

Anterior Epistaxis Management Using BPC v/s Silver Nitrate, Outcome - A Review

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Abstract: *Epistaxis is one of the most common emergencies in otorhinolaryngology. Epistaxis has vast causative factors which can be local or systemic. However this study was conducted merely to evaluate various methods used to manage anterior epistaxis irrespective of cause mainly these two methods (BPC) Bipolar cauterisation and silver nitrate. Epistaxis has been broadly classified in following types: anterior epistaxis, posterior epistaxis, primary epistaxis, secondary epistaxis, childhood epistaxis, adult epistaxis. Epistaxis is usually managed by simple conservative methods on OPD(outdoor patient department) basis however some times it can prove fatal. Various methods are evaluated in this study for the management of anterior epistaxis(mainly as day care). This study was conducted in GMC SMHS hospital srinagar from march 2016 to october 2016 to analyse bipolar cauterising and silver nitrate used for management of anterior epistaxis. Various methods of managing epistaxis include:- Manual compression, Light pathy packing, Anterior nasal packing, Posterior nasal packing, Warm water irrigation, Merocell packing, TCA cauterisation, Endoscopic BPC, Surgical vessel ligation methods.*

Keywords: OPD, BPC

1. Introduction

Bleeding from nose or epistaxis is a greek for nose bleed that means "which is leaking on" drop by drop. It is defined as bleeding from inside the nose or nasal cavity. It has been seen that 60%^{2,3,10} of population will be effected by epistaxis at some point of their life time, with 6%^{3,10} among them requiring medical attention. This condition has bimodal distribution, with incidence peaks at age younger than 10 years and older than 50 years. As mentioned earlier epistaxis can be anterior or posterior depending on site of origin, with bleeding mostly from anterior part of nose arising from rich arterial anastomosis of nasal septum (Kiesselbach's plexus). However posterior epistaxis⁶ usually arises from posterior nasal cavity via branches of sphenopalatine arteries^{6,7,8}. Posterior epistaxis usually occurs behind the posterior portion of middle turbinate⁸ or at the posterosuperior roof of nasal cavity⁹. In most cases anterior epistaxis is clinically obvious. Epistaxis has vast causative factors which can be local or systemic like infective, inflammatory, traumatic, neoplastic, climatic changes, hematological disorders, cardiovascular causes, liver and renal disease, hereditary hemorrhagic telangiectasia^{1,2,3,4,5} etc. however in 80 to 90%^{2,9} of cases no identifiable cause is found, termed as idiopathic epistaxis. Various methods were used to control epistaxis as described above. However packing (nasal) remains time tested one of oldest methods of treating nasal bleeding.

Cauterization

Bleeding from Kiesselbach's plexus (little's area) is frequently treated with silver nitrate cauterization¹¹ to manage the vessels leading to the site before dealing with actual bleeding area. Avoid random and aggressive cauterisation and cautery on opposite side of septum. Electrocauterisation with insulated suction cautery unit can also be used. This method is mostly reserved for more severe bleeding and bleeding at more posterior sites. The effectiveness of both these cauterisation

methods can be enhanced by using rigid endoscopes especially in case of more posteriorly bleeding sites.

A retrospective study by Newton et al¹² all of emergency department management of 350 adult cases of primary anterior epistaxis found silver nitrate cauterization to have a highest treatment success rate of 80%. The highest rates of patients returning to emergency department occurred after treatment with nasal clips, merocel and with petrolatum gauze packing. However the investigators could not say whether the differences in treatment results indicated that certain treatments were more effective or that physicians tend to offer certain treatments in the more severe cases. (those most likely to recur)¹²

Nasal packing

Nasal packing can be used to treat epistaxis that is not responsive to cauterization. Two types of packing (anterior and posterior) can be placed. A study by Kundi and Raza et al¹³ suggested that in patients with epistaxis removal of nasal pack after 12 hours leads to lower incidence of headache and lacrimation than those removal of pack after 24 hours with no significant difference in bleeding recurrence. The study included 60 patients evenly distributed between 12 hour and 24 hour group¹³.

2. Material and Methods

This prospective study was carried out among OPD patients with epistaxis who were managed in the department of otorhinolaryngology (ENT) in GMC SMHS hospital from March 2016 to Nov 2016. These patients were randomly divided in two groups depending on the type of treatment they received 1). bipolar cauterisation (BPC) or 2). silver nitrate. All the patients in this study underwent baseline investigations like CBC (hemoglobin level with platelet count), urea and creatinine level, blood grouping and coagulation profile. Proper informed consent was taken from all included in this

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study. Intravenous line was established in all patients and management began with treatment and investigation side by side. Management begins with nasal pinching and use of nasal decongestants (oxymetazoline) drops or same used in cotton pledgets to localise bleeding site. After conforming bleeding is anterior(anterior epistaxis) patients were treated by the different methods as discribed above randomly and distributed in two groups depending on treatment they received. Patients with coagulopathic disorders were excluded from this study as they all were hospitalised and managed. All these patients were followed on day 3rd day 7th day and 2 weeks following treatment. However one month followup was possible in only few cases.



Above pic showing procedure in progress using BPC forb controlling epistaxis.



Figure 1: (BPC) Bipolar cautery



Figure 2: Silver nitrate sticks used for management of epistaxis.

3. Results

In this study 200 patients were studied. They were randomly divided in 2 groups depending on treatment they received.

Each group was allotted 100 patients. One group was treated with bipolar cauterisation and the other group by silver nitrate irrespective of use of endoscope.

Method of treatment	No. of patients studied	Recurrence during frist two weeks	%age of recurrence (2 week followup)
Bipolar cauterisation	100	17	17%
Silver nitrate	100	8	8%

4. Discussion

Patients presenting with epistaxis is the most frequently encountered emergency in day to day ENT practice. It is common in people of all ages but rare in children below two years. Epistaxis can be anterior or posterior. Anterior epistaxis is most frequent in children and young adults. It is less serious as bleeding point is anterior and assecible to treatment. Its origin is mostly from arterial plexus but occasionally from retrocollumnar vein. All patients included in this study were examined properly with all necessary investigations were done as discribed above. All these patients were divided in two groups depending on treatment they received. In all age group patients with confirmed anterior epistaxis were included in this study. In this study we found recurrence percentage of 17 in group treated with BPC while only 8% in group treated with silver nitrate with 2 weeks of follow up. Possible causes may be patients were more uncomfortable while doing BPC also cautry gets stuck to local tissue if proper irrigation was not used during BPC procedure. Using saline as irrigation during BPC was uncomfortable for few as it gets engulfed resulting in further trouble and discomfort.

5. Conclusion

Anterior epistaxis is one of the most common emergencies seen in day to day practise in ENT. People of all ages get effected with fear of death in old patients making this condition a fear with psychological imbalance. Treatment should begin with proper counselling and discussing the condition properly with patient and attendents. All patients should receive topical decongestants along with nasal pinching as initial modility of treatment. Various modilities used in this study for treating anterior epistaxis were,BPC and silver nitrate. We found silver nitrate better than BPC in controlling anterior epistaxis with less discomfort to patient including less pain and less recurrence rate and easily tolerable by most of patients as discribed above. However silvernitrate is not easily available and cost factor is also an issue. While BPC is easily available ready to use in all tertiary centers making it choice of doctors among above two methods.patients who had reurent epistaxis on 3rd and 7th day followup were treated again with similar method of management as per the group patient was allotted as discribed above.

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