Psoriasis Vulgaris and Lichen Planus Spectrum in Our Clinic with Clinicopathologic Correlation

Kliniğimizdeki Psoriazis Vulgaris ve Liken Planus Spektrumu ve Klinikopatolojik Korelasyonları

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ABSTRACT Objective: Skin biopsy has wide importance in daily dermatology practice. Psoriasis vulgaris and lichen planus are the basic lesions of the skin that are characterized by non-infectious erythematous, papulosquamous lesions that pathologists differentiate in routine laboratory examinations. Our aim is to analyse these lesions by pathologic and clinical findings in our institute with evaluating clinicopathologic correlation. **Material and Methods:** In our study 420 cases defined as erythematous, papulosquamous lesions and prediagnosed as psoriasis vulgaris and lichen planus by dermatologists and evaluated in pathology laboratory between 2004-2010 have been reviewed. Cases have been grouped according to the distribution of age, gender, localization of lesions, clinic prediagnose and pathologic diagnose. **Results:** The lesions comprised 14.3% of the total load of surgical pathology and 9.1% of total number of skin biopsies. The highest percentage was in the 41-50 year age group (18.8%) with a female predominance of 51.2%. The limbs were most frequently involved (36.9%). Psoriatic lesions were the commonest (49.8%), classic generalized plaque variant psoriasis (89%) being the most frequent followed by lichenoid lesions (19.3%), lichen planus (96%) being the commonest. Correlation with the histopathologic diagnosis was positive in 71.4 % cases and negative in 28.6% cases. The histopathologic examination revealed the same microscobic features in almost all cases similar with the literature. **Conclusion:** The contribution of histopathology to the final diagnosis was significant. Skin biopsy is very valuable in daily dermatology practice and appropiate clinicopathologic correlation is very important for the effective diagnosis and treatment of patients.

Key Words: Skin diseases, papulosquamous; psoriasis; lichen planus

ÖZET Amaç: Deri biopsileri dermatolojinin günlük uygulamalarında geniş bir yere sahiptir. Derinin nonenfeksiyöz eritematöz, papüloskuamöz lezyonları ile seyreden psoriazis vulgaris ve liken planus patologların rutin laboratuar incelemelerinde ayırt ettikleri en temel hastalıklardandır. Amacımız kliniğimizde saptadığımız bu lezyonları klinik ve patolojik bulgularıyla incelemek ve klinikopatolojik korelasyonu değerlendirmektir. **Gereç ve Yöntemler:** Çalışmamızda 2004-2010 yılları arasında dermatologlar tarafından eritematöz, papüloskuamöz lezyon olarak tanımlanmış, psoriasis vulgaris ve liken planus olarak ön tanı almış ve patoloji laboratuvarında değerlendirilmiş 420 olgu taranmıştır. Olgular yaş, cinsiyet, lezyonların lokalizasyonu, klinik ön tanı ve patolojik tanı dağılımına göre gruplandırılmıştır. **Bulgular:** Lezyonlar tüm cerrahi patoloji yükünün %14,3 ünü ve tüm deri biyopsilerinin de %9,1'lik kısmını oluşturmaktadır. En yüksek oran kadın baskınlığında (%51,2) olup, 41-50 (%18,8) yaş grubundadır. Ekstremiteler en sık tutulmuştur (%36,9). Psöriatik lezyonlar en yaygın olup (%49,8), klasik jeneralize plak tip psöriyazis (%89) en sık olanıdır ve likenoid lezyonlar (%19,2) en fazla da liken planus (96%) olmak üzere takip eder. Histopatolojik tanı ile korelasyon %71,4 olguda pozitif, %28.6 olguda negatiftir. Olguların histopatolojik incelenmesi sonucu gözlenen mikroskobik bulguların tamama yakını literatürdekiler ile uyumlu idi. **Sonuç:** Histopatolojinin kesin tanıya katkısı anlamlıdır; deri biyopsileri rutin dermatoloji çalışmalarında ayırıcı tanı için çok değerlidir, uygun klinikopatolojik korelasyon hastaların etkin tanı ve tedavisi için çok önemlidir.

