

EPISTAXIS — A REVIEW AND MANAGEMENT OF 63 PATIENTS ADMITTED TO THE EAR, NOSE AND THROAT WARDS OF THE GROOTE SCHUUR HOSPITAL DURING 1960

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INTRODUCTION

Epistaxis is a symptom, not a disease. Although no latent lesion is detected in most instances, a careful, thorough investigation in every patient presenting with epistaxis should be made.

Most cases of epistaxis are easily dealt with, either by the general practitioner or by a specialist consultant. Only a minority of patients with epistaxis require hospital admission. In these, bleeding is profuse and uncontrollable, and the patients may be shocked or may become shocked.

The primary aim of treatment is to arrest bleeding, to replace blood loss with blood (if the bleeding is at all severe), and to look for and treat an underlying cause.

During 1960, 80 patients whose presenting symptom was epistaxis, were admitted to the ENT wards of Groote Schuur Hospital. The records of 17 were not available and these have been excluded from certain sections of the review. Table I shows the number of admissions compared with the number admitted for tonsillectomy and/or

TABLE I. ENT ADMISSIONS TO GROOTE SCHUUR HOSPITAL DURING 1960

	Whites	Non-Whites	Total	%
Total number of patients admitted	1,021	1,070	2,091	100.0
Number admitted for tonsillectomy and/or adenoidectomy	436	315	751	35.7
Number admitted for epistaxis	30	50	80	3.8

adenoidectomy. It will be seen that 3.8% of all admissions were for epistaxis.

SITES OF EPISTAXIS

In the vast majority of patients, bleeding occurs from Kisselbach's plexus, in the lower part of the nasal septum (termed Little's area). Bleeding here is readily visible with a good light and nasal speculum, and is easily controlled.

If no bleeding is visible on inspection, it means that blood loss is coming from far back, and in all probability from an inaccessible site. Roberts¹ described this site of bleeding as being on the posterior part of the inferior turbinate, and also described a method of dealing with this. It is, however, not an easy procedure and one that can only be carried out with the patient anaesthetized.

AETIOLOGY

The presence of epistaxis calls for an investigation into its aetiology, as thorough as if it were haematuria or irregular menstrual bleeding.

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At all ages the commonest cause of epistaxis is a spontaneous bleed, i.e. no obvious underlying cause is to be found.

Physiological Causes

These are relatively uncommon and always temporary. They include:

1. Violent exertion — violent sneezing or coughing.
2. Extremes of heat or cold.
3. Congestion at the menstrual period (vicarious menstruation).
4. Rarefaction of the air, as in mountaineering, or flying in aeroplanes or space-craft.

Pathological Causes

1. Local:

- (a) Trauma — accidents (blow on nose, fractured skull), operation, foreign body, or 'nose picking'.
- (b) Inflammatory — acute (diphtheria), chronic (atrophic rhinitis, syphilis, tuberculosis, or leprosy).
- (c) Neoplastic — benign (polyp, or nasopharyngeal fibro-angioma), malignant (carcinoma).
- (d) Vascular — *spontaneous*, or hereditary haemorrhagic telangiectasia.
- (e) Allergy — allergic rhinitis (in children).

2. General:

- (a) Infective fevers — influenza, typhoid fever, glandular fever, or rheumatic fever.
- (b) Hepatic disease — caused by portal hypertension or lowered prothrombin.
- (c) Pulmonary disease — chronic bronchitis and emphysema.
- (d) Cardiac, vascular, or renal — mitral stenosis, hypertension, or nephritis (acute and chronic).
- (e) Blood diseases — purpura, polycythaemia, leukaemia, or scurvy.
- (f) Drugs — salicylates, quinine, or anticoagulants.
- (g) Psychological.

Table II gives the age, sex and race distribution of 80 patients admitted to hospital for epistaxis. It will be noted that in Whites epistaxis is rarely troublesome enough before middle-age to require admission, and that the peak incidence is in the 61 - 70-year age group. In non-Whites, on the other hand, many more younger patients were admitted and the peak incidence is in the 41 - 50-year age group.

Although the series is a small one, Table II shows that the sex incidence in Whites is approximately equal, where-

TABLE II. AGE AND SEX DISTRIBUTION OF ADMISSIONS FOR EPISTAXIS

Age in years	Whites			Non-Whites		
	Male	Female	Total	Male	Female	Total
0-10	—	—	—	2	1	3
11-20	—	—	—	1	—	1
21-30	—	—	—	8	3	11
31-40	1	—	1	5	2	7
41-50	3	1	4	2	10	12
51-60	4	4	8	—	6	6
61-70	5	5	10	3	1	4
71-80	2	3	5	1	5	6
81+	—	2	2	—	—	—
Total	15	15	30	22	28	50

as in the non-White group there are more females than males.

