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THE TREND OF LICHEN PLANUS IN PATIENTS ATTENDING AL-KINDY TEACHING HOSPITAL IN BAGHDAD: A CLINICAL STUDY

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ABSTRACT

BACKGROUND

Lichen Planus (LP) is a pruritic, inflammatory disease of the skin, mucous membranes, and hair follicles. It occurs throughout the world, in all races. Cutaneous LP has a worldwide distribution with its incidence varying from 0.22%to 1% depending upon geographic location.

The aim was to study the clinical types of lichen planus in patients attending Al-Kindy Teaching Hospital in Baghdad.

METHODS

This study was done in the Department of Dermatology and Venereology in Al- Kindy Teaching Hospital during the period from November2016 to November 2018. A total of 120 patients of lichen planus their ages ranged between five years and sixty seven years with median of (38) years. The patients were examined fully and diagnosed as lichen planus depending on a clinical and histopathological study, and all cases were photographed using a digital camera (SONY DSC-T700 10.1 Megapixels).

RESULT

Through studying (120) patients with LP,70 patients (58.3%) show classical LP ,16 patients (13.3%) with hypertrophic type of LP, while LP pigmentosus was seen in 10 patients (8.3%), lichenoid drug eruption (LDE) was seen in 6 patients (5%), were as lichen planopilaris (LPP) alone disease was seen in 6 patients(5%), mucous membrane(MM) lesion alone was seen in 4 patients (3.3%,) Actinic LP seen in 4 (3.3%), Annular type was seen in 2 male patients (1.6%) and finally twenty nail dystrophy was seen in 2 patients only (1.6%).

CONCLUSION

The commonest type of lichen planus that has been observed in patients included in this study was the classical type followed by hypertrophic and pigmentosus type.

Keywords: Lichen Planus, Classical, Hypertrophic, Pigmentosus

1. INTRODUCTION

Lichen planus (LP) is an idiopathic subacute or chronic inflammatory disease of the skin, mucous membranes, hair and nails [(1)]. Exact pathogenesis of lichen planus is still unclear. Several hypotheses have been made regarding its etiology, including genetic, infective, psychogenic and autoimmune factors [(2)]. Recent studies provide evidence that auto reactive cytotoxic T lymphocytes are the effector cells which cause degeneration and destruction of keratinocytes [(2)].

Cutaneous lichen planus most frequently develop between the age of 30 and 60 years [(3, 4)]. Childhood cutaneous LP occurs, but is uncommon [(5)].

There does not appear to be a strong sex or racial predilection for cutaneous lichen planus [(3, 4)]. There are several variants of cutaneous LP, and are generally categorized according to configuration of the lesions, morphologic appearance and the site of involvement [(6)].

Special form of the disease include: drug induced LP, LP/Lupus Erythematosus overlap, Lichen Planus Pemphigoides[(6)].

2. MATERIALS AND METHODS

The study was conducted in the Department of Dermatology and Venereology in Al Kindy Teaching Hospital in Baghdad, Iraq during the period from November 2016 till November 2018.

Atotal of 120 patients were included in this clinical study, The patients administered questionnaire elicited information on their Age, Sex, Age at time of appearance of the rash, Family history, Predilection site of involvement, Nail changes, Mucous membrane, Scalp, Morphology of rash, Symptoms of disease, Any associated (Thyroid disease, Hepatitis B virus (HBV), immunization, Hepatitis C virus (HCV),

Type 2 diabetes, Primary biliary cirrhosis, Vitiligo, Alopecia Areata, Psoriasis), List of medication taken by patient.

Patient diagnosed by two dermatologist as lichen planus depending on clinical diagnosis and proved by histopathological study. Each patient sends for hepatitis virus (A, B, C) investigation and all patients were photographed using a digital camera (SONY DSC-T700 10.1) Megapixels.

3. STATISTICAL ANALYSIS

Descriptive statistics were undertaken using Microsoft Excel.

