The Evaluation of Medical Conditions in Patients Admitted to the Oral Diagnosis Clinic

SUMMARY

Background/Aim: The aim of this study is to set forth the current systemic diseases of the patients admitted to the oral diagnosis clinic of the Faculty of Dentistry Sütçü İmam University, and the prevalence of these diseases. **Material and Methods:** This study will be conducted by retrospective evaluation of anamneses in the tooth information management system of patients admitted to the oral diagnosis clinic of the Faculty of Dentistry, Sütçü İmam University for dental treatment. The anamneses taken from the patients before their treatments will be obtained from digital medium. **Results:** Out of 4077 patients included in the study, 2554 were female, and 1523 were male. Of them, 25.6% had systemic diseases. The mean age of the patients was 35.24%+12.3. It was found that cardiovascular diseases were more common than the other systemic diseases. The most common cardiovascular disease was found to be hypertension (7.5%), while the most common endocrine system disease was diabetes mellitus (7.5%). **Conclusions:** Dental practitioners must keep themselves up-to-date as they encounter patients with systemic diseases. They must pay attention while taking anamneses from patients. Therefore, they may apply medical consultation to prevent probable complications when necessary.

Key words: Systemic Disease, Anamnesis, Dental Treatment

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Introduction

Dental practitioners should be competent enough to treat medically-threatened people and have advanced awareness for treatment procedures of various systematic diseases. Medical emergencies may occur during or after dental procedures and have serious results. It is necessary to take anamnesis before dental treatment to provide appropriate dental treatment for patients. The dental treatment of a patient should be done according to the patient's medical needs.

Knowledge and awareness of the patient's medical profile is important for the safe management of the patient¹⁻³. Accordingly, dental treatment may need to be adjusted based on the patient's medical restrictions, and doctor consultation may be necessary sometimes⁴.

The dental practitioner should be familiar with cardiovascular, respiratory, immunity, endocrine, and metabolic diseases to treat these patients accurately. Patients with immunosuppression, cancer, HIV, hepatitis,

and patients using blood thinners may require special dental treatment^{5,6}.

Also, it is necessary to search for the prevalence of systemic diseases among dental patients in various geographical regions^{7,8}. Some studies in the literature stated that half of the patients who were transferred to faculties of dentistry developed at least one medical complication^{9,10}.

Besides, oral symptoms generally appear as the first indicators of a systemic condition in most of the systemic diseases¹¹. Dental practitioners should pay attention to this condition. Thus, dentists can contribute to the diagnosis of some systemic diseases¹². Additionally, systemic diseases may strain the patient's tolerance for dental interventions or sometimes limit the patient's ability to maintain oral hygiene care¹³.

The aim of this study is to set forth the current systemic diseases of the patients admitted to the oral diagnosis clinic of the Faculty of Dentistry, Sütçü İmam University, and the prevalence of these diseases.

Material and Methods

This study was conducted by retrospective evaluation of anamneses in the tooth information management system of patients admitted to the oral diagnosis clinic of the Faculty of Dentistry, Sütçü İmam University for dental treatment. The anamneses taken from the patients before their treatments were obtained from the digital medium. This study was approved by Sütçü İmam University Faculty of Medicine Clinical Research Ethics Committee (Decision Numbered 5 Dated 11.12.2019).

The evaluation included the patients with cardiovascular diseases (hypertension myocardial infarction, cardiac failure, others), respiratory system diseases (chronic obstructive pulmonary disease, asthma, others) endocrine system diseases (diabetes mellitus, thyroid disorders, others), malign diseases, neurologic and psychological diseases (epilepsy, MS, others) infection diseases (hepatitis, HIV), gastrointestinal diseases (gastritis, ulcer, other), and transplantation patients.

Data obtained were analyzed using the Statistical Package for the Social Sciences 23.0 version (SPSS INC., Chicago, 11., USA). The probability level was determined as $\alpha = 0.05$ for the statistical significance. Pearson's Chi-square test was used to compare the data.

