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The effectiveness of İstanbul Occupational Diseases Hospital on employer attitude and worker's health in terms of occupational skin diseases

İstanbul Meslek Hastalıkları Hastanesi'nin mesleki deri hastalıkları açısından işveren tutumu ve işçi sağlığı üzerindeki etkinliği

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Abstract

Background and Design: To examine the effectiveness of İstanbul Occupational Diseases Hospital on employer attitude and worker's health in terms of occupational skin diseases and also to investigate the prognosis of occupational skin diseases.
Materials and Methods: In 2014-2015, 56 patients who were admitted to İstanbul Occupational Disease Hospital and diagnosed with occupational dermatosis were included in the study. The examination findings, diagnoses, disease involvement areas and the consultation data of patients who were replaced, not made and dismissed, and professional groups files were obtained and analyzed retrospectively during the initial and subsequent checkups of the patients.
Results: Of the 56 patients with a mean age of 36, 9 (16.1%) were female and 47 (83.9%) were male. The most common occupational dermatosis was contact dermatitis. Of these, 29 (51.8%) were evaluated as irritants and 22 (39.3%) as allergic contact dermatitis. Allergic contact urticaria in 3 patients, perniosis in one patient and systemic sclerosis in one patient were detected. The most common locations of the dermatoses were the hands. Irritant dermatitis was the most common in metal and allergic dermatitis was the most common in textile workers. 32 (57.1%) patients underwent a departmental changewhile 24 (42.9%) patients did not. While 14 (58.3%) patients were dismissed, 10 (41.7%) continued to work in the same department. Of the 32 patients who underwent departmental changes, 24 (75%) were monitored for improvement, while 8 (25%) were not. Recovery was observed in 32 (71.2%) of the 46 patients with environment change and it was statistically significant (p=0.001). No recurrence was observed in any of the patients who fully recovered during their the six-month follow-up.
Conclusion: Environment change improvement monitoring in 32 of 46 workers (71.2%) shows the importance of environment change in occupational dermatoses and the contribution of our hospital to worker health. The fact that 32 (57.1%) patients underwent department changes suggests that our hospital is effective on employers.
Keywords: Occupational dermatosis, occupational contact dermatitis, worker health

Öz

Amaç: İstanbul Meslek Hastalıkları Hastanesi'nin mesleki deri hastalıkları açısından işveren tutumu ve işçi sağlığı üzerindeki etkinliğini incelemek ayrıca mesleki deri hastalıklarının prognozunu araştırmaktır.
Gereç ve Yöntem: 2014-2015 yıllarında İstanbul Meslek Hastalıkları Hastanesi'ne başvurup mesleki dermatoz tanısı konulan 56 hasta çalışmaya dahil edildi. Hastaların ilk başvuru sırasındaki ve sonraki kontrolleri sırasında kaydedilen muayene bulguları, tanıları, hastalık tutulum bölgeleri, bölüm değişimi yapılan, yapılmayan ve işten çıkarılan hastaların muayene ve konsültasyon verileri ve meslek grupları dosyalarından geriye dönük olarak elde edilip analizler yapıldı.
Bulgular: Ortalama yaşı 36,89±8,64 olan 56 hastanın 9'u (%16,1) kadın, 47'si (%83,9) erkekti. En sık görülen mesleki dermatoz kontakt dermatitlerdi. Bunların 29'u (%51,8) irritan, 22'si (%39,3) alerjik kontakt dermatit olarak değerlendirildi. Üç hastada alerjik kontakt ürtiker, bir hastada perniozis, bir hastada sistemik skleroz tespit edildi. Dermatozların yerleşim yerleri en sık ellerdi. İrritan dermatit en sık metal, alerjik dermatit ise en sık tekstil işçilerindeydi. 32 (%57,1) hastaya işveren tarafından bölüm değişikliği uygulandı, 24 (%42,9) hastaya uygulanmadı, bölüm değişikliği yapılmayan hastalardan 14'ü (%58,3) işten çıkarılırken 10'u (%41,7) aynı bölümde çalışmaya devam ettirildi. Bölüm değişikliği

