

Evaluation of conservative measures in the treatment of epistaxis

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المخلص: المقدمة: يعتبر النزيف الانفي سببا شائعا لزيارات قسم الطوارئ. تقريبا 60٪ من السكان يتعرضون لحادثة نازفة واحدة في حياتهم ، فقط 6٪ من هذه المجموعة تتطلب رعاية طبية. لقد استعملت المعالجة التحفظية والجراحية في معالجة النزيف الانفي. تتضمن الاجراءات التحفظية كهي الموقع النازف ، حشوة الانف الامامي وحشوة الانف الخلفي. تهدف هذه الدراسة الي تقييم كفاءة العلاج التحفظي لهذه الحالات. **المرضي والطرق:** عينة هذه الدراسة اجريت بين ديسمبر / كانون الاول 2000 الي ابريل / نيسان 2005 ، وشملت 200 حالة من حالات النزيف الانفي الذين عولجوا في قسم الانف والاذن والحنجرة في الخدمات الطبية الملكية (عمان - الاردن) . عولج جميع المرصي اوليا بالاجراءات التحفظية وقسم المرصي الي اربع مجموعات استنادا علي المعالجة المتلقاة. **النتائج:** المجموعة الاولى: كهي الموقع النازف باستعمال 15٪ نترات فضة ، استعمل في 154 (77٪) من المرصي وكان ناجحا في 114 (74.02٪) منهم. المجموعة الثانية: حشوة الانف الامامي استعملت في 86 (43٪) حالة وكانت ناجحة في 74 (86.04٪) منهم. المجموعة الثالثة: حشوة الانف الخلفي استعملت في 12 (6٪) حالة وكانت ناجحة في 11 (91.6٪) منهم. المجموعة الرابعة: وضع سدادة في الشريان الفكي الباطن ، واجريت في مريض واحد (5٪) الذي تعرض الي نزيف انفي عنيد وفشلت الاجراءات السابقة في السيطرة عليه. **الخاتمة:** تدعم هذه الدراسة الفائدة السريرية للاجراء التحفظية في معالجة مرضي النزيف الانفي. اكثر الحالات اجريت بنجاح من خلال المعالجة الطبية فقط مما يدل علي ان التدخل الجراحي قد لا يكون ضروريا في اكثر الحالات وينبغي ان يكون السبيل الاخير.

Abstract: Epistaxis is a common cause for Emergency Department (ED) visits. Approximately 60% of the population has at least one bleeding episode over the course of a lifetime, fortunately; only 6% of this group requires medical attention. Both conservative and surgical modalities have been used in the treatment of epistaxis. Conservative measures conventionally include cauterization of the bleeding site, anterior nasal packing (ANP) and posterior nasal packing (PNP). The aim of this study is to assess the efficacy of the various conservative treatment modalities. This study was conducted between December 2000 and April 2005 and comprised a total of 200 cases of epistaxis managed in the Department of Otorhinolaryngology, Royal Medical Services (Amman, Jordan). All patients were treated initially by conservative measures and four groups were categorized based on the treatment received. Group I: Cauterization of the bleeding site using 15% silver nitrate was tried in 154 (77%) patients, and was successful in 114 (74.02%) of them. Group II: anterior nasal packing was done in a total of 86 (43%) patients and was successful in 74 (86.04%). Group III: Posterior nasal packing was done in 12 (6%) cases and was successful in 11 (91.6%). Group IV: Embolization of the internal maxillary artery was done in one patient (0.5%) who had intractable epistaxis and the previous measures were unsuccessful to control it. This was effective in stopping the bleeding. This study supports the clinical usefulness of conservative management in the treatment of patients with epistaxis. Most cases were successfully managed with conservative medical management alone and surgical intervention with its potential complications may not be necessary in most cases and should be the last resort.

Keywords: epistaxis, treatment, conservative measures

Introduction

Epistaxis is a common cause of Emergency Department (ED) visits. Approximately 60% of the population has at least one bleeding episode over the course of a lifetime.

Fortunately, only 6% of this group requires medical attention⁽¹⁾. Drier and colder air during the autumn and winter months makes epistaxis more common in these seasons, and with a tendency to occur more frequently in males^(2, 3,4). Nose bleeds are more often seen in children than in adults; but they are more serious in adults. Anterior bleeds are easier to manage and account for 80% to 95% of cases. Posterior bleeds, seen more often in older patients, are far more troublesome and are associated with complications such as sinusitis and rebleeding. Those types call, therefore, for

surgical intervention and transfusions. Epistaxis has multiple aetiologies. which can be grouped into local and general. The most important of the former are malignant neoplasms of the nose, paranasal sinuses or nasopharynx and benign juvenile nasopharyngeal angiofibromas, just trauma and infections follow. As for the general causes, hypertension, familial hereditary telangiectasia and coagulopathies are the most important. Despite the wide spectrum of etiology, most cases of epistaxis are idiopathic.

Both conservative and surgical treatment modalities have been used in the treatment of epistaxis. Conservative measures conventionally include cauterization of the bleeding site, anterior nasal packing (ANP) and posterior nasal packing (PNP)^(18, 19, 20).

The aim of this study is to assess the efficacy of these various conservative treatment modalities.

Materials and Methods

The sample of this study, conducted between December 2000

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and April 2005, comprised a total of 200 cases of epistaxis managed in the Department of Otorhinolaryngology, Royal Medical Services (Amman, Jordan).