Results

Of 4077 patients included in the study, 2554 were female and 1523 were male. The number of healthy women was 1524 and the number of diseased women was 730 while the number of healthy men was 1208 and the number of diseased men was 315 (Figure 1). The study found that 21.3% of male and 28.5% of women had systemic diseases. No significant difference was found based on gender. Of the patients, 25.5% had a systemic disease (Table 1 and 2). The mean age of the patients was 35.24 ± 12.3 while the mean age of individuals with a systemic disease was 46 ± 11.6 .

Figure 1. Distribution of the disease according to sex

The study found that cardiovascular diseases were more common than other systemic diseases. The most common cardiovascular disease was hypertension (7.5%) followed by endocrine system diseases. The most common endocrine system disease was found to be diabetes mellitus (5.5%). Considering the respiration system diseases, the most common disease was found to be asthma (2.2%). The frequency of neurological and psychiatric diseases was (1.6%). The most common infectious disease was Hepatitis B (1.4%) while the most common gastrointestinal system disease was gastritis (1.1%). The occurrence prevalence of malign diseases was 0.8%. The occurrence prevalence of transplantation patients was 0.3%. Below is the frequency and percentage table of systemic diseases based on sex (Tables 1 and 2). The distribution of subgroups of systemic diseases is in Table 3.

Table 1. Frequency and percentage of systemic diseases in men

Men	N	%
Cardiovascular Diseases	100	6.56
Respiratory System Diseases	20	1.31
Endocrine System Diseases	84	5.51
Malign Diseases	18	1.18
Neurologic & Psychiatric Diseases	20	1.31
Infectious Diseases	34	2.23
Gastrointestinal Diseases	33	2.16
Transplantation Patients	6	0.39
TOTAL	315	21.3

Table 2. Frequency and percentage of systemic diseases in women

Women	n	%
Cardiovascular Diseases	276	10.8
Respiratory System Diseases	80	3.13
Endocrine System Diseases	225	8.08
Malign Diseases	44	1.72
Neurologic & Psychiatric Diseases	47	1.84
Infectious Diseases	28	1.09
Gastrointestinal Diseases	27	1.05
Transplantation Patients	3	0.11
TOTAL	730	28.5

Table 3. Distribution of subgroups of systemic diseases

Systemic Diseases	N	%
Hypertension	309	7.5
Myocardial Infarction	10	0.24
Cardiac Failure	20	0.49
Others	37	0.90
COPD	6	0.14
Asthma	91	2.2
Others	3	0.07
Diabetes Mellitus (Type1-2)	225	5.5
Tyroid Disorders	75	1.83
Others	9	0.22
Malign Diseases	62	1.52
Epilepsy	30	0.73
Multiple Sclerosis	10	0.24
Others	27	0.66
Hepatitis-B	59	1.4
HIV	1	0.02
Others	2	0.04
Gastritis	45	1.1
Ulser	10	0.24
Others	5	0.12
Transplantation Patients	9	0.22
TOTAL	1,045	
Chronic obstructive pulmonary disease (COPD)		

Discussion

In the literature, the studies that evaluate the systemic conditions of patients who are admitted to dental practitioners have different results. The prevalence rate of systemic diseases was reported as 73% by Marham *et al.*¹⁴, 48.2% by Kaur *et al.*¹⁵, 11.7% by Oyetola *et al.*¹⁶, 35.2% by Gaphor *et al.*¹⁷, 37.2% by de Jong *et al.*¹⁸, 26% by Cigerim¹⁹, 28.2% by Smeets *et al.*²⁰, and 12.2% by Dhanuthai *et al.*²¹. The prevalence of systemic disease was 25.5% in the present study.