Anahtar Kelimeler: Deri hastalıkları, papüloskuamöz; psoriazis; liken planus

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Skin biopsy has wide importance in daily practice of dermatology clinic that it easies the diagnosis, follow up of lesions' stages and pathogenesis with determining the etiologic factors. Similar histologic patterns

of various lesions cause diagnostic problems. Therefore clinic prediagnosis and detailed information of patients have precise importance. There are reaction patterns which skin shows against different immunologic and pathologic stimulus. Tissue reaction and inflammation patterns constitute the morphologic features when evaluating the skin biopsies. Non infectious erythematous papulosquamous lesions (NEPSL) often present with psoriasiform and lichenoid reaction patterns in histopathologic evaluation.

The main objective of this paper is to define clinicopathologic properties of NEPSL with psoriasis vulgaris and lichen planus diagnosis through the help of our retrospective findings in our clinic and evaluate the concordance of clinic and pathologic diagnosis.

MATERIAL AND METHODS

420 skin biopsies defined as NEPSL with psoriasis vulgaris and lichen planus prediagnosis by dermatology clinic and sent to pathology laboratory between the years of 2004-2010 have been reviewed retrospectively. All sections of the cases have been reevaluted with the same pathologist with taking account of clinicians prediagnosis and lesions' findings. The final pathologic diagnosis grouped as psoriasis vulgaris, lichen planus and others.

All of the cases have been grouped according to the distribution of age, gender, localization of lesions, clinic prediagnose and pathologic diagnose. The age range has been grouped as 1-10, 11-20, 21-30, 31-40, 41-50,51-60,61-70, 71 and over. The concordance degree of clinic prediagnose and pathologic diagnose has been evaluated. The pathologic diagnose should confirm one of the first three prediagnosis. We used Median Test and Spearman correlation coefficient for statistical analysis.

RESULTS

The distribution of pathologic diagnosis of cases according to age, gender, location, clinic and diagnosis are shown (Table 1). NEPSLs form a broad spectrum of skin diseases in our institute (Figure 1). NEPSL with psoriasis vulgaris and lichen planus prediagnosis constituted 14.3% of the total surgical

TABLE 1: The distribution of pathologic diagnosis according to age, gender, localization and clinical diagnosis.

		Psoriasis vulgaris n (%)*	Lichen planus n (%)	Others n (%)
Clinical diagnosis	Psoriasis vulgaris	161 (38.3%)	8 (1.9%)	44 (10.5%)
	Lichen planus	12 (2.9%)	64 (15.2%)	11 (2.6%)
	Others	36 (8.6%)	9 (2.1%)	75 (17.9%)
Gender	Male	91 (21.7%)	44 (10.5%)	70 (16.7%)
	Female	118 (28.1%)	37 (8.8%)	60 (14.3%)
Age	0-10	21 (10%)	5 (6.2%)	8 (6.2%)
	11-20	22 (10.5%)	7 (8.6%)	18 (13.8%)
	21-30	23 (11%)	16 (19.8%)	20 (15.4%)
	31-40	48 (23%)	15 (18.5%)	14 (10.8%)
	41-50	33 (15.8%)	18 (22.2%)	28 (21.5%)
	51-60	33 (15.8%)	7 (8.6%)	25 (19.2%)
	61-70	20 (9.6%)	11 (13.6%)	8 (6.2%)
	71 and over	9 (4.3%)	2 (2.5%)	9 (6.3%)
Localization	Whole body	51 (12.1%)	15 (3.6%)	24 (5.7%)
	Limbs	78 (18.6%)	30 (7.1%)	47 (11.2%)
	Trunk	20 (4.8%)	7 (1.7%)	31 (7.4%)
	Head and neck	5 (1.2%)	17 (4.0%)	6 (1.4%)
	Genital region	9 (2.1%)	2 (0.5%)	7 (1.7%)
	Palmoplantar region	46 (11%)	10 (2.4%)	15 (3.6%)

*All parameters are defined within total values.