4. RESULTS

4.1 Age and Gender Distribution

A total of 120 patients with lichen planus, their age varied between five years and sixty seven years with a median of (38) years. The disease was seen in (59) male patients (49.1%). Their ages varied from (5) years to (67) years with median of (38) years. Female patients were (61) (50.8%). Their ages varied between (8) years and (64) years with a median of (37) years. Patients were classified according to age groups and gender distribution as shown in Table (1) and Figure (1).

The most common type of presentation was seen in classical forms of Lichen planus 70/120 (58.3%) followed by Hypertophic type 16/120 (13.3%) which was seen mainly in 14 male patients in comparison with 2 female patients.

Lichen planus pigmentosus was seen in 10 patients (8.3%) majority were female 9 out of 10 and they presented with dark-brown macules in sun-exposed area and flexural folds.

The least form was the Annular (1.6%) and twenty nail dystrophy (1.6%),

The annular were seen in 2 male patients' looks as arcuate grouping of individual papules on genital area (one on glans penis and the other on shaft) while the twenty nail dystrophy seen also in two male patients with complete destruction of nail plate. Majority of the patients of Classical Lichen Planus were in the age group of 20-40 years. The age range of the patients was from 5 to 67 years in males and 8 to 64 years in females.

The disease also affect children but with less frequent than in adults.

The hypertrophic type seen equally in age group (21-40) years and in (41-60) years and male were affected more than females.

Lichen Planus Pigmentosus was seen mainly in females within (41-60) year's age group Table (2).

4.2 Duration of the disease

The duration of the disease varied, some patients seek help as early as a few days after its onset, while others, particularly those with lichen planushypertrophics and pigmentosus had the disease for several years (Fig. 2).

4.3 Site of Body Affected

All the cases (120) were divided into different subgroups based on clinical variants as well as on the basis of anatomic distribution as involving face, wrist, flexor and extensor upper limb, lower limb (thigh and legs) or others (nail, scalp, genital or mucosal involvement). Lesions of lichen planus (classical type) were mostly present on flexor or extensor extremities, some lesion of classical shows a configuration in form of zosteriform rash seen in three patients or in linear distribution in two patients. While (lichen planus pigmentosus, Actinic and lichen planopilaris) had face and scalp as their predominant site of involvement (Figure 3).

4.4 Nail, Scalp and Mucous membrane

Through studying 120 cases of lichen planus, nail involvements was seen in 18 patients (15%) and the most common changes seen was pitting (5.8%) followed by longitudinal ridging (4.1%), least was (Pterygion, subangual hyperkeratosis, twenty nail dystrophy)(1.7%) for each as shown in Table (3) and Figure 4F and 4G.

Lichen planus involving scalp seen in 6 patients, four patients have associated cutaneous lesion in other site of the body but without nail or mucous membrane lesion.

Patients with only scalp affection complain of itching and discomfort of multifocal areas on side of scalp which merge to form larger patch with redness and scale and diffuse hair fall run progressively from the affected patch as shown in Figure 4A.

Oral lichen planus in the form of asymptomatic white lacy patches (reticular LP) was seen accidentally during clinical examination in 6 patients (5%) with associated cutaneous and nail involvements.

Oral mucous membrane lesion without cutaneous affection was seen in 4 patients, two of them with ulcerative red tender patch on the lips, gingiva and tongue with burning, itching and pain. And the other two patients with involvement of red sores on inner cheeks and the dorsum and side of tongue as shown in Figure 4C , 4D and 4E.

Two patients with only mucous membrane lesion was seen in two male patients involving the genital area (glans penis) and shaft penis in the form of annular purple polygonal papules with slightly raised edge and central clearing Figure 4B.

4.5 Itching

The common complaints associated with the disease was itching which was seen in 78 patients (65%), 4 patients complain of pain and itching especially those with sever mucous membrane involvements, while the remaining 38 patients gave no history of itch, Figure 5.

4.6 Family history

Patients gave positive family history were only 6 patients (5%).