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yapılan 32 hastanın 24'ünde (%75) iyileşme izlenirken, 8'inde (%25) iyileşme izlenmedi. Ortam değişikliği sağlanan 46 hastanın 32'sinde (%71,2) iyileşme izlendi (p=0,001). Altı aylık takiplerinde tam iyileşen hastaların hiçbirinde nüks izlenmedi.
Sonuç: Ortam değişimi sağlanan 46 işçinin 32'sinde (%71,2) iyileşme izlenmesi mesleki dermatozlarda ortam değişikliğinin önemini ve hastanemizin işçi sağlığına katkısını göstermektedir. 32 (%57,1) hastaya bölüm değişimi uygulanmış olması ise hastanemizin işverenler üzerinde etkin olduğunu düşündürmüştür.
Anahtar Kelimeler: Mesleki dermatoz, mesleki kontakt dermatitler, işçi sağlığı

Introduction

When all occupational diseases are considered, occupational skin diseases are the most common occupational diseases after musculoskeletal diseases. Contact dermatitis is the most common occupational skin disease. Occupational diseases cause chronic health problems, impair the mental and physical health of the employee and lead to material and labor losses[1]. In addition, people suffering from occupational diseases may have to obtain reports of occupational diseases from occupational disease hospitals in order to defend their legal rights and improve their illnesses. These reports are communicated to employers and social security institutions (SGK) and the employee's department is changed or dismissed, requiring compensation. Often, even if the person suffers from occupational disease, they continue to work under the same conditions. In this article are, the final status, whether the department change was made or not, and dismissal status of the individuals who were diagnosed with occupational skin disease by our hospital and whose status was reported and made aware by SGK. Since our study is the first study examining the prognosis of occupational skin diseases in our country, we believe that these data are important in terms of shedding light on the future.

Materials and Methods

The examination findings, diagnoses, dermatology clinic consultation notes, disease involvement areas, and data from occupational files recorded during the first admittance and later follow-ups of 191 patients consulted at our dermatology polyclinic with suspected occupational dermatosis after admittance to our occupational disease polyclinic of İstanbul Occupational Diseases Hospital between 2014-2015 were retrospectively analyzed. Of these, 78 patients who did not come to follow-up visits, for whom it was unknown whether departmental or job change occurred after it was recommended, and who could not be reached via phone, 13 patients who did not complain about skin conditions among their primary complaints, and 44 patients who were not diagnosed with occupational dermatosis were excluded from the study. Fifty-six patients diagnosed with occupational dermatosis were included in the study. Of the 56 patients included in the study, 50 were evaluated as contact dermatitis and 6 as non-contact dermatitis skin disease. Fifty patients with suspected contact dermatitis underwent a European standard series skin patch test and all patients were offered department changes. Examination and consultation data of the patients whose department was changed or not or who were dismissed were obtained from the files. The diagnosis of occupational contact dermatitis was based on the Mathias criteria[2]. The distinction between irritant and allergic dermatitis was made according to clinical findings and patch test results. The patients who clinically had pronounced itching and spreading to the adjacent skin region and had sensitization to at least one substance in patch test were considered contact dermatitis, and other dermatitis cases were considered irritant contact dermatitis (ICD). The diagnosis of occupational dermatoses other than dermatitis was evaluated in the light of the cause responsible for the disease, working time of the patient, duration of onset of the disease and clinical findings. No topical or systemic treatment was used during the diagnosis of occupational dermatosis, the patients were followed for six months for clinical improvement, and only moisturizer was recommended for patients during diagnosis and follow-up. Partial or complete recovery or non-recovery was decided after six months. At the end of the six-month follow-up, patients whose lesions had completely healed and had no recurrence during this period were evaluated as complete recovery. Patients with partial regression of erythema, ragging and infiltration of their lesions were defined as partial recovery, and patients with no change and/or increase in lesion distribution and clinical severity were considered as the non-recovery group. Patients with partial recovery were also included in the non-recovery group in statistical calculations. Exposure periods were determined based on the duration of work in the last workplace of the workers who had more than one occupational change, while the total working time of the workers who had been doing the same work since the beginning was taken as the exposure time. A single dermatologist took part in all stages of the diagnosis process, and the medical diagnosis was given by the occupational diseases health committee in the light of the opinion of the dermatologist. Decisions taken by our health committee were conveyed to both employer and SGK with the health committee report. As a result of the reports prepared, workers were subjected to departmental change or dismissal. These cases were filed and recorded during the controls of the patients. The rate of departmental change was considered a criterion for effectiveness on employers, and rate of improvement following distance from the environment as a result of job or departmental change was considered a criterion for effectiveness on workers' health.

