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Outcome of Silver Nitrate Cauterization in Adults with Anterior Epistaxis at a Tertiary Care Hospital in Peshawar, Khyber Pakhtunkhwa

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ABSTRACT

Introduction: Epistaxis is a common emergency presentation (7-14% population annually) which may pose difficulties in management. Although only 6% require formal medical intervention but they can be serious and even life threatening.

Objective: To document the outcome and efficacy of silver nitrate cauterization in patients with anterior epistaxis presenting to a tertiary care hospital of Peshawar, KP.

Materials & Methods: Fifty patients presenting with spontaneous anterior epistaxis of moderate degree were included in this study conducted on Outpatient basis from March 01, 2017 to September 30, 2017 in the department of Otorhinolaryngology-A unit of Hayatabad Medical Complex, Peshawar, based on prospective data collection and convenience sampling. Cases were managed with silver nitrate cautery and followed for ten weeks to document recurrent epistaxis. Data were analyzed manually for descriptive statistics.

Results: Fourteen (28%) patients were females and 36(72%) were males with age ranging from 18-40 years. Thirty-two (64%) patients had a prominent bleeder. In 8(16%) patients the bleeder was seen after local packing with xylocaine solution. In 8(16%) patients the bleeder was difficult to localize and was identified by repeated local packs of xylocaine mixed with adrenaline. Five patients (10%) had recurrent epistaxis within the first week after discharge, and cautery was repeated again with no further recurrence.

Conclusion: Silver nitrate cauterization was effective in controlling spontaneous anterior epistaxis of moderate severity.

Keywords: Anterior Epistaxis, Adult Epistaxis, Silver Nitrate, Chemical Cauterization.

The authors declared no conflict of interest. All authors contributed substantially to the planning of research, data collection, data analysis, and write-up of the article, and agreed to be accountable for all aspects of the work.

INTRODUCTION

Idiopathic epistaxis is usually a self-limiting bleed through the nose for which there is no specific cause. It is labeled as anterior or posterior based on the primary site of bleeding; a male preference has been noted.[1] The Anterior variety occurs more in children and young adults, while the Posterior type is more often associated with older adults having hypertension.[2] The incidence of epistaxis has been reported to be 10%–60% among individuals,[3] with 50% adults having had epistaxis during childhood as well;[4] moreover 7%–14% patients present as acute emergencies due to epistaxis.[5] Causes of epistaxis vary from local to systemic; local factors include trauma, nasal allergies, upper airway infections, septal perforations and nasal foreign bodies, whereas the systemic factors include blood dyscrasias, anticoagulant therapy, and coagulopathies.[6]

In adults and young children anterior epistaxis mostly involves Little's area where there is anastomosis of branches of superior labial artery, greater palatine artery, sphenopalatine & anterior ethmoidal arteries. Bleeding may be above the middle turbinate involving the internal carotid or below the middle turbinate involving the external carotid system.[6]

Most cases are treated as outpatients. Hospital admission may be required for old patients, those having coagulopathies, and those having comorbid conditions such as coronary artery disease, severe hypertension, or severe anemia.

General measures for management include monitoring vital signs - blood pressure and pulse rate, maintaining a patent airway, maintaining hemodynamic stability, intravenous infusion of fluids, history and review of medications such as anticoagulants and investigations like full blood count, group and cross-match and a coagulation profile.[7-10]

In hemodynamically stable patients, the following steps are taken to stop and control bleeding: first aid measures, cautery, if the bleeding vessel can be identified; and nasal packing, if bleeding continues despite cauterization or if the bleeding point cannot be identified.[7-10]

Cauterization includes either the use of chemical (silver nitrate) or an electric bipolar cautery. Chemical cautery is cheap and more readily available; thus it is used more commonly. However, the main disadvantage of this procedure is septal perforation, which is seen if performed on the opposite side as well.[7-10]

The present study was conducted to determine the outcome and efficacy of silver nitrate cauterization in controlling spontaneous nasal bleeding in hemodynamically stable patients presenting to a tertiary care hospital of Peshawar, Khyber Pakhtunkhwa (KP).