4.7 History of medication

Apart from the medication taken for each associated disease only 6 patients show alichenoid drug eruption from the medication used to treat their disease, **three** patients have hypertension and were on beta blockers, two of them on atenolol (Tenormin) and the third patient on propranolol (Inderal). **One** patient with diabetes on oral hypoglycemic drug (metformin), and **Two** patients were on non-steroidal anti-inflammatory, with one on (Indomethacin suppositories and Oral Ibrufen) and the other patients on Diclofenac oral tablets for recurrent attacks of joint pain. Most lesions seen were on extremities (upper and lower limbs) mainly extensor surface as well as the trunk with associated sever itching, No nail or mucous membrane lesion was seen in such affected individuals.

4.8 Associated disease

The most common associated disease was type 2 diabetes 9 patients (7.5%). Patients with positive history of hepatitis were 6 (5%) all of them were type A hepatitis .no association with hepatitis C or B was seen in this study Table (4).

Table 1: Age and sex distribution of patients with different clinical types of lichen planus

Clinical types	Male	Female	Total	Percentage
Classical	30	40	70	58.3%
Hypertrophic	14	2	16	13.3%
Pigmentosus	1	9	10	8.3%
Lichenoid drug eruption	2	4	6	5%
Lichen planopilaris	3	3	6	5%
Mucous membrane	2	2	4	3.3%
Actinic	3	1	4	3.3%
Annular	2	0	2	1.6%
Twenty nail dystrophy	2	0	2	1.6%
Total number	59	61	120	100%

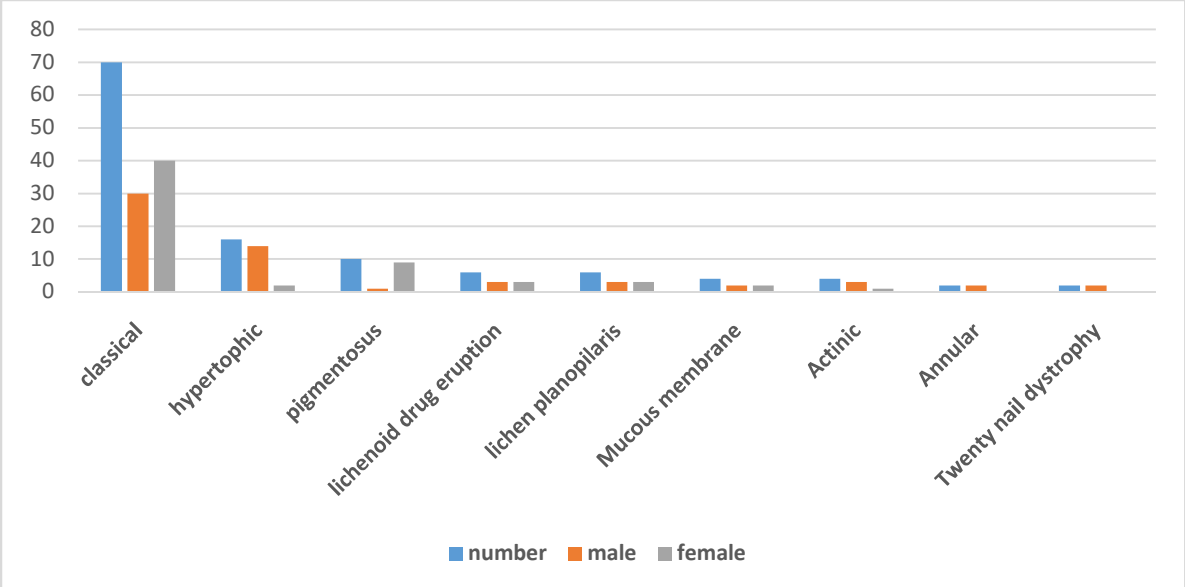


Figure 1 Gender distribution in different clinical types of lichen planus

Table 2: Age and sex distribution of patients with different forms of Lichen planus

