OLGU SUNUMU CASE REPORT

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Stevens-Johnson Syndrome: A Case Report Stressing the Role of the Dentists for the Treatment of Rare Diseases

Stevens-Johnson Sendromu: Nadir Hastalıkların Tedavisinde Diş Hekimlerinin Rolünü Vurgulayan Olgu Raporu

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ABSTRACT Although Stevens-Johnson syndrome (SJS) is a rare severe disorder of the skin and mucous membranes, sometimes the patients might have no other symptoms apart from the oral lesions. Most of the cases are triggered by a drug and if not treated it can be life threatening in severe cases. We discuss an uneducated 16-year-old patient with SJS following non-steroidal anti-inflammatory drug therapy who applied to dentist for oral discomfort. At the time of the dental appointment, the patient was not taking medications of any kind. No significant problems were noted during the health history. We performed routine oral health procedures and stressed on the importance of oral hygiene. Remarkable improvements were observed even in the first control visit. This observation encouraged us to be more aware of adverse effects of certain drugs, which dental practitioners widely use in routine practice. More importantly, dentists are in a perfect position to maintain practice-patient relationship to decrease risks of even severe diseases.

Keywords: Stevens-Johnson syndrome; dentistry; anti-inflammatory agents, non-steroidal; oral hygiene

ÖZET Stevens-Johnson sendromu (SJS), cilt ve mukozayı tutan ve nadir görülen bir hastalıktır. Ciddi sonuçlar doğurabilen bir hastalık olmasına rağmen kimi zaman da oral lezyonlar dışında başka semptomları olmayabilir. Olguların çoğunun hikâyesinde, ilaç ile tetiklenme vardır ve tedavi edilmediği takdirde ağır olgularda yaşamı tehdit edici olabilir. Bu olgu sunumunda, ağız içerisinde duyduğu rahatsızlıklar nedeniyle diş hekimine başvuran ve nonsteroidal antiinflamatuar ilaç kullanmış hastamızı tartışıyoruz. Hasta, 16 yaşında, kadın ve sosyoekonomik olarak düşük profil sergilemektedir. Diş kliniğine müracaat ettiği dönemde, herhangi bir ilaç kullanmıyordu. Sağlık geçmişinde önemli bir sorun kaydedilmedi. Rutin ağız hijyeni temin edilen hastaya, hijyen eğitimi verildi ve ağız hijyeninin önemi detaylıca anlatıldı. Takip eden ilk randevuda bile hastada gözle görülür iyileşmeler izlendi. Bu olgu, diş hekimlerinin de yaygın olarak kullandıkları ilaçların olası ciddi yan etkilerinin farkında olmaları gerektiğini, daha da önemlisi diş hekimlerinin, ciddi hastalıkların risklerini azaltmak için önemli bir role sahip olduklarını göstermektedir.

Anahtar Kelimeler: Stevens-Johnson sendromu; diş hekimliği; antiinflamatuar ajanlar, steroid olmayan; ağız hijyeni

Stevens-Johnson syndrome (SJS) is a serious disorder of mucous membranes and skin. SJS is characterized by erythematous skin and extensive detachment of epidermis.[1] SJS is also a very rare exfoliative dermatitis with severe erosions of mucosal surfaces, including oral mucosa. Although the first symptoms of SJS start with flu-like symptoms, it is a life-threatening medical emergency situation with the necrosis of tissues. SJS is mostly triggered by certain medications, but also some infections like herpes can be the reason. However, in most cases, the primary cause cannot be identified. The first lesions generally appear on the face, which in turn spreads to all body.[2,3] The red rashes, which are seen in the early three days, can lead to painful lesions of skin in the following days.[4]

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Meanwhile, the oral mucous membranes present a range of symptoms, from very mild to very severe cases like lip lesions leading to the local necrosis of lips. These lesions are characterized by painful mucosal erythema with following blistering and ulceration. Furthermore, ulceration and hemorrhagic crusts in the vermilion zone of the lips can be observed with the development of dark adherent crusts. In the literature, the lip swelling has been described as the infrequent primary symptom as well.[5,6]

There are no specific diagnostic criteria for SJS. The current diagnosis is based on a person's medical history and visible symptoms.[7] In general, mucosal erosive membrane lesions and oral involvement are observed in 97% and 93% of patients with SJS, respectively.[8] For this reason, the oral mucosal findings are critical for the appropriate diagnosis. Yet, the lack of inspection information on oral tissues in non-dental practice narrows the ability of differential diagnosis. It is evident that the oral mucosal lesions are the initial feature/or even the only clinical sign of various mucocutaneous diseases.[9,10] Unfortunately, the role of dentists can be neglected, and those patients can be referred to the dentist very late.