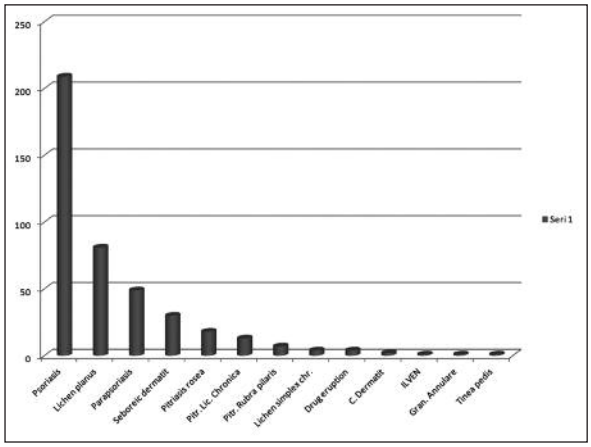

FIGURE 1: Classification and distributions of skin lesions in our institute.

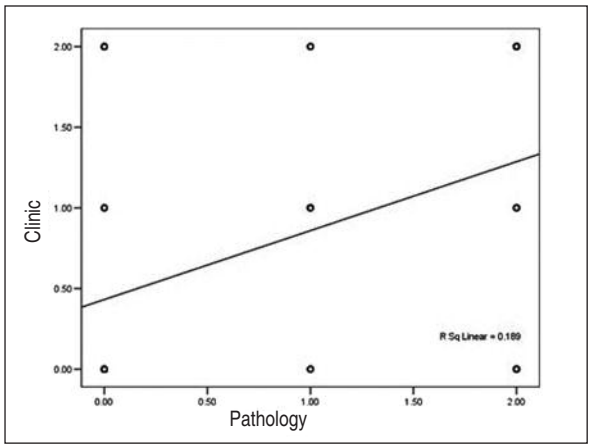

FIGURE 2: Correlation of pathologic and clinical diagnosis (r=0.189).

pathology load and 9.1% of the total number of skin biopsies at our institute.

The age distribution pattern revealed that the maximum biopsies (39.1%) were in the age range of 41-50 years and the least number were in the oldest age range of 71 and over (4.8%). The sex distribution pattern revealed that there is a slight female predominance (51.2%). The anatomic distribution of the lesions localized mostly on limbs (36.9%), followed by generalized form (whole body involvement) (21.4%), palmoplantar region (16.9%), trunk (13.8%), head and neck (6.7%) and genital region (4.3%). All the categories have been analysed and the mostly encountered lesion was the psoriasiform group 49.8%, followed by lichenoid lesions 19.3%. Chronic plaque psoriasis was the most frequent form 93.8% followed by palmoplantar psoriasis 4.2%, pustular psoriasis 2.3%, guttat psoriasis 1.8% and inverse psoriasis 0.4%. The next category was lichenoid lesions; lichen planus was the most frequent 96%, followed by equal numbers of pigmente lichen planus, hipertrofic lichen planus and follicular lichen planus 1.25%.There was a positive correlation of clinical diagnosis with histopathological diagnosis in 71.4% cases and negative in 28.6% (Figure 2). The clinical prediagnosis were totally different from pathologic diagnosis in 7.3% of cases.

DISCUSSION

NEPSL constitute the majority of skin biopsies in our pathology laboratory; psoriasis vulgaris and lichen planus are the most common lesions within them. The sex distribution pattern of cases showed that most of the patients were females with a slight predominance of 51.2%. Similar to our study Tekin et al. have described female predominance with 54.1% percentage in their series.[1] Bell et al. also found female predominance in their institute, but number of males were greater in D' Costa et al.'s study.[2,3]

However Fry could show no sex predilection in their report.[4] The most frequent lesion in our series was psoriasis and has been mostly seen in the 31-40 age range which is parellel to Costa et al.'s findings.[3] On contrary to our results some authors described a younger or older age ranges in the literature. In a study performed by Fry psoriatic lesions have been demonstrated mostly before 3rd decade, but Griffiths et al. have seen classic psoriasis in older age range like 55-60.[4,5]