0 - 20		21-40		41-60		> 61		Types and Number
Male	Female	Male	Female	Male	Female	Male	Female	
8	9	17	20	5	11	0	0	Classical (70)
0	0	8	0	6	2	0	0	Hypertrophic (16)
0	0	1	2	0	7	0	0	Pigmentosus(10)
0	0	0	1	2	3	0	0	Lichenoid drug eruption(6)
1	2	0	1	1	0	1	0	Lichen planopilaris (6)
0	0	0	0	2	1	0	1	Mucous membrane (4)
0	0	3	1	0	0	0	0	Actinic (4)
0	0	2	0	0	0	0	0	Annular(2)
0	0	2	0	0	0	0	0	Twenty nail dystrophy(2)
								120

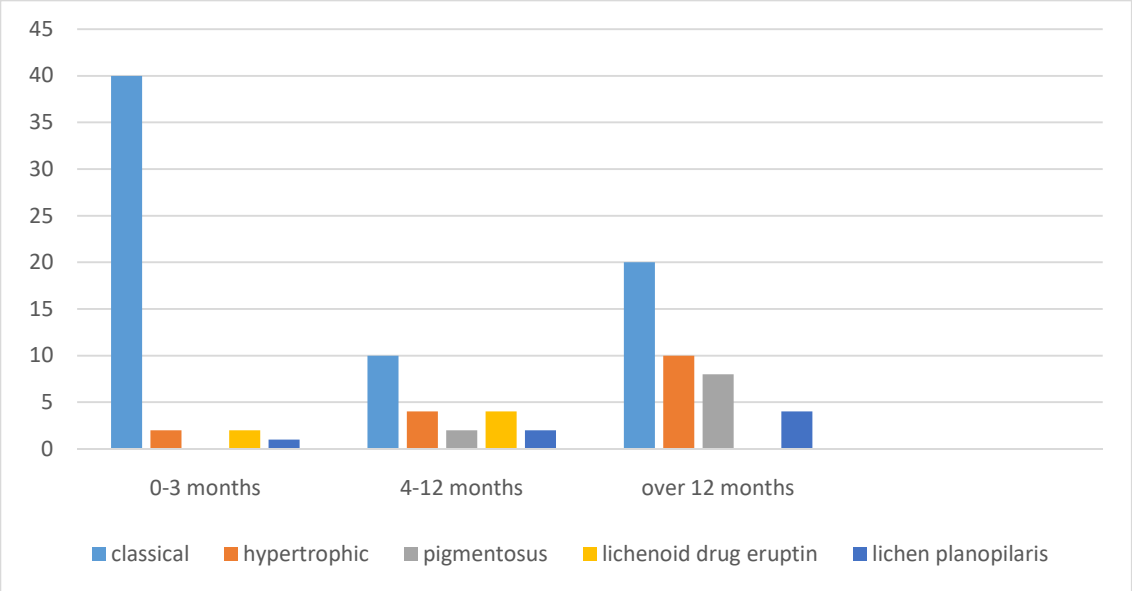
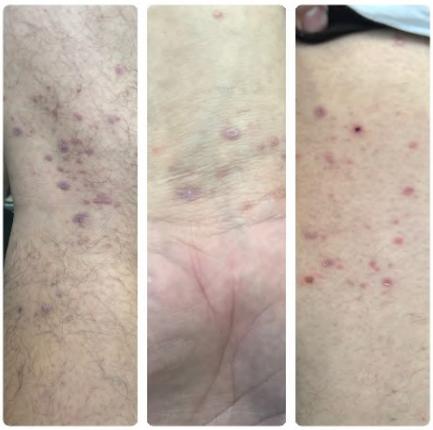


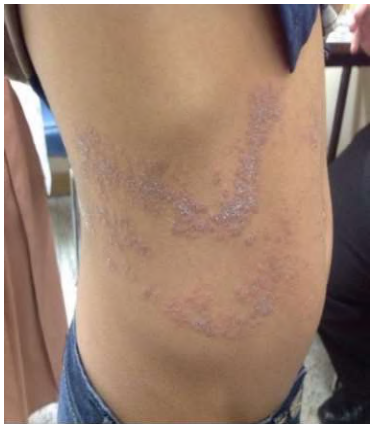
Figure 2 Types and duration of the disease

