology, Faculty of medicine, Al-Azhar University, Cairo, Egypt*

CLINCAL FINDINGS

This 33 year old male consulted our dermatology department for asymptomatic annular lesions on his external genitalia. He had undergone circumcision during early infancy as per religious custom, and had no past history of any sexually transmitted disease. He was known diabetic and on oral hypoglycemic agents for the past 5-6 years. He was married, and had no history of extramarital affairs. Moreover, he denied using drugs. The condition started with gradual onset and had slowly progressive course. The lesions appeared first on the glans penis and then later developed on scrotum (Fig. 1, 2). He had received multiple courses of systemic and topical antifungal treatments for suspected Candida balanitis, but there was no discernible change in his condition.

Upon cutaneous examination of genitalia, there were multiple purple, scaly annular plaques on glans penis and scrotum (Fig. 1, 2). The rest of skin or mucous membranes had no further lesions. Systemic examination was unremarkable for other systems. His routine laboratory investigations including CBC, CRP, blood sugar, hepatic and renal profile revealed no abnormal findings. Serology for hepatitis B & C, and human immunodeficiency virus were nonreactive. Serological investigations for syphilis (VDRL, PRP, TPHA) were also negative.

A punch skin biopsy from the edge of the lesion revealed acanthosis with hyperorthokeratosis and hypergranulosis. Additionally, a hydropic degen-

Fig. 1 Purplish scaly annular lesion on glans penis.

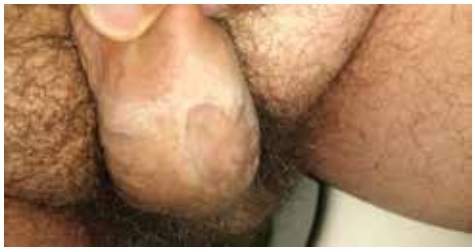

Fig. 2 Annular lesion with clear center and purplish raised border on scrotum.

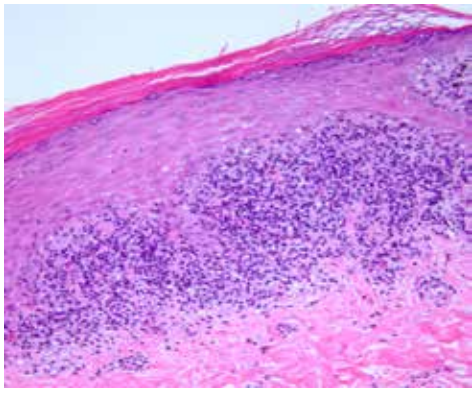

Fig. 3 Hyperkeratosis, hypergranulosis and elongated rete ridges. Band dermal infiltration hugging DEJ and formed of lymphohistiocytic cells admixed with melanophages. Basal vacuolar alteration at basal cell layer and dyskeratotic cells at basal cell layer and within papillary dermis.

Correspondence: *Dr. AK Douieb, Consultant, Department of Dermatology, HPLM, Larache, Morocco, Email: douieb@menara.ma*

eration of the basal layer with a band-like lymphohistioctic infiltration was observed, containing apoptotic bodies (Fig. 3). Direct immunofluorescence showed shaggy deposition of fibrinogen at DEJ.

What is the clinical diagnosis?

- Annular lichen planus
- Porokeratosis
- Lichen sclerosis et atrophicus
- Secondary syphilis
- Circinate balanitis
- Annular Bowen's diseases

DIAGNOSIS

Annular lichen planus

DISCUSSION

Nails, scalp, mucous membranes, and skin are all affected by lichen planus, which is an immunological reaction of unknown aetiology. Other illnesses including ulcerative colitis, vitiligo, alopecia areata, dermatomyositis, morphea, lichen sclerosis, and myasthenia gravis, may also present with it. The condition that Hebra had previously referred to as leichen ruber was first described as lichen planus by Erasmus Wilson in 1869. Purpulish, itchy papules that favor the extremities are the hallmark of classical LP. The appearance of the lesions and the location of involvement determine its many variations.[1]

Although it has long been known as a clinical form of lichen planus, annular lichen planus (ALP) is rarely seen. Dr. Galloway initially described ALP in 1899 in the literature as being distinct form of lichen planus.[2] Although the exact cause of annular lesions is yet unknown, dermal infiltrating cells and peripheral keratinocytes that express ICAM-1 and TNF-alpha are likely to play a significant role.[3] There is no data in the literature on gender and race predispositions.