Beside this, Bell et al. reported an older age range of 60 and over in their series.[2] We have 8 cases that were 71 and over with the least percentage. Lichen planus has been determined most frequently (22.8%) in the 41-50 year age range in our study. However, lichen planus has been reported to be often diagnosed in the 5th-6th decades.[6] But there are also some cases reported in the middle aged adults like our patients.[7]

There has been 5 patients who has lichen planus in the youngest group which supports the unusual occurence of these lesions in childhood except in the familial cases.[7]

Psoriasis vulgaris cases occured mostly on the limbs in our study which is similiar with other studies in the literature, followed by generalized form (whole body involvement), palmoplantar region, trunk and genital region, head and neck.[6,7] Lichen planus lesions have been also described on the limbs similiar with other studies in the literature.[6-8]

Lichen planus is defined as flat topped erythematous papules and scaly plaques in the form of classic cutaneous lichen planus in various reports.[8,9] Lichen planus was the most frequent form of lichenoid lesions with 96%, followed by equal numbers of pigmente lichen planus, hipertrofic lichen planus and follicular lichen planus 1.25%. Hypertrophic lichen planus present with thick hyperkeratotic plaques commonly on the extremities.[6,9] We also included a case of hypertrophic lichen planus in our study localized on the limbs.

Lichen planus pigmentosus is usually described on sun exposed areas with multipl hyperpigmente patches in the literature.[10,11] Lichen planopilaris usually present with keratotic follicular papules destroying hair follicles on the scalp.[12] A case of lichen planus pigmentosus and lichen planopilaris were reported in our reports. These few subtypes demonstrate the different forms of lichenoid lesions but this should not be the real numbers because of data loss.

Psoriasis vulgaris lesions usually present as erythematous sharply demarcated plaques covered with silvery scales. Our patients have round to oval, scaly, sometimes erythematous usually itchy lesions on the arms and legs like other authors described in their studies.[5,13] We have 4 cases with guttat psoriasis, 5 cases with pustular psoriasis that was defined in pathology reports. The lesions macroscobic and clinic definition was compatible with the literature.[5,14,15] The lack of defining the subtypes could be related to the dermatologists approach in our institute they find the usual terminology adequate to start the therapotic procedures.

Lichen planus histopathology findings are a band like infiltrate of lymphocytes at the dermoepidermal junction and vacuoler degeneration of basal cell layer with hypergranulosus and irregular acanthosis.[11,16,17] Classic variants of lichen planus which constitutes the majority of our lichenoid lesions demonstrated the same histopathologic picture. Similiar to our study Boyd et al., Shai et al. and Jaime et al. described the same histopathologic changes in their cases.[6,18,19] The malignant transformation of lichen planus was reported in the literature.[20,21] There have been defined no malignant degeneration or squamous cell carcinoma in our series.

Psoriasis lesions present with variable histopathologic pictures. The common pathology reveales with hyperparakeratosis, irregular thinning in granular layer and elongation of rete ridges in epidermis. The dermis shows a dense perivascular and periadnexial chronic inflammatuar infiltrate. Munro and Cogoj's microabscesses are the definite diagnostic clues for psoriasis vulgaris lesions.[16,22,23] Our findings were similiar with the literature not demonstrating microabscess formations in each case.[5,16,22,23]

Clinical diagnosis with the histopathological diagnosis revealed a positive correlation in 71.4% cases and negative correlation in 28.6% of cases. The histopathology gave the diagnosis in 7.3% of cases which meant that the prediagnose of the lesions were from different group of diseases. Our findings were similiar with D'Costa et al.'s, but lesser in numbers in view of the ratios.[3] In conclusion; these results show the concordance of our demographic data with literature and emphasize the importance and utility of confirmation by histopathology in final diagnosis. The appropiate correlation between dermatology and pathology might be maintained by effective communication and sessions organized properly which would be for patients' income.

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