

# RESULTS OF SILVER NITRATE CAUTERIZATION IN ADULT PATIENTS WITH EPISTAXIS

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## ABSTRACT

**Objectives:** To study the outcome of Silver Nitrate cauterization in patients of Epistaxis.

**Material and Method:** This prospective study was conducted in ENT outpatient departments of DHQ Teaching Hospital, D.I. Khan and Khyber Teaching Hospital, Peshawar between May 2004 and June 2005. A total of 30 adult patients, 18 males and 12 females, were in the study with the age range between 18 to 35 years. Fourteen out of Thirty patients had recurrent epistaxis for more than three months. All bleeds were moderately severe and usually stopped with first aid treatment. Grafcro silver-nitrate applicators USA containing 37.5 mg silver-nitrate and 12.5 mg potassium nitrate were used for cauterization after packing the nose with ribbon gauze soaked in 4% xylocaine and Adrenaline 1:200,000 in equal amounts for 10 minutes.

**Results:** In 28 (93.33%) patients the active bleeder or prominent vessel was localized and cauterized with silver nitrate applicator. Antibiotic and steroid containing cream was prescribed for two weeks. All patients were reviewed in two, six and twelve weeks. No complication such as reaction to local anesthesia, pain at the time of cautery, septal perforation or stenosis of nostril was recorded in the follow up period. Two cases (6.66%) had recurrence of nose bleed in two weeks time which were mild and controlled with reapplication of silver nitrate touch.

**Conclusion:** Early localization of bleeding point in the nose and application of Silver nitrate is effective in preventing recurrence of epistaxis.

**Key Words:** Epistaxis, Silver-nitrate Cautery, complications.

## INTRODUCTION

Recurrent idiopathic epistaxis is self limiting nasal bleeding for which no specific cause is identified. Epistaxis is common in Children but it does occur in adults. Epistaxis may be either anterior (80%) or posterior. The prevalence of epistaxis was found to be upto 60% of the general population<sup>1,2</sup>. Epistaxis appears to be common in males than females<sup>1,3</sup>. More than 85% of epistaxis is idiopathic. The rest can be attributed to local nasal pathology, blood dyscrasia, blood vessel abnormality or systemic causes. Nose blowing, sneezing, coughing, straining and pregnancy are contributing factors in spontaneous epistaxis. Patients with systemic hypertension may have more severe nose bleed and therefore eligible for hospitalization<sup>4</sup>.

Cauterization may be performed either by electrocautery or chemical cautery. Chemical cautery involves chemical reactions which can cut tissues

(warts removal) or effect haemostasis<sup>5</sup>. Some cauterizing agents in common use are trichloroacetic acid, silver nitrate and cantharidin (extract of the blister beetle)<sup>6</sup>.

In children and young adults epistaxis commonly involves the Little's area (Kiesselback's plexus)<sup>7</sup>, where there is a meshwork of branches from superior labial artery, greater palatine artery, sphenopalatine artery and anterior ethmoidal. Bleeding above the middle turbinate comes from ethmoidal arteries (Internal Carotid) and below the middle turbinate comes from maxillary artery (external carotid)<sup>8</sup>.

Management of nose bleed involves good history taking, proper nose examination with endoscope if required and general and cardiovascular examination. Investigation such as full blood count and coagulation profile are necessary. Resuscitation is of prime importance and blood grouping and cross matching are mandatory in severe bleed. Silver-nitrate cautery after topical anesthesia will suffice to control the nose bleed in cases of visible bleeder or a prominent blood vessel though several other procedure<sup>9</sup> e.g. local pressure (balloon/Foley's catheter insertion), arterial ligation/embolization have been described.

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## MATERIAL AND METHODS

Thirty patients were included in this study carried out on out patient basis between May 2004 and June 2005 in the Departments of ENT of DHQ Teaching Hospital, D.I. Khan and Khyber Teaching Hospital, Peshawar. Patients with recurrent epistaxis were included while those with habitual nose picking, on anticoagulant or with systemic bleeding disorder were excluded. All patients were treated with silver nitrate cautery after topical anesthesia containing equal amounts of 4% of xylocaine and 1 in 80,000 adrenalin for 10 minutes. They were sent home on antibiotic and steroid containing cream for two weeks with B.I.D application to the cauterized area.

All patients were followed up after one week, six weeks and twelve weeks.

## RESULTS

Twelve (40%) patients were females and 18(60%) were male patients with age range of 18-35 years. All patients presented with spontaneous epistaxis of mild/moderate severity. Twenty five (83.3%) of patients had an obvious anterior septal bleeder or prominent vessel causing epistaxis. In 3 (10%) patients the bleeder was identified when the nose was packed with 4% Xylocaine solution. In 2 (6.66%) patients the bleeding was difficult to localize, but after repeated local anesthesia (4% xylocaine) pack mixed with adrenaline in a ratio of 1: 200,000, we were able to localize the bleeding point. Great care was taken not to burn the vestibular area with silvernitrate stick during cauterization after topical anaesthesia. Two (6.66%) patients had recurrence of epistaxis. Repeat cautery was done and no further recurrence was noticed during the follow up period. No complication like abnormal reaction to local anesthesia at the time of application, pain or septal perforation and vestibular stenosis during the follow up period was observed.

## DISCUSSION

Eighty-five percent of epistaxis due to local cause is idiopathic. The rest of the local causes include trauma, inflammation, neoplasms, endocrine and iatrogenic<sup>10</sup>.

General causes include treatment with anticoagulants, blood diseases (haemophilia thalasaemia, leukaemia, thrombocytopenia etc.), vascular abnormality (Familial telengectasia (osler-rendu-weber disease) and chronic liver or renal diseases. In our study all patients had unilateral spontaneous epistaxis where as in a series of Pond F et al<sup>6</sup> there was bilateral epistaxis in 2% of cases. During clinical assessment it is necessary to make sure that the patient is not in shock. All our patients were haemodynamically stable at the time of presentation,

which is comparable to study by Sanders et al<sup>11</sup> where 97% of cases were stable. It is equally important to have a nursing support during the management of epistaxis. Protect the patient clothing and your own with an apron and wear gloves. We gave anxiolytic to all patients as per standard operating procedure. Vinyck et al<sup>12</sup> used anxiolytics in 65% of cases. We gave i/v second generation cephalosporins to 90% of our cases for 72 hours followed by oral form for the next 5 days to reduce sepsis and complications, while Rodeghiero F and et al<sup>13</sup> used antibiotics only in 10% of cases, further surgery in the form of SMR, arterial ligation or embolization of vessel is required if the bleeding is not controlled by packing or cauterization. In our cases there was no need of further surgery but Tay HI et al<sup>14</sup> in their study performed 02 septoplasties as the bleeder was hidden behind the Spur.

We found no complications except recurrence of nose bleed in two cases which is comparable what is reported by Schaitkin B et al<sup>2</sup>.

## CONCLUSION

Silver-nitrate cautery under topical anesthesia is an effective and safe method of controlling spontaneous nose bleed which is not severe. If the patients are haemodynamically stable they can be sent home after cauterization.

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