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Araştırma Makalesi / Research Article

Reflections of COVID-19 Pandemic on Dermatology Outpatient Clinics

COVID-19 pandemisinin dermatoloji polikliniklerine yansımaları

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Abstract

Aim: We aimed to investigate the effects of stress on dermatological diseases that come into our lives with this new infection, which can have vital effects and limitations in social life during the covid 19 pandemic process.

Material and Method: In this retrospective study, patients who were examined in the dermatology outpatient clinic during the COVID-19 pandemic (April - May 2020) and the same period last year (April - May 2019) were evaluated. The number of patients who applied, application dates, age and sex of patients, and ICD-10 (International Classification of Diseases-10th Revision) diagnosis codes were recorded by scanning the electronic database of the hospital.

Results: The rate of referral to the dermatology outpatient clinic decreased by 6.3 times compared to the previous year. The average age of the patients who applied to the dermatology outpatient clinic during the COVID-19 pandemic period was significantly higher compared to that of the patients who applied during the same period in the previous year. It was observed that during the pandemic period, men applied to the dermatology outpatient clinic significantly more than in the previous year. COVID-19 infection was not detected in patients who applied to the Dermatology outpatient clinic during the early period of the pandemic.

Conclusion: While there was a decrease in outpatient consultations for cosmetic reasons, a significant increase in consultations for stress-induced dermatoses was found. Stria rubra development in the young population for reasons such as a sedentary life and possible nutritional disorders as a result of the restrictions experienced during the pandemic period was one of the interesting findings of this period. We think that patients with the coronavirus infection and associated skin findings apply to other clinics instead of the dermatology clinic due to the presence of other accompanying systemic symptoms.

Keywords: Covid-19, dermatology, outpatient clinic

Öz

Amaç: Çocukluk çağındaki olumsuz yaşantıların çeşitli zihinsel ve fiziksel hastalıklarla ilişkili olduğu bilinmektedir. Bazı çalışmalarda kadın üreme sağlığını da etkilediği belirtilmektedir. Bu araştırmanın amacı, çocukluk çağı olumsuz yaşantılar ile premenstruel sendrom görülme sıklığı ve arasındaki ilişkiyi belirlemektir.

Bu çalışmanın amacı, embriyonik kemik gelişimi sırasında düşük (3 mg/kg) ve yüksek (6 mg/kg) doz nikotinin neden olduğu iskelet sistemi malformasyonlarını ikili iskelet boyama yöntemi ile belirleyerek; E vitamininin koruyucu rolünü ortaya koymaktır.

Materyal ve Metot: Bu retrospektif çalışmada, COVID-19 pandemisi sırasında (Nisan- Mayıs 2020) ve geçen yılın aynı döneminde (Nisan- Mayıs 2019) dermatoloji polikliniğinde muayene edilen hastalar değerlendirildi. Hastanenin elektronik veri tabanı taranarak başvuran hasta sayısı, başvuru tarihleri, hastaların yaşı ve cinsiyeti ile ICD-10 (International Classification of Diseases-10th Revision) tanı kodları kaydedildi.

Bulgular: Dermatoloji polikliniğine başvuru oranı bir önceki yıla göre 6,3 kat azaldı. COVID-19 pandemi döneminde dermatoloji polikliniğine başvuran hastaların yaş ortalaması, bir önceki yıl aynı dönemde başvuran hastalara göre anlamlı derecede yüksekti. Pandemi döneminde erkeklerin dermatoloji polikliniğine bir önceki yıla göre anlamlı derecede daha fazla başvurduğu görüldü. Pandeminin erken döneminde Dermatoloji polikliniğine başvuran hastalarda COVID-19 enfeksiyonu tespit edilmedi.

Sonuç: Kozmetik nedenlerle poliklinik başvurularında azalma olurken, stres kaynaklı dermatozlar için başvurularda anlamlı artış saptandı. Pandemi döneminde yaşanan kısıtlamalar sonucunda hareketsiz yaşam ve olası beslenme bozuklukları gibi nedenlerle genç nüfusta stria rubrae gelişimi bu dönemin ilginç bulgularından biriydi. Koronavirüs enfeksiyonu ve eşlik eden deri bulguları olan hastaların eşlik eden diğer sistemik semptomların varlığı nedeniyle dermatoloji kliniği yerine ilgili diğer kliniklere başvurduklarını düşünüyoruz.