Table 3: Nail involvement in lichen planus patients

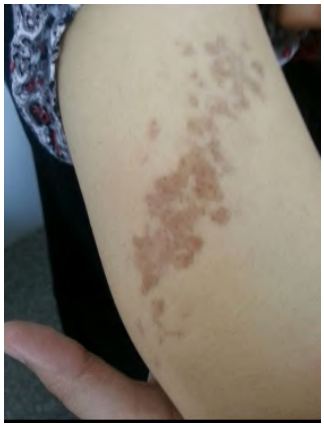
Nail Affection	No. of patients	Percentage
Nail pitting	7	5.8%
Longitudinal Ridging	5	4.1%
Pterygion Affection	2	1.7%
Sub-angual hyperkeratosis	2	1.7%
Twenty nail dystrophy	2	1.7%
Total	18	15%



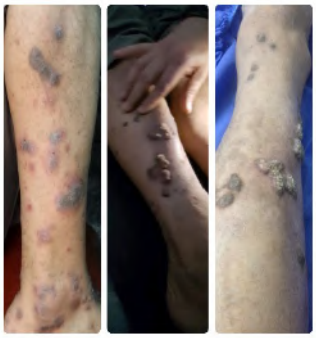
(Figure 3.A): Classical LP



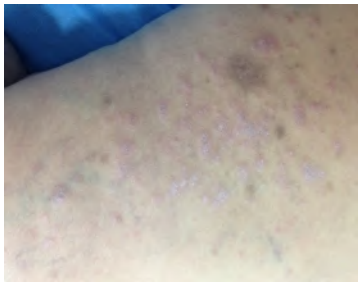
(Figure 3.B) Zosteriform LP



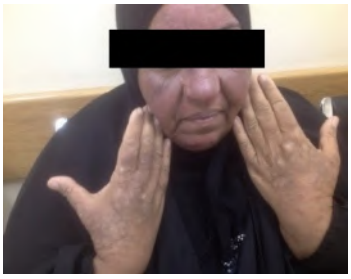
(Figure 3.C) Linear LP



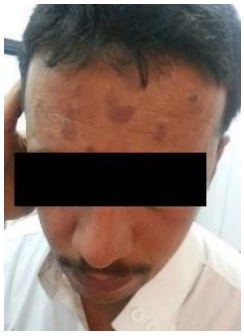
(Figure 3.D): Hypertrophic LP



(Figure 3.E): Lichenoid Drug Eruption on trunk



(Figure 3.F): Lichen Planus Pigmentosus



(Figure 3.G): Actinic LP

Figure 3: Shows variants of lichen planus

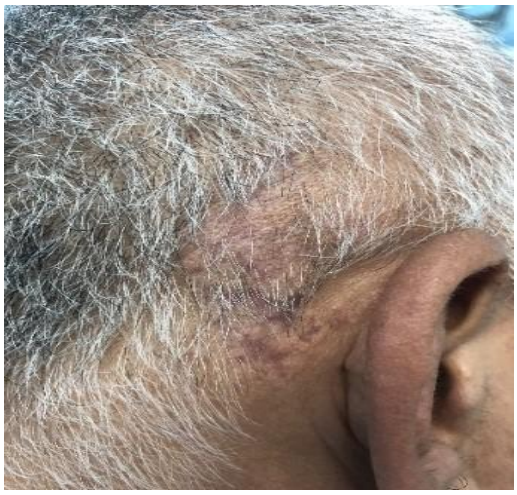