Table III shows the relative incidence of causes in the 63 patients whose records were complete. It will be seen that hypertension and unknown aetiology constitute about 75% of the causes. In the traumatic group, 3 followed

TABLE III. CAUSES OF EPISTAXIS IN 63 CASES

Causes of epistaxis	Whites		Non-Whites		Total
	Male	Female	Male	Female	
Unknown	5	3	11	11	30
Hypertension	3	5	—	9	17
Traumatic	1	—	4	1	6
Coryza	1	—	1	—	2
Tuberculosis	—	—	2	—	2
Dilated vessels	—	—	1	1	2
Congenital telangiectasia	1	—	—	—	1
Carcinoma of antrum	—	—	1	—	1
Carcinoma of liver	—	—	1	—	1
Pregnancy	—	—	—	1	1

operation and 3 followed a blow on the nose. In 1 patient, epistaxis was related to pregnancy, the mechanism being similar to that producing varicose veins.

MANAGEMENT OF EPISTAXIS IN HOSPITAL

Patients admitted to hospital for epistaxis have usually bled in the past, or are bleeding profusely at the time of admission, and are therefore tense and anxious. A calm and purposeful attitude on the part of the attending practitioner is thus indicated. The patient should be told that the epistaxis will cease with treatment.

Bed Rest and Sedation

On admission, the patient should be confined to bed with no toilet privileges. At least 24 hours should elapse after cessation of bleeding before the patient is allowed out of bed. Most patients find difficulty in using a bedpan and, since straining at stool is likely to start further bleeding, purgatives should be given to keep the motions soft.

Morphine, gr. $\frac{1}{4}$, should be given on admission as a sedative if none was administered in the preceding 4 hours. This may be repeated if necessary. 'Phenergan', 50 mg., is an excellent sedative for an average adult and should be given 2-3 times in the 24 hours after admission, combined with phenobarbitone, grs. 1 *t.d.s.* The phenobarbitone is continued for 4-5 days. Sedation is an important factor in the management of epistaxis.

Assessment of Blood Loss

The patient and his relatives are usually poor witnesses of the amount of blood lost. Clinical assessment is far more important, though of necessity it is also only a rough guide. The pulse rate and blood pressure should be noted and recorded every half-hour. The haemoglobin should be estimated on admission and repeated daily (or more often if necessary). Blood loss through the anterior nares is usually apparent, but the posterior pharyngeal wall should always be inspected for active bleeding.

No time should be lost, if the condition warrants it, to obtain compatible and, if possible, fresh blood for transfusion.

Dealing with the Bleed

All that is required in most patients is to arrest the haemorrhage in the manner described below. In some instances, however, blood loss may be so severe that replacement is necessary. In these, an assistant should deal with the blood transfusion.

A cotton-wool pledget, soaked in 1 drachm of cocaine (20%) and adrenaline (1:1,000), is placed in each nostril and kept *in situ* for 10-15 minutes. At the end of this time both pledgets are removed and bleeding points are looked for with a nasal speculum and the aid of a strong light.

In most cases, no active bleeding is seen, either because the bleeding is from far back, or because of the presence of blood clot. The patient should be encouraged to blow his nose gently to dislodge the clots.

If bleeding points are seen, they should be painted with silver nitrate or cauterized with an electric cautery needle. (Eight patients in the series, or 12.7%, were cauterized.)

If no bleeding point is seen, the anterior part of the nose is packed under direct vision with ribbon gauze soaked in BIPP, using Tilley's forceps. A common mistake in practice is to pack the anterior nares for only about 1-2 inches. Such packing is quite inadequate, since it fails to arrest haemorrhage, and may result in blood trickling down the nasopharynx without being suspected. In the majority of cases adequate anterior packs control the bleeding. They are left in position for 36 hours and should then be removed.

It is wise to pack *both* nostrils, since this provides additional firm pressure and discourages the patient from blowing his nose.

In a minority of cases—7 (11%) of the series—anterior plugs failed to control the bleeding. In such a case it is necessary to insert posterior nasal packs. For this purpose tonsillar swabs are frequently used. A rubber catheter is passed through the nostril and the end is extracted through the mouth. The pack is tied to this end and pulled firmly to fit in the posterior nasal space. The two ends of the string on the swab are fixed to the cheek by means of 'elastoplast' strapping. Anterior packs are then inserted as before.

