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Research Article

# Comparison between Nasal Packing and Endoscopic Electric Cautery in Epistaxis: Study of 200 Cases

**Kiran Naik[1*], Arifa[2]**
[1]Professor of ENT, Adichunchanagiri Institute of Medical Sciences & Research Institute, B.G. Nagar, Nagamangala, Mandya, Karnataka, India
[2]Postgraduate in ENT, Adichunchanagiri Institute of Medical Sciences & Research Institute, B.G. Nagar, Nagamangala, Mandya, Karnataka, India

***Corresponding author**
Dr Kiran Naik
Email: dr_kirannaik@rediffmail.com

**Abstract:** Epistaxis is one of the most common otorhinolaryngological emergencies. Each patient with epistaxis must be clinically assessed and managed on individual merits. But due to the emergency nature of the condition and the anxiety of the patients and the attenders, the immediate control of bleeding usually becomes the first objective. 200 patients of epistaxis were subjected to this study at Adichunchanagiri Institute of Medical Sciences. 100 patients in group A were treated by anterior nasal packing where as 100 from group B were treated by endoscopic electric cauterisation. All the 200 patients were followed up at the end of 1st week, 2nd week, 4th week and 2nd months. During the follow-up the patients were assessed for the recurrence of epistaxis, nasal crusting and presence of synechiae in the nasal cavity. In this study, the patients who underwent endoscopic cautery had much better compliance than the nasal packing group. Also there was less recurrence of bleeding and less incidence of crusting and synechiae in the cautery group. Endoscopic cauterisation of the bleeding point is a simple and effective means of controlling epistaxis even in an emergency setting. Also the complications of nasal packing like synechiae and hospitalisation can be reduced by endoscopic cauterisation.
**Keywords:** epistaxis; nasal packing; endoscopic electric cauterisation

## INTRODUCTION:

Epistaxis is a common otorhinolaryngological emergency with occurrence of 60% population but only about 6% require formal medical intervention [1]. The main causes of epistaxis includes local infection, inflammation, trauma, idiopathic, neoplastic, drug induced etc whereas systemic casues are like bleeding disorders, platelet disorders, blood vessel disorders, hyperfibrinolysis, drugs, neoplasms, idiopathic and others like liver failure, hypothyroidism [2].

Each patient with epistaxis must be clinically assessed and managed on individual merits. But due to the emergency nature of the condition and the anxiety of the patients and the attenders the immediate control of bleeding usually becomes the first objective, which invariably results in nasal packing. Due to this blind nasal packing a single bleeding point may be converted into a large abraded bleeding area. Also in many instances the pack does not reach the bleeding point resulting in repeated packings causing more mucosal damage.

Endoscopic control of epistaxis through electrocautery is an easy and effective method even in an emergency setting. This study is intended to compare the advantages and disadvantages of nasal packing versus electrocautery.

## MATERIALS AND METHODS:

200 patients presenting with epistaxis to the department of ENT at Adichunchanagiri Institute of Medical Sciences & Research Center, Bellur, from 1st November 2010 to 30th April 2014 were selected for the study. They were divided into 2 groups A & B with 100 patients each. The study period was 18 months. Only the patients with epistaxis below 10 yrs of age and post operative epistaxis after surgeries like septoplasty and submucous resection were excluded.

As soon as the patient presented to the hospital, priority was given to assess and improve the general condition of the patient. Suction of the nasal cavity was done to localise the site of bleeding. Patients were put into group A or group B based on simple random sampling. Patients in group A were treated by anterior nasal packing with vaseline ribbon guaze impregnated with antibiotic ointment where as the patients of group B were taken to emergency operation theatre and nasal endoscopy done. Under endoscopic visualization the bleeding point was cauterized using electrocautery under local anaesthesia with Lignocaine 4% and 2%.

After the cautery Neosporin ointment was smeared on the cauterized area. Patients in group A were put on oral antibiotics and antihistaminics whereas patients in group B were asked to apply Neosporin eye ointment to the nasal cavity.

The nasal packs in group A patients were removed after 48 hours. All the 200 patients were followed up at the end of 1st week, 2nd week, 4th week and 2nd months. The patients who did not turn up for follow-up were paid home visits to assess their condition. During the follow-up the patients were assessed for the recurrence of epistaxis, nasal crusting and presence of synechiae in the nasal cavity.

