Epistaksisli hastalara tedavi yaklaşımı: tek merkez deneyimi

Therapeutic approach to patients with epistaxis: single-centre experience

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ABSTRACT

Purposes

We aimed to evaluate epidemiology, etiology and therapeutic approaches in patients with epistaxis.

Material and Method

We retrospectively reviewed data from 2248 patients with epistaxis who presented to our outpatient clinic between January 2015 and June 2017. In all patients, age, sex, comorbidities, medications, trauma, and directly identifiable causes were evaluated. In addition, findings of anterior rhinoscopy, oropharyngeal and endoscopic nasal examination were analyzed. The treatment protocols were also reviewed.

Results

Overall, the study included 2248 patients aged between 3 and 86 years. Of these, 764 cases (34%) were 0-20 years whereas 540 cases (24%) were 20-50 years old and 944 cases (42%) were ≥50 years old. There were 1163 (51.73%) were men and 1085 women (48.27%) in the study population. The epistaxis was idiopathic in majority of cases while dilated superficial

vessels in Little's area was most common local etiological factor. Chemical or electro-coagulation was used in most of the patients.

Conclusion

Minimally invasive treatment methods should be preferred for treatment in epistaxis. By minimally invasive techniques, quality of life quality is less affected in patients. Although severity of epistaxis may be life-threatening in rare instances, it can often be treated with primary treatment modalities such as nasal compression and adrenalin cotton pad with pantocaine. All clinics should establish a treatment protocol based on the environment, climatic conditions, and etiologic factors.

Keywords: Epistaxis, epidemiology, therapeutics

ÖZET

Amaç

Epistaksisli hastaların epidemiyolojisini, etiyolojik faktörlerini ve tedavi protokollerini değerlendirmeyi amaçladık.

Gereç ve Yöntem

Ocak 2015 ile Haziran 2017 tarihleri arasında kliniğimize başvuran 2248 epistaksisli hastanın verilerini retrospektif olarak gözden geçirdik. Tüm hastalar yaş, cinsiyet, ilişkili tıbbi hastalıklar, ilaçlar, travma ve doğrudan tanımlanabilen nedenler açısından değerlendirildi. Ek olarak anterior rinoskopi, orofaringeal ve endoskopik nazal muayene bulguları analiz edildi. Tedavi protokolleri de gözden geçirildi.

Bulgular

Çalışmayayaşları 3-86 arasındaolan 2248 hasta dahiledildi. 0-20 yaşarasında 764 vaka (%34), 20-50 yaşaralığında 540 vaka (%24) ve 50 yaşınüzerinde 944 vaka (%42) tespitedildi. 1163 vaka (%51.73) erkek, 1085 vaka (%48.27) kadındı. Hastaların çoğu idiyopatikti ve en sık görülen local etiyolojik factor Little bölgesindeki yüzeyel dilate damarlardı. Hastaların çoğunda kimyasal veya elektrokoagülasyon uygulandı.

Sonuç

Epistaksis tedavisinde minimal invaziv tedavi yöntemleri tercih edilmelidir. Minimal invaziv tekniklerle hastanın yaşam kalitesi daha az etkilenir. Nadiren epistaksis şiddeti hayati tehlike oluştursa da, nazal kompresyon ve adrenalin pantokainli pamuk bez gibi birincil tedavi yöntemleri ile tedavi edilebilir. Bütün klinikler çevre, iklim koşulları ve etiyolojik faktörlere gore kendi tedavi protokolünü oluşturabilir.