Statistical Analysis

Descriptive statistics for demographic data were performed by using SPSS version 16. Pearson chi-square test was used to compare categorical data on recovery rates between groups with and without change of environment. A p-value of <0.05 was considered as statistically significant.

Results

The mean age of patients was 36.89±8.64. 9 of the patients (16.1%) were female and 47 (83.9%) were male. Twenty-nine patients (51.8%) were diagnosed with ICD and 22 patients (39.3%) with allergic contact dermatitis (ACD). Three patients had contact urticaria (5.3%), one patient had perniosis (1.7%), and one patient (1.7%) had systemic sclerosis (Table 1). Dermatoses were most commonly located in the hands (64.3%) (Table 2). ICD was the most common one in metal workers, and ACD was the most common in textile workers (Table 3). Department

Table 1. Occupational dermatoses detected in our patients

	n	%
Irritant contact dermatitis	29	51.8
Allergic contact dermatitis	22	39.3
Allergic contact urticaria	3	5.4
Perniosis	1	1.8
Scleroderma	1	1.8

Table 2. Disease involvement sites

	n	%
Hands	36	64.3
Hands+arms+face	7	12.6
Hands+arms	4	7.1
Face	3	5.4
Trunk	2	3.6
Hands+wrist	2	3.6
Arms	2	3.6

Table 3. Distribution of dermatoses by occupational groups

Occupation	Diagnosis					Total
	ICD	ACD	ACU	Perniosis	Scleroderma	
Automotive	3	2	1	0	0	6
Shipyard	0	3	0	0	0	3
Textile	3	5	1	0	0	9
Printing press	3	2	0	0	0	5
Furniture	0	1	0	0	0	1
Metal	11	3	0	0	0	14
Building	1	3	0	0	0	4
Health	0	1	0	0	0	1
Hairdresser	0	1	0	0	0	1
Cleaning	4	0	0	0	0	4
Cosmetic	1	0	0	0	0	1
Painting	2	0	0	0	0	2
Chemistry	0	1	0	0	0	1
Resin	0	0	1	0	0	1
Sandblasting	0	0	0	0	1	1
Motorcycle courier	0	0	0	1	0	1
Plastic	1	0	0	0	0	1
Total	29	22	3	1	1	56

ICD: Irritant contact dermatitis, ACD: Allergic contact dermatitis, ACU: Allegic contact urticaria

change was recommended to all patients. Thirty-two (57.1%) patients underwent a departmental change, 24 (42.9%) patients did not undergo a departmental change, 14 (58.3%) of the patients who did not undergo were dismissed and 10 (41.7%) of them continued to work in the same department. While no clinical improvement was observed in workers who did not undergo departmental change, 8 of 14 layoffs showed improvement. Twenty-four (75%) of the 32 patients who underwent departmental change had improvement, while 8 (25%) did not. In total, 32 (71.2%) out of 46 patients who had a change of environment through dismissal and departmental change demonstrated improvement (p=0.001) (Table 4). The majority of occupational dermatoses occurred within the first three years (Table 5). During the six-month follow-up, none of the patients had recurrence.