The eruption starts off as lichen-papules, grow, and eventually take the form of annular plaques with elevated edges, and clearing in the center. ALP primarily affects the male genitalia, although it also tends to favor intertriginous regions like the groin folds and axilla.[4, 5]

There may also be involvement of the distal parts of the extremities and, less frequently, the trunk. It is possible to see typical lichen papules on the opposite skin surface. Additionally, mucous membranes may be impacted. Despite the pruriginous nature of traditional LP, ALP moves forward without any subjective worries.[4, 5]

Psycho-sexual disorders are the primary issue. The clinical presentation and histological examination are used to make the diagnosis. The findings include epidermal acanthosis with hyperorthokeratosis and hypergranulosis, a band-like lymphocytic infiltrate at the dermal-epidermal junction, and hydropic basal layer degeneration with apoptotic bodies. Numerous differential diagnoses exist, including granuloma annulare, psoriasis of the genitalia, lichen sclerosus, syphilis, Candida balanitis, circinate balanitis, Reiter Syndrome, balanits with various etiology etc.[6, 7]

In individuals with ALP, mid to high potency topical corticosteroids are the first line of treatment. However, when applied to the genital area area, they carry a risk of atrophy and hemorrhages, therefore topical pimecrolimus may be more beneficial.[8, 9, 10] Our patient was treated with topical pimecrolimus for one month with good improvement.

CONCLUSION

The significance of routinely requiring patients who present with an annular lesion on their genitalia to undergo additional medical examinations for Canddida species and sexually transmitted

infections and, if necessary, to undergo a biopsy. Accurate diagnosis is the cornerstone of effective treatment. This is the first instance of ALP that has been documented in our dermatology department that has had a notable improvement in their condition after receiving topical pimecrolimus treatment.

REFERENCES

1. Boyd AS, Neldner KH. Lichen planus. J Am Acad Dermatol 1991; 25 (4):593-619.
2. JMH MacLeod. Annular Lichen planus affecting Penis and Forearm. Proc R Soc Med. 1908; 1(Dermatol Sect): 34-35.
3. Ohta Y, Yonemoto K, Asai T, Yaguchi A. Lichen planus annularis: An immunohistochemical study. J Dermtol 1992; 19 (7):414-19.
4. Reich HL, Nguyen JT, James WD. Annular lichen planus: a case series of 20 patients. J Am Acad Dermatol. 2004; 50 (4):595-99.
5. Barnette DJ Jr, Curtin TJ, Yeager JK, Corbett DW. Asymptomatic penile lesions. Cutis 1993; 51 (2):116-18.
6. Teichman JM, Sea J, Thompson IM, Elston DM. Non-infectious penile lesions. Am Fam Physician. 2010; 81 (2):167-74.
7. Pietrzak A, Chodorowska G, Klijer R, Ciechan J, Bar K, Urban J, et al. A case of lichen planus of the penis mimicking leukoplakia lesions: a review of differential diagnosis. Ann Univ Mariae Curie Sklodowska Med. 2003; 58 (2):314-19.
8. Fazel N. Cutaneous lichen planus: A systematic review of treatments. J Dermatol Treat. 2015; 26 (3):280-83.
9. Atzmony L, Reiter O, Hodak E, Gdalevich M, Mimouni D. Treatments for Cutaneous Lichen Planus: A Systematic Review and Meta-Analysis. Am J Clin Dermatol. 2016; 17 (1):11-22.
10. Badri T, Kenani N, Benmously R, Debbiche A, Mokhtar I, Fenniche S. Isolated genital annular lichen planus. Acta Dermatovenerol Alp Pannonica Adriat. 2011; 20 (1):31-33.