Anahtarkelimeler: Epistaksis, Epidemiyoloji, Tedavi

INTRODUCTION

Epistaxis is one of the most common causes of emergency visits to otorhinolaryngology clinics. The estimated lifetime incidence rate is 60% in an individual. In this population, approximately 6% of patients seek medical care to stop the bleeding. Epistaxis displays a bimodal age distribution with most cases seen in 2-10 years old children and 50-80 years old adults (1). Most cases are spontaneous, self-limiting epistaxis involving anterior region, and rarely reach up to life-threatening severity. The most common sites are the anterior part of the nasal septum, Little's area and Kiesselbach's plexus (2). The majority of cases are idiopathic. Dry weather, low humidity, oxygen dependence, mechanical nasal irritation, digital trauma (especially in children), intranasal foreign bodies, anti-platelet drugs such as aspirin, history of surgery and maxillofacial trauma are most common risk factors (3). In any patient with epistaxis, the treatment should start by ensuring a secure airway and hemodynamic stability. In 90% of cases, epistaxis is located anteriorly and can be controlled by pinching the anterior aspect of the nose. Whatever the severity of epistaxis is, a bleeding nose or nasal tampons placed to stop bleeding have negative influence on quality of life of patients. Treatment modalities range from simple chemical cauterization to embolization of the bleeding vessel.

Here, we aimed to present our approach to epistaxis and to share our experience.

MATERIAL AND METHOD

This study represents a retrospective review of patients with epistaxis who presented to Otorhinolaryngology of Kayseri Training and Research Hospital, Health Sciences University between January 2015 and June 2017. We reviewed data from 2248 patients presented with epistaxis. In all patients, age, sex, comorbidities, medications, trauma, and directly identifiable causes were evaluated. In addition, findings of anterior rhinoscopy, oropharyngeal and endoscopic nasal examination were analyzed. In our clinic, anterior rhinoscopy and oropharynx examination is routinely performed in all patients. Moreover, endoscopic examination was performed in case of failure to determine source of bleeding during routine evaluation. Thus, our data are reliable regarding localization of bleeding. The treatment protocols were also reviewed.

RESULTS

Overall, the study included 2248 patients aged between 3 and 86 years. Of these, 764 cases (34%) were 0-20 years whereas 540 cases (24%) were 20-50 years old and 944 cases (42%) were ≥50 years old. There were 1163 (51.73%) were men and 1085 women (48.27%) in the study population with a male: female ratio of 1.07. In the study, 910 cases (%40.48) were considered to have idiopathic epistaxis. The most common local etiological factor was dilated superficial vessels in Little's area. Other causes were also evaluated (Table 1).

Of the patients, 854 (38%) presented with bilateral epistaxis whereas 1394 (62%) with unilateral epistaxis. Unilateral epistaxis was seen more frequently in the left nasal cavity

(61%). The primary treatment protocol included application of nasal pressure, positioning of patient's head during an active episode of epistaxis and use of nasal tampons of any kind. The vast majority of patients did not receive any primary treatment. Primary treatments were nasal pressure and antihypertensive treatment. The treatments employed are shown in Table 2.

Table 1: Distribution of etiological factors in patients with epistaxis

Table 2: Treatments employed in patients with epistaxis

DISCUSSION

Many treatment algorithms have been proposed for epistaxis management (6,7). The Hippocrates' method (4), pinching the soft part of the nose or tilting the head slightly forward is used by only 30% of primary healthcare practitioners. Although nasal compression is effective for anterior epistaxis, it is used in very few patients as a primary treatment. The rate of nasal compression was 42% in the study by Davies et al. (3) These treatment algorithms generally include a careful examination to identify the site of the hemorrhage; followed by management with increasing invasiveness depending on the needs of an individual patient. For anterior epistaxis, good outcomes have been noted after chemical cauterization (7). Given the variation in treatment techniques at our institution, the patients were categorizes as anterior and posterior epistaxis groups based on the location of the bleeding. At our institution, the usual approach is to apply chemical cauterization if the source of bleeding is readily identifiable. For this reason, chemical cauterization was used in most cases with anterior epistaxis, whereas non-dissolvable packing was more commonly used to treat cases with posterior epistaxis cases. This approach was similar to the work by Shargorodsky et al. (5).

Figure 1 shows our algorithm for epistaxis management based on the study group.