CASE REPORT

Initially, a written informed consent was obtained from patient's guardian. A 16-year-old previously healthy female adolescent referred to our clinic with the complaint of swollen and bruised lips, dystrophy, and excessive pain in the mouth area. Due to their low socio-economic status, the family and the patient were not able to answer most of the questions asked to obtain information regarding the patient's medical history. The family with the low education level declared that previously they applied for various treatment processes without completing any of those. Three weeks ago, the patient's main symptoms were fever with a runny nose and a sore throat. She had been prescribed a nonsteroidal anti-inflammatory drug (NSAID), etodolac. However, a few days after she started her medications, she had some oral cavity problems. After that, the patient was seen by a dermatologist and two family physicians, who prescribed her various kinds of drugs such as systemic antibiotics, NSAIDs, antivirals, anti-protozoans, anti-inflammatories and topical corticosteroids. In total, the patient had almost 20 different medicines, which some of them were used even only once.

Finally, the family physician referred the patient to our clinic because of the oral pain. The patient quitted all of the prescribed medications three days before her referral to our clinic. On the day she was referred to us, her lips had partial scab. Intraoral and extraoral examination revealed ulcerations of the vermilion surface and labial mucosae. Both upper and lower lips had hemorrhagic crusted erosions. The ulcers were tender on palpation (Figure 1). In general, she had a general oral discomfort, but the most painful oral ulcerations were limited with the buccal area. All gingiva was crimson, and teeth were covered by a dense calculus layer and plaque accumulation (Figure 2). Due to the excessive pain of the mouth, the patient was malnourished, which caused having an inadequate diet for a long time. According

FIGURE 1: The patient had swollen lips with hemorrhagic crusted erosions.

FIGURE 2: Intraoral periodontal examination revealed a dense calculus layer and plaque accumulation around the teeth.

TABLE 1: Patient's blood test.

Test	Result	Flag	Unit	Reference range
Hemogram				
WBC	11.53	High	10^9/L	4-10
LYM	3.09		10^9/L	0.9-5.2
MON	0.55		10^9/L	0.1-1.2
RBC	4.2		10^12/L	3.5-5.5
HGB	11.7		g/dL	11-16
HCT	36.9	Low	%	37-54
MCV	87.8		fL	80-100
MCH	27.9		Pg	27-34
MCHC	31.7	Low	g/dL	32-36
RDWc	12.5		%	11-16
PLT	288		10^9/L	100-400
MPV	7.9		fL	6-13
MON%	4.8		%	2-10
LYM%	36.8		%	20-40
EOS%	1.7		%	0.5-5
EOS	0.2		g/L	0.02-50
NEUT	7.69		10^9/L	2-7
NEUT%	66.7		%	50-70
RDW-SD	42.1		fL	35-56
PDW	16.4		fL	9-17
PCT	0.228		%	0.108-0.282
P-LCR	21.8		%	11-45
P-LCC	63		g/L	30-90
BAS	0		g/L	0-0.1
BAS%	0		%	0-1

WBC: White blood cell count; LYM: Lymphocyte count; MON: Absolute monocyte count; RBC: Red blood cell count; HGB: Hemoglobin; HCT: Hematocrit; MCV: Mean corpuscular volume; MCH: Mean corpuscular hemoglobin; MCHC: Mean corpuscular hemoglobin concentration; RDWc: Red cell distribution width; PLT: Platelet count test; MPV: Mean platelet volume; MON%: Monocyte percentage; LYM%: Lymphocyte percentage; EOS%: Eosinophil percentage; EOS: Absolute eosinophil count; NEUT: Neutrophil count; NEUT%: Neutrophil percentage; RDW-SD: Red blood cell distribution width-standard deviation; PDW: Platelet distribution width; PCT: Procalcitonin level; P-LCR: Platelet-large cell ratio; P-LCC: Platelets larger than 12 fL and smaller than 30 fL; BAS: Basophils count; BAS%: Basophil count percentage.

to her previously performed test results, the white blood cells were slightly elevated (Table 1).