If bleeding still persists, the postnasal space may be packed with fibrin foam ('oxycel') or a pint of fresh blood may be given. In very rare cases the patient may have to be taken to the theatre and anaesthetized, and the nose packed as described by Roberts.²

Clotting Agents

Non-specific substances like 'adrenosem' (which is known to produce irreversible psychosis) and 'haemoklot' are mentioned only to be discarded. Vitamin K and its analogues have a limited rôle if liver disease is present. Ergometrine, 0.5 mg., or, more recently, 'premarin', 20 mg. intravenously (or 5 mg. *q.i.d.* for 4-5 days), have been used. In the series premarin was used in 14 cases (22.2%). The efficacy of oestrogen compounds in controlling nose bleeds is not proved, but their use in intractable cases is unquestionably worth a trial.

Reassurance of the Patient

Reassurance should be an active adjuvant used by the attending physician in the treatment of epistaxis. All patients with nose bleeds should be told that the bleeding will stop in time, with treatment. In most instances the patients are distressed and nervous. Their relatives and private practitioner are often in a similar state of mind. A calm, efficient and industrious bearing on the part of the hospital staff goes a long way towards winning the patient's confidence. It helps, too, to control the bleeding.

It is equally important that the patient should be comfortable in bed. The face, pyjamas, and bed-clothes should be kept free of blood by the nursing staff. A kidney-dish should be available, in which all blood is collected and measured. The patient should be propped up in bed so that all blood can be collected and not allowed to trickle down the nasopharynx. It is customary to apply an ice-pack to the forehead; this should be used only if the patient feels comfortable with it.

Antibiotics

A combination of penicillin and streptomycin in the usual dosage is given to prevent secondary infection. This is especially important in the case of posterior nasal packs which are retained for longer than 24 hours.

Hospitalization and Transfusion

Table IV shows the number of days that patients with epistaxis were hospitalized. Of the 63 patients, 23 required

TABLE IV. DAYS SPENT IN HOSPITAL BY PATIENTS ADMITTED FOR EPISTAXIS

Days	Whites			Non-Whites		
	Male	Female	Total	Male	Female	Total
1	—	—	—	1	—	1
2	1	1	2	4	3	7
3	1	2	3	3	9	12
4	2	4	6	1	3	4
5	3	2	5	3	1	4
6	2	2	4	4	4	8
7	1	1	2	2	2	4
8 - 14	4	2	6	2	3	5
15 - 21	—	1	1	2	2	4
22 - 28	1	—	1	—	1	1

blood transfusion, i.e. 36.7%. The average was 6 pints per patient, but since one patient alone required 45 pints, the true average is about 4 pints. One elderly patient in this series died because of incorrect assessment of blood loss. Five patients were re-admitted with further epistaxis.

INVESTIGATIONS TO ESTABLISH A CAUSE

A cause for the epistaxis should always be looked for (though in the majority of cases this is not found). A careful history and examination of the patient are imperative. Certain special investigations may have to be done.

The following scheme (though not complete) is given as a guide to determine a cause for epistaxis:

History: (i) Trauma or foreign body; (ii) bleeding tendency; (iii) drugs, e.g. anticoagulants or salicylates; (iv) fever or known contact with exanthemata; and (v) loss of weight.

Examination: (i) Weight loss; (ii) skin eruption; (iii) jaundice, anaemia; (iv) enlarged liver or spleen; and (v) blood pressure.

Special investigations: (i) Fundoscopic examination; (ii) X-ray chest; (iii) blood investigation—(a) smear and white-cell count, (b) ESR, (c) liver-function tests, (d) blood urea, (e) Wassermann reaction; and (iv) urine.

If a cause is established, this will be treated in its own right.

SUMMARY

The symptom of epistaxis is discussed, highlighting the types of nasal bleeding encountered, their causation and management.

During 1960, 80 patients with epistaxis were admitted to the ENT wards of Groote Schuur Hospital. It was found that the sex incidence of admissions was more or less equal, but that the non-Whites admitted were about 20 years younger than the White group. In younger patients the males predominated, but in the elderly the females were in the majority.

A plea is made for all intractable bleeds to be referred to hospital before blood loss is severe enough to require transfusion.

It is emphasized that all cases of epistaxis warrant full investigation to exclude underlying local lesions or general diseases. Only if such investigation proves negative, can the epistaxis be labelled spontaneous, idiopathic or primary.

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REFERENCE

1. Roberts, J. (1958): Practitioner, 180, 211.