## RESULTS

In this study the age of the patients vary from 10 to 70 years. The incidence was more in the age groups 10 to 20 years and 41 to 50 years. The maximum number of cases was in the age group 10 to 20 years (26%). In this study 64% were males and 36% females with a ratio 1.78.

In group A, 8 cases were excluded from the study as during nasal packing the etiology was found to be of specific nature like nasal masses and bleeding septal polyps which requires specific management. In group B, 12 cases were excluded from the study as after endoscopy the cause of bleeding was found to be due to infected antrochoanal polyps in 3 cases, angiofibromas in 3 cases, rhinosporidiosis in 2 cases, rhinoscleroma in 3 cases and carcinoma maxilla in one case. So effectively 92 patients in group A and 88 patients in group B were assessed and followed up in the study.

In this study out of 88 patients who underwent cauterization 76 showed good compliance. In case of nasal packing out of 92 cases only 14 were compliant. So in terms of compliance cauterization is much better than nasal packing. In this study there is arrest of bleeding with both nasal packing and cauterization, but significantly more in cauterization (p value <0.05) (Table 1).

In this study out of 88 patients who underwent cauterization none (0 patients) had recurrence of bleeding. And out of 92 patients who underwent nasal packing 6 patients had recurrence of bleeding. P value is <0.05, so cauterization offers significant benefit over blind nasal packing in terms of recurrence of bleeding.( Table 2).

In this study 56 out of 88 patients who underwent cauterization had crusting whereas 72 out of 92 patients who underwent nasal packing had crusting. P value is <0.05. So in terms of crusting nasal packing produces more crusting than cauterization(Table 3).

**Table 1: Arrest of bleeding**

| Treatment | Arrest of bleeding | | Total |
|---|---|---|---|
| | Yes | No | |
| Cauterization | 88 | 0 | 88 |
| Nasal packing | 86 | 6 | 92 |
| Total | 174 | 6 | 180 |

**Chi square value- 5.94, p- value= 0.015.**

**Table 2 : Recurrence Of Bleeding**

| Treatment | Recurrence of bleeding | | Total |
|---|---|---|---|
| | Yes | No | |
| Cauterization | 0 | 88 | 88 |
| Nasal packing | 6 | 86 | 92 |
| Total | 6 | 174 | 180 |

**Chi square value- 5.94, p- value= 0.015.**

**Table 3 : Crusting**

| Treatment | Crusting | | Total |
|---|---|---|---|
| | Yes | 1. No | |
| Cauterization | 56 | 32 | 88 |
| Nasal packing | 72 | 20 | 92 |
| Total | 128 | 52 | 180 |

**Chi square value- 4.68, p- value= 0.030.**

## DISCUSSION

Epistaxis is nothing but bleeding from nose derived from Epistazo' where epi means 'above' and stazo means 'to fall in drops' [4]. It is one of the most common otolaryngologist emergencies. The simplest treatment for nose bleed (pinching the ala nasi) is called the Hippocratic method[3]. Although lifetime incidence of epistaxis is approximately 60%, only about 6% require formal medical intervention. The nature and causes of epistaxis may vary with age [3].

Arterial supply of nose is from both external carotid and internal carotid arteries. There are two main areas in the nose where there are well-recognised confluences of anastomotic connections. These include the area on the anteroinferior part of septum, "Little area" or "Kiesselbach plexus", and "Woodruff plexus" in the posterior part of nasal cavity [3].

Each patient with epistaxis must be clinically assessed and managed on individual merits. The management of epistaxis is varied. The treatment can be separated into two groups- non-surgical and surgical approaches. The non-surgical approaches include anterior and posterior packing. Surgical approaches include endoscopic cauterization, arterial ligation, nasal septal surgery and arterial embolisation.

In our study we intended to stress the usefulness of endoscopic cauterization even in emergency setting. We found out that the patients undergoing endoscopic cautery had better compliance than the nasal packing group. The patients in endoscopic cauterisaton group showed significant better results than nasal packing

group in terms of arrest of bleeding, recurrence of bleeding or crusting.

## CONCLUSION

From our study we can prove that endoscopic cauterization is a simple and effective method of treating epistaxis even in an emergency setting. Nasal endoscopy system is available as a portable apparatus and can be made available in emergencies or minor operation theatres. Also the incidence of complications like crusting, recurrence and synechiae are significantly reduced in cauterization.

## ACKNOWLEDGEMENT

I would to thank our institution and my patients for allowing me to carry out this study and I also would like to clarify that this study is intended to help the patients and there is no conflict of interest among anybody.

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