



CLINICAL STUDY

ANALYSIS AND MANAGEMENT OF HOSPITALIZED PATIENTS WITH EPISTAXIS

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SUMMARY

Purpose: The etiology and comorbidity diseases of the epistaxis patients who were hospitalized and treated were evaluated and the management to the epistaxis patients was discussed in the light of the literature.

Material and Methods: 68 patients with epistaxis admitted to our emergency department and hospitalized were examined retrospectively. Age, gender, comorbid diseases, methods of treatment, and duration of hospital stay were evaluated.

Results: 68 patients were included in our study (26 female (38.2%) and 32 male (61.8%)). The mean age of our patients was 54 ± 2.41 . Hypertension (39.7%) was the most common cause of epistaxis in our study. The second most frequent cause was nasal inflammation (23.5%). Conservative treatments were performed to 50 of our patients and 18 of them underwent surgical treatment. The duration of hospital stay in our patients was found to be 1-11 days (2.77 ± 1.79). **Conclusion:** Epistaxis is a very common disorder in otorhinolaryngology cases. Methods of epistaxis management should be well known, and should be carefully assessed for complications especially in elderly patients.

Keywords: Epistaxis, comorbidity, treatment

YATARILARAK TEDAVİ EDİLEN EPİSTAKSİSLİ HASTALARIN DEĞERLENDİRİLMESİ VE HASTALARA YAKLAŞIM

ÖZET

Amaç: Çalışmamız da yatırılarak tedavi edilmesi gereken epistaksis hastalarının etyolojisi ve ek hastalıkları değerlendirilmiş olup, epistaksisli hastaya yaklaşım literatür eşliğinde tartışılmıştır.

Hastalar ve Yöntem: Hastanemiz aciline başvuran ve yatırılarak tedavi edilen 68 hastanın dosyaları retrospektif olarak incelenmiştir. Hastalarımız yaş, cinsiyet, ek hastalıkları, uygulanan tedavi metodları ve hastanede kalış süreleri değerlendirilmiştir.

Bulgular: Çalışmamıza dahil edilen 68 hastanın 26'sı kadın (%38,2) 27'si ise erkek idi (%61,8). Hastalarımızın yaş ortalamaları $58 \pm 18,31$ 'di. Çalışmamızda en sık epistaksis sebebi olarak hipertansiyon (%39,7) bulunmuştur. İkinci en sık sebep ise nasal inflamasyon (%23,5) idi. Hastalarımızın 50'ine konservatif tedaviler uygulanmış ve 18'sine cerrahi tedavi uygulanmıştır. Hastalarımızın hastanede kalış süreleri 1-11 gün (2.77 ± 1.79) olduğu saptanmıştır.

Sonuç: Epistaksis kulak burun boğaz acilleri arasında çok sık karşımıza çıkmaktadır. Bu hastalara yaklaşım metodları iyi bilinmeli ve özellikle yaşlı hastalar komplikasyonlar açısından dikkatlice değerlendirilmelidir.

Anahtar Sözcükler: Epistaksis, komorbidite, tedavi

INTRODUCTION

Epistaxis is one of the most common otolaryngologic emergencies. It is defined as bleeding caused by coagulation disorder or mucosal damage in the nasal cavity¹. Although the prevalence of epistaxis is not exactly known, it is very common. It is estimated that only 6% of patients apply to health centers^{1,2} as the majority of patients with epistaxis does not go to

the health center and therefore not get registered since patients can stop their epistaxis by their own intervention. Epistaxis is a disease symptom and its severity is very variable. The majority of epistaxis can stop with simple pressure exerted by patients. Few patients have severe epistaxis and need advanced treatment methods.¹

Epistaxis has been reported to be more common in males than females. It is more common in dry and cold weather¹. Epistaxis usually originates from the anterior region of the nose and is mild bleeding. Bleeding from the posterior region may occur, although it is rare³. The etiology of epistaxis varies with age and anatomical localization. In patients under the age of 35, the most common cause is trauma. In patients over 50 years of age, the most common cause of epistaxis is due to comorbid diseases (liver failure, hypertension, etc.)⁴.

Epistaxis can be diagnosed and treated with a good anamnesis and nasal examination. In

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our study, the intervention approaches to epistaxis were explained and the patients who needed hospitalization were discussed in light of the literature.