Adequate record-keeping remains a challenge in health planning and management in developing societies. Many patients may not report honestly about their medical history, particularly because of the notion that there is no connection to their dental complaints, or their cultural and religious beliefs that forbid confession of a disease^{16,22}. Geographical location differences may explain the difference in study results.

Some studies have shown that the prevalence of systemic diseases is higher in women^{4,14}. Although the present study showed that systemic disease was more

common in women, no significant difference was found based on sex. In the study of Cigerim *et al.*, the rate of systemic disease in men was found to be higher than in women¹⁹.

The most common disease among cardiovascular system diseases is hypertension. Hypertension was the most common disease in the study of Mesgarzadeh *et al.*¹⁰. Similarly, Oyetola and Bhateja *et al.* also stated that cardiovascular diseases (Hypertension) rank first^{21,23}. In parallel with the literature, the most common systemic disease in this study was hypertension. Contrary to these studies, in the study evaluating the patient population with periodontal disease, the most common medical conditions are diabetes mellitus and hormonal disorders²⁴.

Dental practitioners should consider that systemic diseases may also cause oral symptoms, and should keep themselves up-to-date in terms of these diseases to prevent possible complications. Especially, it should be known that hypertensive patients may show symptoms such as gingivitis, periodontitis, lichenoid reactions, hyposalivation, and facial nerve paralysis. Facial nerve palsy is usually seen in malignant hypertensive patients. In patients with facial nerve palsy, clinical findings such as paralysis of the facial muscles, drooling, expressionless appearance of the face, inability to blow, eye opening, and continuous tears develop²⁵.

The present study revealed that the second most common disease was endocrine system disease, and diabetes was the most common disease among them. In parallel with this study, it has been reported that the second most common endocrine system diseases are in the studies of Cigerim and Aggarwal *et al.*^{19,26}. Dental practitioners should know that diabetes mellitus may cause oral symptoms such as burning sensation in the mouth, candidiasis, cariosity, lichen planus, dysesthesia, and saliva function disorder²⁷. In addition, as a result of high blood sugar, microvascular disease, susceptibility to infection and delayed wound healing can be seen. Consequently, healing may be affected by endosseous implant surgery in patients with diabetes²⁸.

On the other hand in the study by Sachdeva, the most common diseases were gastrointestinal system diseases¹³. However, other system diseases were found to be less common than cardiovascular and endocrine systems diseases in the present study.

In the study of Al-Bayati *et al.*, the frequency of asthma has been reported to be 5.8%⁴. In the same study, it was reported that respiratory system diseases were less common than endocrine and cardiovascular diseases. Similarly, in this study, it was determined that the prevalence of asthma was 2.2% and respiratory system diseases were seen less frequently than cardiovascular diseases.

Leblebicioğlu *et al.* reported that HBV carrier rate is between 6-14.3 % in Turkey according to serological

markers²⁹. Hepatitis B (1.5%) was the most common infectious disease in this study. The prevalence of HIV was 0.02%. The low rate in the study may be due to the misrepresentation of the patients. The transmission of the disease both from patients to practitioners and vice versa when infection control measures are not applied is an important problem³⁰. Dentists must follow strict sterilization procedure to prevent infection transmission in clinics.

The studies in the literature stated that the mean age of the patients with systemic diseases is higher than healthy individuals^{4,15,19}. Similarly, the present study noted that the mean age of the patients with systemic diseases was higher than that of healthy individuals.

In addition, in this study, the frequency of malignant disease was 1.52%, transplantation patient 0.22% and neurological and psychiatric diseases 1.6%. Similar to this study, Cığirim *et al.*¹⁹ study found that neurological and psychiatric diseases were less common in patients who applied for dental treatment. Additionally, the rate of malignant disease and organ failure has been reported to be 0.4%.

Conclusions

Dental practitioners must keep themselves up-to-date as they encounter patients with systemic diseases. They must pay attention while taking anamnesis from patients. Therefore, they may apply a medical consultation to prevent probable complications when necessary.

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