Anahtar Kelimeler : Covid-19, dermatoloji, poliklinik

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INTRODUCTION

Outpatient examinations in dermatology are mostly non-urgent examinations. Considering asymptomatic viral carriage, it is recommended to postpone non-urgent examinations as much as possible due to the risk of COVID-19 transmission (1). The first COVID-19 cases were reported in Turkey on March 11. Afterwards, on March 21, schools were closed and a curfew was imposed on persons aged over 65 years. As of April 4, a curfew had been imposed for individuals aged less than 20 years. The public was informed through various media outlets about taking the necessary protective measures when going out. However, outpatient clinic services continued to be provided, although it was reduced that usual.

Many skin diseases are known to be associated with stress. During the COVID-19 pandemic period, people developed intense mental distress and stress (2). However, dermatological findings due to the coronavirus infection have also been reported in the literature (3). In this study, we aimed to determine the demographic findings of patients who presented to the dermatology outpatient clinic during the COVID-19 pandemic period, their diagnosis, and the presence of other skin lesions that may be associated with COVID-19.

MATERIAL AND METHOD

Study design

In this retrospective study, patients who were examined in the dermatology outpatient clinic during the COVID-19 pandemic (April - May 2020) and the same period last year (April - May 2019) were evaluated. The number of patients who applied, application dates, age and sex of patients, and ICD-10 (International Classification of Diseases-10th Revision) diagnosis codes were recorded by scanning the electronic database of the hospital. Repeated admissions of the same patient for control and follow-up purposes were ignored. The patients' records were screened to determine whether they had COVID-19. The study was conducted in accordance with the Helsinki Declaration principles and was approved by our Corporate Ethics Committee (2020/283).

Statistical analysis

SPSS version 21 (SPSS software, Chicago, IL, USA) was used for data analysis. Descriptive statistics were expressed as percentage, mean, standard deviation, median, and minimum and maximum values. Chi-Square test was used to compare the diagnosis frequency of patients who presented to the dermatology outpatient clinic before and after the COVID-19 pandemic. P-values <0.05 were considered to indicate statistical significance.

RESULTS

While 10207 patients were examined in the dermatology outpatient clinics between April and May 2019, only 1637 patients were examined in during the COVID-19 pandemic period between April and May 2020. The rate of referral to the dermatology outpatient clinic decreased by 6.3 times compared to the previous year. The average age of the patients who applied to the dermatology outpatient clinic during the COVID-19 pandemic period was significantly higher compared to that of the patients who applied during the same period in the previous year. It was observed that during the pandemic period, men applied to the dermatology outpatient clinic significantly more than in the previous year (Table 1). None of the patients who applied to the dermatology outpatient clinic had COVID-19 infection. The prevalence of diseases in 2019 and the COVID-19 pandemic period is shown in table 2.

Table 1. Age and gender distribution of patients who applied to the dermatology outpatient clinic in 2019 and during the COVID-19 pandemic period

	April-May 2019 N = 10207		COVID-19 pandemic period april-may N = 1637		P-value
Age (year)					
Mean	33.75±19.50		38.00±19.24		<0.001[a]
Min-max	0-95		0-92		
Sex	n	%	n	%	<0.001[b]
Male	4345	42.6	790	48.3	
Female	5862	57.4	847	51.7	

[a] Mann-Whitney-U test, [b] Chi-Square test

Table 2. Diagnoses and rates observed in dermatology outpatient clinic during 2019 and COVID-19 pandemic periods