MATERIAL and METHODS

In this study, 68 patients admitted to the state hospital otorhinolaryngology outpatient clinic and emergency department for epistaxis and required hospitalization were included. The files of patients with epistaxis between 2012-2019 were reviewed retrospectively.

Patients who were treated in the emergency department by controlling their epistaxis, those hospitalized in other clinics, and patients under the age of 18 were not included in the study. The patients were divided into three groups as <50, 50-80, and ≥80 years of age. Our patients were evaluated in terms of age, gender, comorbid diseases, etiologic factors, treatment, and hospitalization duration.

RESULTS

Of the 68 patients included in our study, 26 were female (38.2%) and 32 were male (61.8%). The mean age of our patients was 54 ± 2.41. 12 of the patients included in current study were <50 years old, 28 were between 50-80 years old and 3 were ≥80 years old.

Hypertension (39.7%) was the most common cause of epistaxis. The second most

common cause was nasal inflammation (23.5%). The distribution of etiological factors of our patients divided into groups according to age is shown in Table 1. In our ≥50 year old patients, the most common cause was hypertension and in <50 year old group the most common cause was nasal inflammation. Five patients (3 Septorinoplasty, 2 septoplasty) included in our study had epistaxis between the 3rd and 20th days after nasal surgery. There were no comorbid diseases in 22 of our patients, 27 had hypertension, 14 had type 2 diabetes, 4 had chronic obstructive pulmonary disease (COPD), and 6 coronary artery disease.

The duration of hospitalization of our patients was found to be 1-11 days (2.77 ± 1.79). Conservative treatments were performed in 50 (73.5%) of our patients and surgical treatment was performed in 18 (26.5%). As conservative treatment, the most common were anterior nasal packing (47.1%), electrocautery (14.7%), chemical cauterization (8.8%), and posterior nasal packing (2.9%). As a surgical procedure, 10 (14.7%) patients with septal deviation had septoplasty, 5 (7.4%) patients had endoscopic cauterization of sphenopalatine artery branches, and 3 (4.4%) patient had sphenopalatine artery ligation (Figure 1).

Table 1. Distribution of Etiological Factors by Age Groups

		Groups by Age			Total
		<50	50-80	≥80	
Etiological Factors	Hypertension	2	18	7	27
	Idiopathic	1	2	0	3
	Nasal inflammation	10	6	0	16
	Previous Nasal Surgery	4	1	0	5
	Septal Perforation	2	5	0	7
	Septum Deviation	4	6	0	10
Total		23	38	7	68

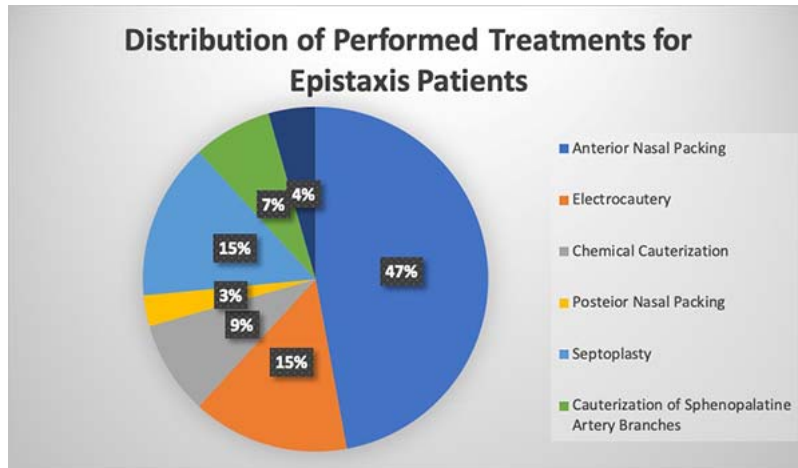


Figure 1: Distribution of Performed Treatments for Epistaxis Patients

DISCUSSION

Epistaxis is one of the most common emergencies in the ENT department. Very few patients need to go to a physician for epistaxis and a very small proportion of them are hospitalized. The majority of epistaxis originates from the anterior part of the nose, and the severity of this epistaxis is low. Therefore, epistaxis caused by the anterior part of the nose can be easily stopped with small interventions ^{1,5}.

It has been reported in the literature that few of the patients with epistaxis presented to the hospital. Only 10% of these patients consult a physician for epistaxis and only 2% of them require surgical treatment ^{6,7}. In our study, our surgical procedure rate was 26.5%. The reason for this is that the number of patients consists of fewer people than studies in the literature. In addition, only hospitalized patients were included in our study and we think these were the reasons for the higher surgical treatment rate.

