



EPISTAXIS IN CHILDREN: COMPARITIVE ANALYSIS OF TOPICAL ANTISEPTIC AND CAUTERY VERSUS TOPICAL ANTISEPTIC ALONE

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ABSTRACT

Objective: To evaluate and compare different modalities in management of simple recurrent epistaxis in children.

Patients and methods: A total of 148 children (age 5-14 years) presented to ENT clinic with recurrent epistaxis. Patients were divided into two groups: one group received treatment with topical antiseptic agent alone, the other group received topical antiseptic in combination with silver nitrate cautery. **Results:** The results were available in 124 patients (83%) in both groups. 59 in group I, and 65 in group II. Re evaluation and assessment of the patients by improvement of the symptoms done after one month. 52 patients (88.8%) in group I and 54 (90%) in group II had cessation of epistaxis and improved in their symptoms. **Conclusion:** Silver nitrate cautery doesn't add significant advantage in management of epistaxis in children.

KEYWORDS: Children, Epistaxis, cautery, Antiseptic agent.

INTRODUCTION

Epistaxis is one of the common presentation in children. The otolaryngologists are frequently consulted for the evaluation and treatment of pediatric epistaxis.^[1] Risk factors include infections, allergic rhinitis, trauma, medications and coagulopathies.^[2] Anterior nasal septum (little's area) is the most common site of bleeding, the fragile anterior septal mucosa due to environmental local and systemic factors is found to be the source.^[3] No specific cause has been identified, most cases settle with simple measures.^[4] Recurrent epistaxis may lead to anemia which might require iron supplements.^[5] Bruising and epistaxis are quite common in pediatric age groups without bleeding disorders.^[6]

Anterior rhinoscopy is done with removal of clots under local analgesia or anesthesia and vasoconstriction produced by cocaine pledgets, tetracaine or oxymetazoline.^[7]

Once the source of bleeding is identified electrical or chemical cauterization is done and this usually leads to control of bleeding.^[8] No difference in the efficacy of the two methods either chemical (silver nitrate) or electrical (hotwire or bipolar cautery).^[9]

Although cautery is a safe procedure it has some adverse effects and complications which include septal

perforation, crusting and mucocutaneous reaction^[10], in addition to increase a patient discomfort.

Several topical pharmacological agents have been used in children with recurrent epistaxis, including oxymetazoline^[11] – which has an intensive vasoconstricting and decongesting effect on the nasal mucosa -, Nasal creams (Naseptin) – 0.1% chlorhexidine and 0.5% neomycin – and antiseptic nasal ointments which act by reducing infection and the amount of crusting.

The aim of our present prospective study is to evaluate the results of using antiseptic topical agent alone (Neobacin) compared to the use of a combination of antiseptic topical agent and silver nitrate cautery in treatment of recurrent epistaxis in children. And if the silver nitrate cautery adds an advantage, or if can we avoid its adverse effects and complications.

MATERIALS AND METHODS

This is a prospective study conducted at the ENT Clinic, Queen Rania Hospital for children between year 2016 – 2017.

A total of 148 Children (80 males, and 68 females), aged 5-14 years, mean age 8.1 years, with recurrent attacks of epistaxis were included in the study.

		Group 1	Group 2	total
Gender	Male	34	46	80
	female	36	32	68
Total		70	78	148

Inclusive criteria includes all children with history of repeated epistaxis with at least one episode during a week, and who didn't receive any local or nasal cautery for their symptoms. A localized source of bleeding seen on anterior rhinoscopy.

Patients known to suffer from bleeding disorder were excluded.

Patients were divided into two groups

Group I: 70 patients in which they receive topical antiseptic agent Neobacin ointment (Neomycin & Bacitracin) only for 2 weeks.

Group II: 78 patients in which they receive silver nitrate cautery in the clinic followed by antiseptic agent for 2 weeks.

Topical anaesthetic Lignosol spray (Lidocaine spray), applied at the site of cauterization in patients whom received silver nitrate cautery treatment.

RESULTS

124 patients of the 148 (83%) were reevaluated in the clinic after one month, 59 patients from group I and 65 patients were treated with a combination of silver nitrate cautery and antiseptic agent (group II). There was improvement of the symptoms in both groups with no significant difference between the two treatment modalities, 52 patients (88.1%) in group I. 59 patients (91%) in group II.

Figure 1.

The efficacy of both treatment modalities shows that bleeding ceased completely in 76 patients, 36 from group I, and 40 from group II. 35 patients experienced a significant decrease in severity and frequency of the symptoms, 16 from group I, and 19 from group II. Figure (1).

Statistical analysis of the results (tables below), showed that there was no statistically significant difference between the two treatment modalities. ($P=0.568$).

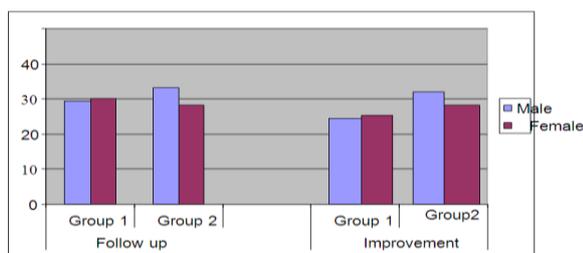


Figure 1: A paragraph showing the patients who returned after one month for follow up and showing the efficacy of both treatment modalities in the two groups.

DISCUSSION

Recurrent epistaxis still being a problem to the general practitioners and otolaryngologists alike to approach and to treat. The source of bleeding in vast majority of cases is from the anterior septum.

Recurrent epistaxis may result from an airflow which locally traumatizes the septal mucosa, for this some studies recommend humidity and installation of nasal saline spray to prevent excessive drying and crusting and to provide hydration.

The emollient properties of the antiseptic topical agent reduces drying and inflammation around the vessels.^[12]

Anna H. Messner reviewed management of epistaxis in children for a significant or recurrent attack of epistaxis and mentioned techniques which might include intranasal topical local anesthetic and decongestant. Chemical cauterization is preferred to anterior nasal packing only if the bleeding site is clearly visible.^[13]

Although silver nitrate cautery being simple to use amongst otolaryngologists for treatment, it is not without complications. Application of local anesthetic is required, especially cocaine, which carry well – established adverse effects. A risk of septal perforation particularly those children with bilateral applications. Bleeding also may occur from ulcerated nasal mucosa after cauterization, because it increase trauma to the mucosa in presence of drying and crusting, so it aggravate bleeding.

Many otorhinolaryngologists favour the use of topical Naseptin twice or three times daily for two weeks to control epistaxis in children.^[14]

Interventional methods of treatment may be used if simple methods fail to control epistaxis.^[15] Stakiewicz J A. et al. discussed a treatment option for intractable recurrent attacks of epistaxis using argon and carbon dioxide laser by endoscopic approach to ligate the friable vessels.^[16]

Our study was carried out to determine whether the addition of silver nitrate cautery make any extra benefit over the antiseptic topical agent.

There was no significant difference between the two treatment modalities, topical antiseptic agent alone, and a combination with silver nitrate cautery and the results had a high improvement rate (88.8% and 90% respectively), suggesting that using silver nitrate cautery in combination provided no additional benefit, and antiseptic topical agent alone was highly effective in controlling recurrent epistaxis in children.

CONCLUSION

Silver nitrate cautery doesn't add significant advantage in management of recurrent epistaxis in children, and its adverse effects can be avoided.

Recommendation: Children with recurrent epistaxis can be treated in the first instance by a topical antiseptic agent, and other modalities of treatment including cautery can be used in failing patients.

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