Diagnosis	April-May period of 2019		COVID-19 pandemic April-May period		P-valuea
	n	%	n	%	
Significantly increasing diseases during the pandemic period					
Scabies	155	1.5	113	6.9	<0.001
Herpes Zoster	101	1	36	2.2	<0.001
Alopecia areata	141	1.4	42	2.5	<0.001
Urticaria	303	3	91	5.5	<0.001
Allergiccontact dermatitis	147	1.5	44	2.7	<0.001
Drug eruption	5	0.04	6	0.3	<0.001
Psoriasis	451	4.4	103	6.3	0.002
Vitiligo	136	1.3	38	2.3	0.002
Erythema nodosum	7	0.06	5	0.3	0.005
Striae Distencea	13	0.1	7	0.4	0.006
Erythema annulare centrifigum	2	0.01	2	0.1	0.036
Irritant Contact dermatitis	559	5.5	111	6.8	0.046
Diseases with no significant change in frequency during the pandemic period					
Prurigo-lichen simplex chronicus	174	1.7	25	1.5	0.609
Pruritus	525	5.1	101	6.2	0.103
Atopic dermatitis	151	1.5	28	1.7	0.483
Seborrheic dermatitis	315	3.1	45	2.7	0.473
Dermatitis	468	4.6	78	4.7	0.758
Nail Diseases	62	0.6	15	0.9	0.152
Dermatophytosis	753	7.3	115	7.0	0.636
Telogen effluvium	175	1.7	24	1.5	0.474
Pyoderma	315	3.1	56	3.4	0.484
Parapsoriasis	63	0.6	14	0.8	0.269
Hidradenitis suppurativa	9	0.08	4	0.24	0.077
Lipoma /cyst	36	0.3	11	0.67	0.057
Lichen Planus	42	0.4	9	0.5	0.429
Herpes infection	44	0.4	5	0.3	0.463
Erythema multiforme	9	0.08	1	0.06	0.726
Bullous Disease	11	0.1	4	0.2	0.149
Oral aphthae	42	0.4	10	0.6	0.288
Skin malignancy	10	0.1	4	0.2	0.110
Follicular disorders	57	0.5	4	0.2	0.100
Burn	21	0.2	4	0.2	0.752
Pityriasis rosea	83	0.8	14	0.8	0.958
Callus	115	1.1	14	0.8	0.330
Seborrheic keratosis	43	0.4	2	0.1	0.068
Diseases whose frequency decreased significantly during the pandemic period					
Acne	2516	24.7	275	16.8	<0.001
Androgenetic alopecia	94	0.9	0	0	<0.001
Xerosis cutis	393	3.8	34	2.1	<0.001
Verruca vulgaris	506	5	45	2.7	<0.001
Melanin pigmentation	173	1.7	15	0.9	0.02
Actinic keratosis	57	0.6	3	0.1	0.048
Other reasons	925	9.1	80	4.9	

[a] Chi-Square test

DISCUSSION

During the COVID-19 pandemic period, dermatology outpatient consultations decreased by 6.3 times compared to the previous year. While there was a decrease in outpatient consultations for cosmetic reasons, a significant increase in consultations for stress-induced dermatoses was found. Stria rubra development in the young population for reasons such as a sedentary life and possible nutritional disorders as a result of the restrictions experienced during the pandemic period was one of the interesting findings of this period. We think that patients with the coronavirus infection and associated skin findings apply to other clinics instead of the dermatology clinic due to the presence of other accompanying systemic symptoms.

Psoriasis, atopic dermatitis, urticaria, alopecia areata, chronic pruritus, and acne are known as stress-sensitive skin diseases (4-6). We also found a significant increase in the frequency of the outpatient clinic consultations for diseases such as psoriasis, vitiligo, alopecia areata, and urticaria. Although there was an increase in the frequency of chronic pruritus and atopic dermatitis cases, this difference was not statistically significant. Kutlu et al. (7) in their study comparing second and third level hospital admissions during the COVID-19 period, reported that the frequency of psoriasis, alopecia areata, and urticaria cases increased due to the social stress experienced during the COVID-19 pandemic period. An increase in cortisol response to psychosocial stress has been reported in psoriasis patients (5). This increased neuroendocrine response leads to an increase in psoriasis disease severity following stressful periods. In addition, it has been reported that vitiligo patients have high levels of stress perception and psychological stress can affect the onset and progression of the disease (8).