Figure 1: Our therapeutic algorithm to epistaxis

Silver nitrate is first choice for coagulation. Silver nitrate cautery is commonly used but it is difficult to apply in the context of active bleeding, where electrocautery or electro-coagulation may be more effective. We prefer electro-coagulation if the patient has a significant vascular focus. We use silver nitrate if there are common dilated submucosal structures. In this approach, 54% of our patients were treated successfully. In addition, both dissolvable and non-dissolvable packing approaches have also shown to be successful in achieving hemostasis, although formal studies comparing cautery with nasal packing are lacking (8,9). For posterior epistaxis, tamponade with inflatable balloons or strip gauze packing has been used to achieve hemostasis (10). For both anterior and posterior epistaxis, data on the optimal

type and duration of nasal packing are inconclusive. Epistaxis control rates are as high as 85% for anterior epistaxis with packing duration of 1 to 3 days (11).

A variety of nasal packing materials is available. Examples include polyvinyl acetate polymer sponges (eg, Merocel, Medtronic Inc, Minneapolis, MN), nasal balloons (eg, the Rapid Rhino Balloon), pack with a self-lubricating hydrocolloid fabric covering (ArthroCare Corp, Austin, TX), nasal dressings (eg, Kaltostat calcium alginate, ConvaTec Ltd), and traditional ribbon packs such as BIPP (Bismuth, Iodoform, Paraffin Paste) or petroleum jelly–coated ribbon gauze (12). We preferentially use merosel or extrafor for anterior packing and traditional ribbon packs and silicone balloon for posterior packing.

All patients requiring a posterior pack should be admitted because of the risk of airway obstruction and subsequent hypoxemia and dysrhythmias. Supplemental oxygen is administered once the pack is placed. Patients with sustained significant blood loss or abnormal vital signs or concerning comorbidities, including coagulopathies, should be admitted. Finally, those with refractory epistaxis despite the above-mentioned measures are admitted for vessel ligation or selective arterial embolization.

Ligation of the external carotid artery, anterior /posterior ethmoidal artery, maxillary artery, sphenopalatine artery can be useful. Some complications can be seen including nasal crusting, decreased lacrimation, and paresthesia of the palate or nose, septal perforation and inferior turbinate necrosis (13,14). The choice of surgical ligation type is a clinical decision, which must be based on the history and physical examination findings. In the past, ligation was commonly done for the maxillary artery or the external carotid artery. Although the distribution of these arteries is wider, recent studies suggest that *sphenopalatine artery* ligation is more successful (12). Long-term success rate varies from 75% to 100% (15,16).

Selective embolization of the maxillary or facial arteries should be considered in cases where surgical ligation fails or is not possible due to anesthetic concerns. A variety of materials have been used including metal coils, gel-foam, and cyanoacrylate glue. Success rates are reported between 79% and 96% (17). Complications such as cerebrovascular accident, arterial dissection, facial skin necrosis, facial numbness, and groin hematoma can be seen with rates of 6% in more recent, largers series.

In conclusion, we found that most common etiology was idiopathic causes in epistaxis in agreement with the literature. The packing is recommended for the treatment but we found chemical coagulation (silver nitrate) and electro-coagulation are also effective. Each clinic can provide more effective solutions to the epistaxis by developing an epistaxis treatment algorithm according to its own populations and climatic conditions.

Compliance with Ethical Standards:

The study was performed in accordance with the Declaration of Helsinki.

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Conflict of interest: None.

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Table 1: Distribution of epistaxis etiology factors.

Factor	**No**	**%**
Idiopathic	910	40,48
Cardiovascular diseases (arteriosclerosis, hypertension etc.)	786	34,96
Infection	258	11,47
Trauma (Injury/Surgery)	284	12,63
Bleeding diastliesis(including liver and kidney diseases)	352	15,65
Drugs (acetylsalicylic acid, coumadin heparin etc.)	816	36,29
Neoplastic	6	0,24

Table 2. Treatments to patients with epistaxis.

Treatment	**No**	**%**
Nonsurgery		
Cotton pad with adrenaline and pantocaine	423	18,81
Chemical or electro coaugulation	1215	54,04
Anterior packing	985	43,81
Posterior packing	4	0,17
Ballon as posterior packing	8	0,35
Surgical		
Septal surgery	7	0,31
Coagulasyon	2	0,08
Arterial ligation	-	

Figure 1. Our Therapeutic Algorithm to Epistaxis.