Due to severe pain in the oral cavity and the periodontal tissues, recording of clinical periodontal parameters including probing pocket depth was not performed. However, debridement soft and hard deposits in the supragingival area was performed at our best in order to maintain the oral hygiene. We did not prescribe any medication, whereas we put an extra effort to explain her the importance of maintaining good oral hygiene. Oral hygiene education was given repeatedly and a soft tooth-brush was prescribed. Furthermore, in order to support the patients' immune system, we made some recommendations such as regular sleep, increased water intake and vitamin support.

The patient's lip lesions were significantly improved after a 3-day recall period (Figure 3). In this session, the pain was significantly reduced. The visible reduced plaque amount showed us that the patient was compliant with the oral hygiene education. In this session, we performed scaling and root planning, which was followed by gingivectomy and frenectomy to eliminate further bacterial plaque accumulation a week after. The patient did not attend to the control session at one week. However, we learned that she did have any complain by our telephone call. After three months follow up, the gingiva and the lips were free of lesions, and the patient did not have any complaint (Figure 4, Figure 5).

FIGURE 3: On the 3-day recall appointment, the upper and lower lips had a clear wound healing.

FIGURE 4: At three months follow up period, the lips were totally healthy.

FIGURE 5: At three months follow up period, the appearance of the gums following a frenectomy.

DISCUSSION

This case reports the fact that severe hypersensitivity reactions can occur secondary to the use of drugs, such as NSAIDs, that commonly prescribed in dental practice for the management of pain and swelling.[6] Furthermore, patients should also be encouraged to report any abnormal symptoms to their physician after taking medications to prevent a potentially life-threatening condition. Although the medication was not prescribed by dentists, the dentists' vigilance regarding the history of intake of offending drugs resolved the case of oral mucosal lesion. SJS can be seen as infectious, severe, or mild form, and almost all cases are characterized with mucosal lesions, which are seen in an area like oral region.[11] So, the dentists should know well about the lesions that may occur after the use the most prevalent drugs, NSAIDs, since they can be life-threatening in the severe form, especially for older patients.[12]

The exact pathogenesis of SJS is unknown, and if the symptoms do not scatter to the skin, very often, serology and polymerase chain reaction are eliminated like the previous doctors behaved in this case.[13] If a severely elevated white blood cell (WBC) count with high fever, cough, severe mouth pain had been found, it would have indicated us the possibility of a case of SJS triggered by a bacteria such as *Mycoplasma pneumoniae* or even a superimposed bacterial infection in SJS.[10,14,15] However, a slight white blood cell count most probably indicates us that the immune system is working against only the mild reaction of drug.

Since the patient was under the effect of previous medicines, we did not think of getting any further blood tests from the patient. Her medical history and drug list, along with well defined clinical features, let us diagnose on the basis of the clinical presentation. Although the symptoms of the erythema multiforme and staphylococcal scalded skin syndrome can be similar to those of SJS, some differences may be useful for a differential diagnosis. In particular, SJS is mainly characterized by mucous membrane erosions and the presence of widespread small blisters on erythematous or purpuric maculae.[5] Actually, still some authors consider SJS and those other diseases to be the same disease, which in turn cause the pathogenic mechanisms and resolutions sometimes remain unclear.[9] In our case, it was a very typical feature that, the symptoms of drug- induced SJS arise within a week of starting the medication with the presence of oral cavity lesions.[14] They were characterized by extensive vesicle formation with painful erosions. The lesions were not extended to pharynx, larynx and esophagus. Furthermore the skin manifestations were not present, which was in accordance with her slightly elevated WBC counting.

Our patient already stopped using her drugs before she applied to our clinic. This situation made significantly a better prognosis of our case within 3 days. In addition, increased attention to her supportive treatment boosted her immune system.

Painful gums and oral lesions can significantly alter or prevent the proper execution of daily oral hygiene procedures. The patients with SJS should be motivated to perform daily oral hygiene care at a high level. Effective communication in dental chair was a powerful solution for the current case. However, there is little information in the literature about the evaluation of oral hygiene and the consequences of poor oral hygiene not only on disease activity, but also on overall health in the patients with SJS.

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Conflict of Interest

No conflicts of interest between the authors and / or family members of the scientific and medical committee members or members of the potential conflicts of interest, counseling, expertise, working conditions, share holding and similar situations in any firm.

Authorship Contributions

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