Acne is one of the most common diseases encountered in the dermatology outpatient clinic. In our study, it was observed that the frequency of acne application during the COVID-19 period decreased from 23% to 15.5% compared to the previous year. It is one of the dermatological diseases that are sensitive to stress, and acne was the only disease whose frequency decreased during the COVID-19 period compared to the previous year. The reason for this may be that acne is perceived as a cosmetic problem by the society and therefore, acne patients do not apply to the dermatology clinic.

During the COVID pandemic process, we found a significant increase in the frequency of scabies from April to May compared to that of the previous year. Kutlu et al. (9) stated that there was an increase in cases of scabies during the COVID-19 pandemic, and they attributed this to the increase in domestic contact with the "stay at home policy". They suggested that the symptoms of parasite infection, which has an incubation period of 2-3 weeks, emerged 4-6 weeks after the start of the stay at home policy (9). We also think that the number of scabies cases has increased due to increased domestic contacts after the pandemic.

In our study, we found significant increases in the frequency of irritant contact dermatitis and allergic contact dermatitis. During the pandemic period, an increase in irritant contact dermatitis cases has been reported due to increased hygiene behaviors, excessive hand washing, and the use of occlusive gloves and alcohol-based disinfectants (10). Skin allergic responses can be triggered by xerosis, damage to the epidermal barrier, and the passage of allergens through the damaged skin (11). Erdem et al. (12) investigated the prevalence of hand eczema in healthcare workers during the COVID-19 period and found that the incidence of hand eczema is 50.4%. They reported that the majority of cases in their study consisted of irritant contact dermatitis (96.3%) (12). In their study, Kutlu et al. found a similar increase in the frequency of irritant contact dermatitis after the COVID-19 pandemic (7).

During the COVID-19 pandemic, we observed a significant decrease in cosmetic applications to dermatology outpatient clinics. The most striking finding was that androgenetic alopecia has a zero referral rate. While there was a significant decrease in applications with cosmetic components such as melanin hyperpigmentation and verruca, the frequency of admission for telogen efflivium remained the same. Turan C et al. 13 found a decrease in the frequency of verruca vulgaris and hyperpigmentation in their study, in which they compared dermatology outpatient clinic admissions before and after the COVID-19 pandemic.

Particulary in the young population, as a result of the introduction of distance education, spending much more time at home, a sedentary life, malnutrition, and sudden weight gain during the COVID pandemic period, an explosion in the frequency of striae rubrae occurred. Although there is a cosmetic problem, most patients applied to the dermatology outpatient clinic during this risky period to get information about these rashes that first developed on their bodies (14).

In our study, a significant increase was found in the frequency of herpes zoster after the pandemic. It has been reported that this increase in the frequency of herpes zoster may be related to the psychological stress experienced during this period, as well as a symptom accompanying subclinical COVID-19 infection (15).

Many dermatological findings have been described in the course of the COVID pandemic, including maculapapular rash, urticaria, vesicular and petechial rash, distal ischemia, and livedo racemosa. In our study, COVID-19 infection was not detected in patients who applied to the dermatology outpatient clinic; therefore, we did not find an increase in the frequency of these findings. In the literature, a 2% mortality rate in COVID-19-associated urticaria cases is mentioned (16). Therefore, we think that COVID-19-related urticaria cases present to the emergency of chest or infectious diseases outpatient

clinics instead of the dermatology outpatient clinic due to the other accompanying COVID-19 findings.

The limitation of this study is that it does not show the long-term effects of the pandemic on dermatological diseases, since it covers only the first two months after the COVID-19 pandemic.

CONCLUSION

As a result, during the COVID pandemic, in dermatology outpatient clinics, there was a period in which the number of patients presenting for concultation decreased, an explosion was observed in stress-related dermatological diseases, and cosmetic diseases were delayed and ignored.

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Conflict of Interest: *The authors declare that they have no competing interest.*

Ethical approval: The study was conducted in accordance with the Helsinki Declaration principles and was approved by our Corporate Ethics Committee (2020/283).

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