MATERIALS & METHODS

Fifty patients were included in this study carried out on Outpatient basis from March 01, 2017 to September 30, 2017 in the department of Otorhinolaryngology-A unit of Hayatabad Medical Complex, Peshawar, based on prospective data collection and convenience sampling, after obtaining approval of Hospital Ethical Committee. Patients with primary and recurrent epistaxis were included in this study while those having systemic blood disorders, nose pickers and patients on anticoagulant therapy were excluded. All patients presented with spontaneous bleeding of moderate severity. Prior to use of silver nitrate cautery, patients were given topical local anaesthesia containing 4% xylocaine and 1:80,000 adrenaline in equal amounts for 15 minutes. They were sent home on steroid containing antibiotic creams for fourteen days to be applied twice a day on the cauterized area. Patients were called after one week, four weeks and ten weeks for follow up to check for healing and any evidence of recurrent bleeding.

Data were collected from patient records and analyzed manually for descriptive statistics.

RESULTS

Out of total 70 patients during the study period, 50(71.42%) patients in whom the bleeder was identifiable, were selected for silver nitrate cauterization. Their demographic data and presenting features are presented in Table 1.

A male preponderance was seen, with 14(28%) patients being females and 36(72%) males

The ages of patients ranged from 18-40 years, with 27(54%) being in the age group of 31-40 years.

Thirty-two (64%) patients had a prominent bleeder. In 8(16%) patients the bleeder was seen after local packing with xylocaine solution. In 8(16%) patients the bleeder was difficult to localize and was identified by repeated local packs of xylocaine mixed with adrenaline.

Table 1: Demographic data and presenting features of subjects (n=50).

#	Demographic Variables	Frequency	Percentage
1.	**Gender**		
	Male	36	72
	Female	14	28
2.	**Age** (years)		
	< 20	03	06
	21 – 25	08	16
	26 – 30	12	24
	31 – 35	15	30
	36 – 40	12	24
3.	**Type of Bleeding**		
	Visible	34	68
	Visible after packing	08	16
	Difficult (visible after repeat adrenaline packing)	08	16

Table 2 shows the treatment given and the outcomes; all patients were treated with silver nitrate cauterization along with steroid cream containing dexamethasone. 5(10%) patients had recurrent epistaxis and cautery was repeated again with no further recurrence.

Table 2: Outcomes of treatment given in patients with Epistaxis (n=50).

#	Outcomes of cauterization	Frequency	Percentage
1.	Cured at first attempt	45	90
2.	Recurrent epistaxis within first week	05	10
3.	Recurrent epistaxis within fourth week	-	-
4.	Recurrent epistaxis within tenth week	-	-

DISCUSSION

Epistaxis is the most common ENT emergency and accounts for ~1 in 200 in the emergency room.[11] The majority of cases of epistaxis are local and of idiopathic nature in accordance with Kodiya M et al.[12] The rest of local causes include trauma, inflammation and tumours.

In the present study, all patients experienced unilateral epistaxis; however, cases of bilateral epistaxis are recorded in the literature.[13]

All of our patients were hemodynamically stable and it is important to keep the general measures in view like monitoring the vitals, and providing intravenous infusions to the patients coming with epistaxis as done by Kucik & Clenney in their study.[7]

Cauterization is considered the next best step after failure of vasoconstrictors and digital pressure to stop anterior epistaxis.[14]

Our study had a 90% success rate at controlling epistaxis by use of silver nitrate cauterization as was by Newton et al in which a success rate of about 80% is mentioned.[15]

Calder et al, in a randomized controlled trial, also demonstrated the superiority of silver nitrate cauterization for recurrent epistaxis in children.[16]

Recurrent bleeding occurred within the first week after discharge in 10% of the patients in this study, compared to a study from Brazil where it was reported at 37% in the same time period; however, no specific reason could be identified in relation to the risk of recurrent epistaxis.

To summarize, the initial management of spontaneous epistaxis should be based on conservative patient management, after thorough assessment of possible causes and risk factors that have a bearing on management outcome.

CONCLUSION

Management of Anterior Epistaxis can be challenging, but effectively managed by non-surgical means i.e. by silver nitrate cauterization if the patient is hemodynamically and clinically stable.

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