Table 4. Recovery rate with change in occupational environment

Change of environment	Recovery		Total
	No	Yes	
No	10	0	10
Yes	14	32	46 (p=0.001)
Total (n)	24	32	56

Table 5. Onset time of occupational dermatosis

Year	Diagnosis					Total
	ICD	ACD	ACU	Perniosis	Scleroderma	
0-1	10	4	1	0	0	15 (26.8%)
1-3	9	7	1	0	0	17 (30.4%)
3-5	5	3	0	1	1	10 (17.9%)
5	5	8	1	0	0	14 (25%)
Total	29	22	3	1	1	56

ICD: Irritant contact dermatitis, ACD: Allergic contact dermatitis, ACU: Allegic contact urticaria

Discussion

Occupational contact dermatitis is the most common occupational dermatosis. In the literature, some studies have reported that ICD was frequent, and others have reported ACD was frequent[3]. In our study, ICD was found more frequent.

In a study that examined 2703 workers with occupational hand eczema and/or contact urticaria during a one-year period through survey, analyzing the rate of change and dismissal, 32.5% of the employees changed jobs and 18.8% were left unemployed[4]. In our study, 14 (25%) of 56 patients were dismissed. In our patient group, the high rate of dismissal may be due to employers being in favor of dismissal instead of changing departments.

When the relationship between change in environment and clinical improvement was evaluated, it was statistically significant that 32 (71.2%) of 46 patients (71.2%) who underwent environmental change through dismissal or departmental change (p=0.001). In the remaining 14 (30.4%) patients, lack of improvement may be due to many factors; for example, the disease may be non-occupational, the disease may be occupational but the departmental change might not have provided distance from the real cause of the disease, or the dermatosis may be unimproved even if occupational. Similar to studies in the literature showing that eczema persists in an average of 30% of cases even after environment change, our study also demonstrated that dermatosis was maintained in 30.4% of cases who underwent environmental change[5].

In a study of 1048 workers with occupational skin disease, followed for six months, 37% of those with change in environment showed improvement[6]. In our study, improvement was observed in 71.2% of those who underwent changes through dismissal or departmental change. This can be explained by the consistency of our occupational medical definition. None of the patients who did not change their environment improved. This shows that more protective measures are needed in the patient group and the employees represented by this group and that the employees need to be informed more about their protection and treatment.

In our study, 32 (57.1%) patients underwent departmental change suggesting that our hospital was effective on employers. The improvement in 71.2% of the patients with change in environment suggested that we were effective on worker health.

ICD is more common in metal workers, which may be due to more frequent contact of this group with irritants. ACD being more common in textile workers may be due to the increased use of chemicals that may cause more sensitization in this sector. In our study, it was determined that there were only four cleaning workers. This situation was attributed to the low number of applications made by the employees of this sector to our hospital as they were mostly employed without insurance.

In one study, pernio development was reported in milkers[7]. In our study, systemic sclerosis was detected in a patient who performed sandblasting. This person also had silicosis. This condition called Erasmus syndrome was first described in 1957 by Erasmus in gold miners exposed to silica dust. The disease occurs after an average of 15 years of exposure and cannot be separated clinically and in terms of laboratory from idiopathic systemic sclerosis[8]. In our case, the duration of exposure was six years. However, the disease may have appeared in earlier years due to eight hours of sandblasting work per day. A large number of systemic sclerosis cases after silica exposure have been reported in the literature.

Study Limitation

The limitations of our study include: the use of only one expert dermatologist along with the hospital health committee during occupational evaluation, no follow-up after six months for patients who underwent departmental change or were dismissed, no details provided for substances that were detected during the patch test, the absence of a topical and/or systemic treatment during their six-month follow-up being solely based on the statements of the patients, lack of standardized criteria use for occupational evaluation of non-dermatitis dermatoses, and the inclusion of only the worker class due to the difference in our country's insurance system.

Conclusion

According to the results of our study, we believe that the decisions taken and recommendations made to the employer within the framework of the diagnoses by our hospital are effective. However, we believe that stronger and more accurate data can be obtained with larger number of cases and multicenter studies.

Ethics

Ethics Committee Approval: Retrospective study.
Informed Consent: Retrospective study.
Peer-review: Externally peer-reviewed.
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