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The high rate of long-term recurrences and sequelae after epistaxis treatment

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ABSTRACT

Objective: Epistaxis is the most frequent rhinologic emergency with a high treatment morbidity. This study assessed the long-term outcome after epistaxis treatment with regard to patient comfort during the treatment, long-term complications and rate of recurrences.

Methods: A questionnaire cohort study was performed at the ENT department of the University Hospital Zurich. In April 2014, 363 patients were contacted, who were treated between March 2007 and April 2008 for the reason of epistaxis using a written questionnaire to elucidate the patients' condition after the treatment. The type of treatment, subjective discomfort as well as degree of pain, complications, permanent sequelae and recurrences were assessed.

Results: 109 questionnaires were analyzed (response rate of 36%). The overall same-sided recurrence rate after successful treatment during the 6.4-year follow-up was 22%. Discomfort was reported in 48% after cautery, 86% after packing and in 11% after surgery. Strong or very strong pain was perceived in 8% after cautery, 26% after packing and in 0% after surgery alone. Complications consisted of nasal crusting in 15% after cautery and nasal breathing impairment in 24% after packing. Permanent harm was reported in 4% after cautery versus 20% after packing plus surgery.

Conclusions: The data confirm the high rate of recurrences despite adequate treatment in the long-term analysis. The rate of post-treatment complications is considerably high with nasal crusting being the main inconvenience. It further shows that patients keep a vivid memory of the treatment even many years later and that packing is extremely uncomfortable to patients.

1. Introduction

Epistaxis is very common with a lifetime incidence of approximately 60% in the general population, of which 6% require medical attention [1]. Common treatment options include chemical or electrical cautery, nasal packing, endoscopic surgery or external ligation of arteries according to the location and extent of bleeding. The distinction and definition of anterior versus posterior epistaxis is based on the visibility of the bleeding source [2].

Unpleasant short-term side effects of epistaxis treatment include discomfort and pain [3]. Long-term side effects and recurrent bleeding episodes after epistaxis are less investigated

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although they might have a relevant impact on the patients' quality of life. Consequently, counseling of treated patients about long-term outcomes still remains difficult. To answer this question we designed a long-term follow-up study using a non-standardized questionnaire that was sent to patients, who had epistaxis treatment more than 6 years ago.

The main goal was to assess long-term treatment efficacy, bleeding recurrence rates and patients quality of life after successful epistaxis treatment.

2. Materials and methods

All patients presenting at the ENT department of the University Hospital of Zurich with acute epistaxis were prospectively included in a database from March 29th 2007 until April 1st 2008. The initial data were assessed within the context of a previously published study on Acetylsalicylic acid and severity of bleeding, that also included Osler-Weber-Rendu patients and those with hematologic disorders [4].

For this purpose an electronic questionnaire was designed to record the patients' medical history, clinical and laboratory findings as well as types of treatment in a prospective manner. Therapies were performed according to a fixed algorithm: Anterior epistaxis was treated with chemical or electrical cautery. In posterior epistaxis nasal packing (RapidRhino®, ArthroCare, Texas, USA) was used first and if it was not successful, a Foley balloon catheter and gauze packing was applied for 2–3 days. As the last option endoscopic surgery or cauterization of the supplying vessels was performed in general anesthesia. In detail, the patient was taken to the operating theater and surgery was done in general anesthesia. If the bleeding source could be directly visualized cautery was performed solely. As this was rarely the case, endoscopic closure of the sphenopalatine artery at the foramen as well as the closure of its septal branch at the anterior face of the sphenoid was done. In cases of suspected anterior ethmoidal artery bleeding a Lynch type incision was performed and the artery was transected within the orbit. For details, length of in-hospital stay and distributions refer to our previous publications [4,5]. Initially 603 patients were treated between March 2007 and April 2008 for acute epistaxis. In April 2014, 568 patients were assumed to be alive and potentially contactable by questionnaire. From the available hospital files we knew that 35 patients had deceased in the meantime.

We excluded patients, if they did not remember the initial treatment, suffered from a known mental disease preventing him/her from understanding the questionnaire or did not give informed consent. Patients with unknown address were likewise excluded.

The questionnaire was created in collaboration with our colleagues from the department of clinical psychology at the University of Zurich. The aim was to produce a simple and easy to understand questionnaire. Standardization was considered irrelevant for the type of questions chosen. A number was allocated to every questionnaire and patient, to guarantee the pseudonomisation in handling the response.

The details of the questionnaire are seen in Table 1 and consisted of 15 questions fitting on one page. The first two

Table 1
Questionnaire.

1. Do you remember the treatment from xxx?
   a. No
   b. Yes
2. Was surgery in general anesthesia needed at the time?
   a. No
   b. Yes
3. Were any of the treatments back then painful for you?
   a. No
   b. Little
   c. Medium
   d. Strong
   e. Very strong
4. Were any of the treatments back then particularly uncomfortable for you?
   a. Cautery
   b. Packing
   c. Surgery
   d. None
5. Have you experienced any complications or lasting sequelae during the treatment or later on?
   a. No
   b. Nasal obstruction
   c. Crusting
   d. Other:
6. Do you suffer from permanent sequelae after the treatment?
   a. No
   b. Yes:
7. Have you experienced nose bleeding after the treatment?
   a. No
   b. Yes, which side?
   c. How many times a year?
8. Did you need medical treatment after the initial event?
   a. No
   b. Yes
   c. When?
   d. Where?
9. What was done?
   a. Cautery
   b. Packing
   c. Surgery
10. Do you take anticoagulant medication?
    a. No
    b. Aspirin
    c. Marcoumar® (Phenprocoumon)
    d. Plavix® (Clopidogrel)
    e. Other:
11. Do you have a high blood pressure?
    a. No
    b. Yes
12. Do you take any medication because of your blood pressure?
    a. No
    b. Yes
13. Do you have an elevated blood glucose level (Diabetes)?
    a. No
    b. Yes
14. Are you treated because of your blood glucose (Diabetes)?
    a. No
    b. Yes
15. In case of recurrent nosebleed, would you prefer nasal packing without anesthesia or surgery with general anesthesia to stop the bleeding?
    a. Packing without anesthesia
    b. Surgery in general anesthesia

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