Figure (4.A): Lichen Plano Pilaris

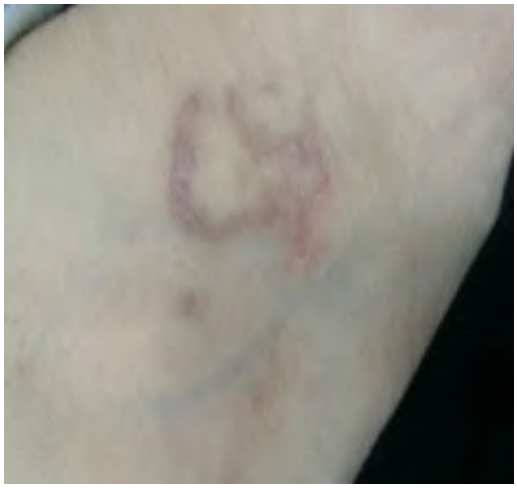


Figure (4.B): Annular LP on Male Genetalia

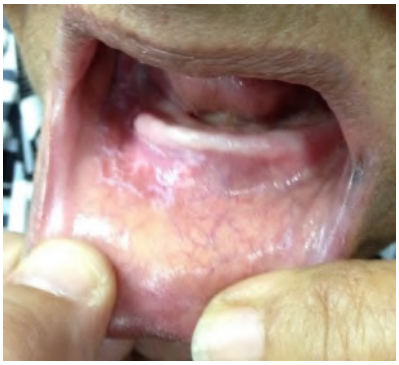


Figure (4.C): Reticular LP

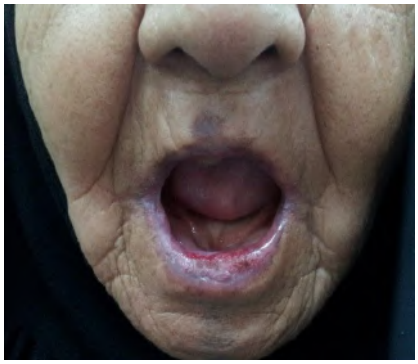


Figure (4.D): Ulcerative on lips

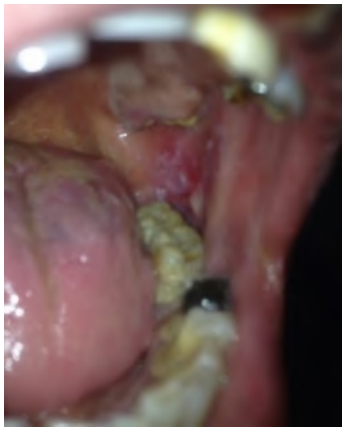


Figure (4.E): Ulcerative on Inner-cheek and tongue

Figure (4.F): Twenty-Nail Dystrophy

Figure (4.G): Pterygion in two patients

Figure 4: Lichen Planus on Scalp, Genital area, MM and nail

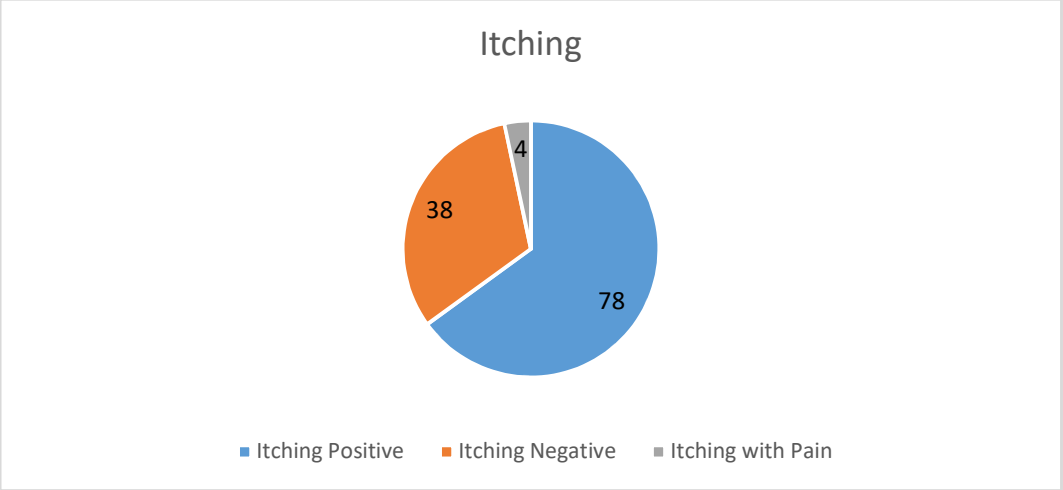


Figure 5 itching in lichen planus patients

Table 4: Associated Disease with Lichen Planus

Association Disease	**24**	**20.0%**
Type 2 Diabetes	**9**	**7.5%**
Hepatitis A	**6**	**5.o%**
Hypertension	**5**	**4.2%**
Hypercholesterolemia	**4**	**3.3%**