Epistaxis has been reported to be more common in male and the elderly ^{8,9}. In a study conducted by Pollice et al., 70% of patients with epistaxis were found to be 50 years and older ⁵. In our study, as reported in the literature, epistaxis was more frequent in males and elderly patients.

There are three different groups in the etiology of epistaxis; local, systemic and

environmental factors. It is known that the frequency of epistaxis increases in regions where winter is cold, and summer is dry ^{8,10}. The most common local cause is trauma and often occurs after digital trauma and accidents ^{1,2}. Other local causes include septal pathologies (septal perforation, septal deviation, etc.), tumors (inverted papilloma, etc.) and aneurysms. The most common group of systemic diseases is blood coagulation disorders (thrombocytopenia, von Willebrand disease, hereditary hemorrhagic telangiectasia, etc.). In addition, hormonal causes (endometriosis, pregnancy, etc.) and cardiac pathologies can be considered as systemic diseases that may cause epistaxis ¹¹. Neto et al. found a relationship between hypertension, ventricular hypertrophy, and epistaxis, indicating that long-term hypertension may be the cause of epistaxis ¹². In our study, the most common cause of epistaxis was hypertension, followed by septal perforation and nasal inflammation, respectively.

Dabrowska-Bien et al. In the study, in which 5639 patients were included, the frequency of axial and epistaxis after the nasal surgery was observed (3.3%). In our study, it was observed that nasal inflammation was the most common cause of epistaxis in patients <50 years of age group. Nasal inflammation causes damage to the nasal mucosa, moreover, nasal inflammation is very common in patients <50 years of age due to the low rate of comorbid



diseases and nasal inflammation is the most common cause^{13,14}.

Epistaxis originates from the anterior and / or posterior anatomical regions of the nose¹⁴. Anterior epistaxis occurs in young and children, and posterior hemorrhage occurs mostly in the elderly people. Anterior epistaxis is usually caused by the Kisselbach plexus located in the anterior of the septum, while posterior hemorrhages are caused by the Woodruff plexus formed by the branches of the sphenopalatine artery⁵. In all age groups, 82% of epistaxis occurs as anterior epistaxis and can be treated with conservative and local methods¹⁵.

Epistaxis treatment varies according to the underlying cause. Generally, anterior bleeding can be stopped easily. Treatment in epistaxis varies according to the underlying cause, so treatment can be very complex. Epistaxis treatment is divided into two as conservative and surgical treatments. In the literature, epistaxis treatment is mostly used for conservative treatment because it is easier to apply and less postoperative complications. Huang et al. found that the patients treated with conservative methods had less hospitalization time and the complications were shorter¹⁶. In our study, 73.5% of the patients underwent conservative treatment and 18 patients required surgical treatment.

Although the vast majority of patients have anterior epistaxis, some of them may be of posterior origin. In such cases patients may need posterior nasal packing which can be 70% effective when applied by trained physicians, although it is not as successful as endoscopic or surgical treatment. There is a risk of pain and aspiration of posterior nasal packing and therefore it should be performed by experienced physicians¹⁷. In our study, two patients needed posterior nasal packing and it was performed effectively without the need for surgical treatment.

Follow-up and treatment of comorbid diseases were planned in one patient who was hospitalized for epistaxis. This patient had intermittent epistaxis and anticoagulant (acetylsalicylic acid) treatment had to be discontinued after consultations. Intravenous

tranexamic acid treatment was given since general anesthesia could not be performed due to comorbid diseases. Joseph et al. in their review in 2018 observed that tranexamic acid was effective in patients and moderate-quality evidence was found¹⁸.

Massive or fatal hemorrhage appears to be very rare in patients with epistaxis^{19,20}. Approximately 10% of patients with epistaxis require posterior tampon or further procedures. If bleeding cannot be controlled, the patients should be referred to advanced centers^{11,21}.

The duration of hospitalization is variable in patients with epistaxis. Pollice et al. found this period as 4 days⁵, Vaamonde et al. as 9.2 days²². In our study, the mean duration of hospital stay was 2.77 ± 1.79 days.

It should be remembered that epistaxis is a symptom. Possible complications of patients should be taken into consideration, especially elderly and comorbid patients should be hospitalized, and appropriate consultations should be requested and treated.

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