Patients had a detailed history and a thorough examination; local E.N.T and systemic. Haematological and coagulation studies and radiological evaluation were done for all patients.

All patients were classified initially into four groups based on treatment received:

Group I: had cauterization of the bleeding site using 15% silver nitrate.

In group II: anterior nasal packing (ANP) was done when cauterization failed or in cases where no definite bleeding site could be visualized.

In group III: posterior nasal packing (PNP) was done when ANP proved unsuccessful to control epistaxis; while in group IV: embolization of the internal maxillary artery was done in patients with intractable epistaxis.

Results

Group I: Cauterization of the bleeding site using 15% silver nitrate was tried in 154 (77%) patients and was successful in 114 (74.02%) of them.

Group II: ANP was done in 40 (25.9%) patients where cauterization failed. Anterior nasal packing was also done in 46 other patients where the bleeding was diffuse or where the exact site of epistaxis could not be located. Thus anterior nasal packing was done in a total of 86 (43%) patients and was successful in 74 (86.04%) of them.

Group III: PNP was done in 12 (6%) cases, where anterior nasal packing failed to control epistaxis, and it was successful in 11 (91.6%) of them.

Group IV: Embolization of the internal maxillary artery was done in one patient (0.5%) who had intractable epistaxis and the previous measures were unsuccessful to control it.

Duration of hospitalization

If need be, patients with epistaxis were hospitalized for an average duration of 6.7 days (range of hospitalization = 1-26 days). On the average, patients who have undergone cauterization of the bleeding site required hospitalization for 5.1 (+/-1.96) days compared to those with ANP who had an indoor stay of 6.5 (+/-3.44) days ($p < 0.02$). Those requiring PNP remained in hospital for an average of 11.7 (+/-6.53) days ($p > 0.10$). The patient who had embolization of the internal maxillary artery needed 23 days hospitalization.

No complications were noted in group I where the bleeding site was cauterized or in Group II where anterior nasal packing was done.

In group III where PNP was done, acute otitis media and haemotympanum were observed in one patient.

Hypovolemia was noted in one patient who needed embolization of the internal maxillary artery. No mortality was encountered in this study.

Discussion

Cautery of the bleeding site in epistaxis can be performed chemically, electrically or with laser. We used only chemical cautery with 15% silver nitrate. Since an actively bleeding vessel is virtually impossible to cauterize with silver nitrate, electrocautery with suction Bovie may be a better choice and provides a greater depth of penetration. However, it is more likely to cause exposure of cartilage and/or septal perforation. Cauterization with laser has its limitations of high costs and lack of availability⁽⁵⁾.

Silver nitrate was successfully used in 74.0% of patients. Most other studies have not specified their success rates; but have reported the percentage of cases for which this modality was used as an effective treatment.

It should be recalled that ANP was used in 86 (43%) patients and was successful in 74 (86.04%) of them, while PNP was successful in (91.6%) of the 12 cases where it was tried. There are a variety of nasal tampons, sponges, and inflatable devices which may be used instead of the traditional packing. Nicholaides *et al* reported successful use of ANP in 22.3% of their cases⁽⁶⁾. Hallberg described the use of ANP alone in 40% and PNP in 10.4% while Juselius used ANP in 32.7% and PNP in 24.8%^(4,7). Higher figures of ANP in 68.8% of cases had been observed by Okafor and even up to 79% by Jackson and Jackson and PNP was used in 3.3% of cases and 16% of cases by the former and the latter workers respectively^(8,9). In contrast, Padgham found the need for ANP in comparatively less cases (15.8%) while PNP was needed only for 1.8% of his cases⁽¹⁰⁾. In Group IV, one patient underwent embolization of the internal maxillary artery and it was effective in controlling his epistaxis. Embolization is effective in 82-100% of the cases with minor complications such as facial pain, paresthesias, which usually resolve in about one week's time. Embolization is indicated in patients who are poor anaesthetic risks, those who have failed surgery, those with generalized bleeding disorders, and in patients where the bleeding sites are difficult to access^(11,12).

With cautery of the bleeding point, the average length of hospital stay was found to be 5.1 days in our study. This is higher than the figure of 3.3 days reported by Small and Maran⁽¹³⁾. With ANP the average stay was 6.5 days in our study, while patients with PNP required hospitalization for 11.7 days on average. The latter figure is higher than that of 6.8 days; but lower than 16.9 days reported from other studies⁽¹⁴⁾. Acute otitis media and haemotympanum have been observed in one patient while no complications were noted in group I or in Group II. We did not encounter any patient with intranasal adhesion which have been reported in the literature^(13,15,16,17). Shock and myocardial infarction were reported by Juselius⁽⁴⁾ and McGarry⁽¹⁶⁾. These complications were not observed in our study. The patient who had embolization of the internal maxillary artery did not develop any minor or major complications.

It should be noted that no mortality was encountered in our study which varies from studies by Juselius⁽⁴⁾.

Conclusion

This study supports the credibility of conservative management in the treatment of patients with epistaxis.

Except for one case that required internal maxillary artery embolization, all cases were treated successfully using conservative management.

Cauterization of the bleeding point was done in patients with a success rate of 74%. ANP was used successfully in 74 (86%) cases while PNP was done in 12 cases with a success rate of 91.6%.

Most cases were successfully managed with conservative medical management alone and surgical intervention was not needed in most cases and should be the last resort.

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