DISCUSSION

This study was carried out to find the most common type of LP seen in patients attending Al-Kindy Teaching Hospital in Baghdad and through studying 120 cases of LP we found that the most common type was the classical variant 70/120 which represent (58.3%), followed by hypertrophic type (13.3%) and LP Pigmentosus (8.3%).

A similar dominance of classical lichen planus over other variants has been reported in the literature by various authors (Bhattacharya et al., 2000).[7]

In our study, maximum numbers of patients were seen in the age group of 20–40 years. This correlates with other studies that describes data of Indian population (Bhattacharya et al., 2000; Singh and Kanwar, 1976)[7, 8] and against what seen in the western literature (Andreason, 1968; Scully, 1985)[9, 10] were they found the disease in older age group.

Furthermore, cases of LP in this study was reported in children with age of 5 year and above, and this is compatible with what was reported by (Kanwar and De, 2010)[11]who founds that LP in children is not uncommon in the Indian Sub-continent. While studies from western literature found LP was considered to be rare in children (Mellgren anHersle, 1965)[12].

Regarding sex distribution we found that the disease run nearly equal in male (49.1%) and female gender (50.3%) and this result is compatible with what written In the literature that there has been no consistency regarding any sex preference of

LP (White, 1919)[13]; Altman and Perry, 1961)[14] but most of the studies have shown that females are more commonly affected than males (Little, 1919)[15]; (White, 1919)[13].

The most common site of involvement of the disease seen in classical type of LP was in extremities especially upper whether flexor or extensor portion in addition to wrist involvement.

Various studies report the involvement of extremities' (Bhattacharya et al., 2000)[7]; (Singh and Kanwar, 1976)[8]; Altman and Perry, 1961)[14]

The hypertrophic type of LP in this study was seen mainly in male patients and it affect mainly the lower extremity or dorsum of hands, this may be because it is easy reachable area by the patient as the disease is associated with sever intractable itching.

Head and neck was the most common site of involvement in lichen planuspigmentosus and lichen planopilaris. Lichen pigmentosus was seen mostly in female patient of middle age group and involve mainly the face, neck and upper trunk, and in some patient affects wide area of the body, similar findings have beenreported in previous studies (Bhutani et al., 1974)[16]; (Kanwar et al., 2003)[17], Associated nail and mucous membrane involvement was infrequent with such peculiar clinical type.

The nail involvements was seen in 15% of patients with mainly nail pitting 5.8% followed by longitudinal ridging 5% and these finding seen mainly in cutaneous lichen planus rather than in mucosal types, these result agrees with what written in literature that there is definite relationship between nail changes and lichen planus[18].

Mucous membrane involvement reported in this study was very low and this could be due to the limited number of cases studied in only one medical center.

The cases seen with lichenoid drug rash was mainly seen with antihypertensive drugs (Beta blockers) and with non-steroidal anti-inflammatory medications and this and this agree with what's seen in other clinical studies[19].

There is no association seen with positive family history or with hepatitis Cvirus this may be related that our country is not epidemic area for hepatitis Cvirus or there is no role for HCV in lichen planus[20], and the positive finding for hepatitis A was only coincidental finding.

CONCLUSIONS

The commonest type of lichen planus that has been observed in patients included in this study was the classical type followed by hypertrophic and pigmentosus type.

And the dominant age group was in adults with no sex difference found, associated nail and mucous membrane lesion was seen

in some patients, No associated findings with hepatitis C virus.

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