*Education-Family Physician Corner*

# Evaluate Patient with Lichen Simplex Chronicus

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**A fifty-year-old male teacher presented with variable skin thickening and scaling in the lower limb which arose secondary to repetitive scratching or rubbing from underlying stressful life. The clinical diagnosis was found to be lichen simplex chronicus (LSC), which responded favorably to antipruritic agent plus corticosteroid and advice to stop the itch-scratch cycle to prevent permanent necrotized keratinization (lichen amyloidosis).**

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Lichen simplex chronicus (LSC) is a psychogenic pruritic disorder (PPD) or neuro-dermatitis, which leads to chronic scratching and rubbing[1-2]. Psychogenic pruritus is associated with intrinsic factors, such as local cytokines, neuropeptide changes and inflammatory cell infiltrates, which may be perpetuated by emotional upset[3]. LSC is a common cutaneous thickening of the skin with a variable well-circumscribed erythematous hyper-pigmented patchy plaque with skin lichenification[1].

LSC presents as very itchy, small and firm papules with prominent skin markings and often broken hairs; it is either unilateral or bilateral. Each palm-sized plaque may have 3 zones: small peripheral zone of thickened isolated papules, middle zone of excoriated lenticular prurigo papules and central zone of severe thickening and pigmented alteration[4].

The aim of this report is to highlight common, under-diagnosed and under-managed conditions of LSC in primary care.

**THE CASE**

A fifty-year-old male presented with intensely pruritic plaques on both shins; he described recurring paroxysm of pruritus followed by intense rubbing. He had an underlying depression and increased psychological stress; in addition, he had a positive history of atopic dermatitis, but he had no history of seasonal allergic rhinitis or bronchial asthma.

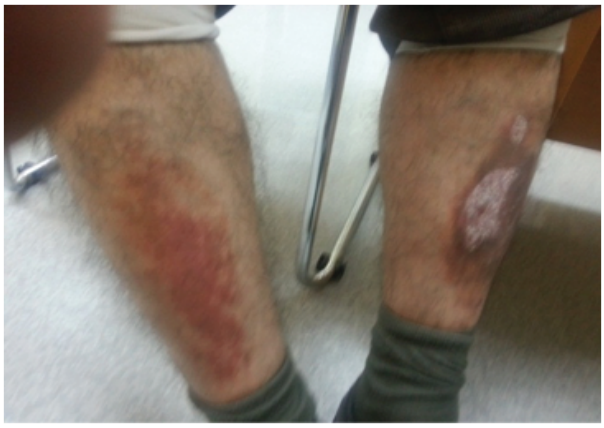

**Figure 1: Old Lesion on the Left Leg. New Lesion on the Right Leg**

On examination, 15x8 cm violaceous bilateral plaque on lower lateral legs and overlying prominent lichenification mostly on left leg consistent with chronic excoriation.

The four main etiological factors were discussed with the patient: underlying dermatosis (allergic contact, atopic and stasis dermatitis); environmental factors (heat, sweat, rubbing clothes); systematic diseases (renal failure, obstructive biliary disease, Hodgkin lymphoma, hypo, hyperthyroidism, Polycythemia Rubra Vera) and psychiatric disorders (anxiety, depression, obsessive-compulsive disorder and emotional tensions)[5,6].

Other sites which could be affected with LSC are scalp, nape of the neck, extensor forearms, elbows, vulva, scrotum and shins[5-6].

The patient had elevated level of serum immunoglobulin and negative potassium hydroxide. TSH, free T4, serum creatinine, BUN, electrolytes, LFT, gamma-GT and CBC were normal[7,8].

The main goals of treatment were to remove any triggering and exacerbating environmental factors, repair the barrier function of the skin and disrupt the itch-scratch cycle characteristic of LSC. The patient was instructed to apply moisturizers or a cold flannel whenever he felt the urge to scratch and to keep his nails short and to use the pulp of his fingers[9].

The patient was prescribed Betamethasone dipropionate (Diprosone) ointment under occlusive dressing at night for two weeks[10]. The patient was instructed to use coal tar soap and liberally apply moisturizers. He was advised to avoid any soap, bathing oils or soaping substitutes. Antihistamine daily was prescribed and tricyclic antidepressants (amitriptyline) for the underlying depression[11,12].

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If the patient had not responded to the medications, he may need intra-lesion triamcinolone acetonide or occlusion with a topical tacrolimus or pimecrolimus[12,13]. Some physicians prescribe gabapentin for resistant LSC[14].

LSC could result into psychosocial burden, sleep disturbance and sexual dysfunction[15-17]. LSC moderately affects the Quality of Life[18].

## DISCUSSION

The differential diagnoses of established thick plaque in high stressful patients are either Lichen simplex chronicus or Prurigo nodularis[1]. The pruritus takes place when the patient is not busy and disappear during work-time, the patient feels temporary relief after scratching cycle. Patients who had past medical history of atopic dermatitis may exacerbate their lichen simplex chronicus in areas of former atopic outbreaks.

The patient's immunoglobulin E was elevated, which supports underlying atopic allergic skin hypothesis, while potassium hydroxide was negative, which rule out underlying fungal infection.

The patient showed partial response on mid-potency steroids and long-term remission on occlusive method which upsurge steroid influence[20,21,22].

The patient should be referred to dermatology department if not responding to primary care management or had severe resistant case requiring Doxepin (Sinequan) and clonazepam (Klonopin) or topical immunomodulators tacrolimus and pimecrolimus[23]. Allergist consultation could be sought if multi-systemic atopic symptoms exist. Referral to a psychiatrist may be necessary for patients with severe stress or compulsive scratching.

## CONCLUSION

**Lichen simplex chronicus is a chronic skin disease that causes repeated itching and irritation on the skin, which causes thickening and lichenification of the skin.**

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**Competing Interest**: None.

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