

# Epistaxis Mimicking Upper Gastrointestinal Bleeding

Michael Wolf, MD, Yehudah Roth, MD, and George Leventon, MD  
*Tel-Hashomer, Israel*

Epistaxis is a common problem in primary care and otolaryngologic clinics. It may be spontaneous or induced, and in most instances it is easily controlled. The nasal vessels are closely related to bone and cartilage and are protected by only a thin mucous membrane;<sup>1</sup> therefore, even minor insults may cause severe hemorrhage. Bleeding from the anterior parts of the nose, anterior epistaxis, is common among children and young adults, usually originating from Little's area (Kisselbach's plexus). In older people the site of bleeding is often in the posterior parts of the nose, and the bleeding then is more profuse, involving branches of the sphenopalatine artery.<sup>1</sup> Massive or persistent epistaxis is rarely encountered, but when it occurs, it may result in anemia and hypovolemia, and it can be fatal.<sup>2-4</sup> Local treatment, either cauterization of vessels or nasal packing, is usually sufficient to stop the bleeding. Ligation or embolization of the vascular supply is rarely needed.<sup>5</sup> Recently, two cases were encountered in which massive hematemesis was diagnosed to be of gastrointestinal origin whereas the source was eventually found to be nasal. This misdiagnosis unnecessarily delayed definitive treatment.

## CASE REPORTS

### Case 1

A 76-year-old man was admitted because of hematemesis. There was no history of previous oral or nasal bleeding, upper respiratory tract infection, or any use of medication. Thirty years before the admission he had undergone partial gastrectomy and gastroenterostomy for treatment of a bleeding peptic ulcer, but since then he had been in

excellent health, although a heavy drinker. On physical examination blood was observed in the oropharynx but was related to the hematemesis; there was no apparent epistaxis. Slight hyperperistalsis was the only abnormal finding. Gastric aspiration revealed fresh blood with clots. On endoscopy, no ulcers were observed including at the site of the anastomosis, and the esophagus appeared normal. Findings on chest and abdominal x-ray examinations were normal; the electrocardiogram (ECG) was unremarkable. Blood coagulation tests and liver function tests were normal, and the levels of blood pressure were repeatedly within normal limits.

For a few hours the patient continued to vomit large amounts of fresh blood. His hemoglobin level dropped from 137 g/L (13.7 g/dL) to 80 g/L (8.0 g/dL), and a blood transfusion was initiated. Blood pressure remained stable, and there were no signs of hemodynamic instability. Treatment with repeated gastric lavages, antacids, and cimetidine were started. Angiography of the celiac trunk and of the superior mesenteric vessels, performed while fresh blood was still aspirated through the gastric tube, did not reveal the source of bleeding.

During the next 24 hours the patient received a total amount of 13 units of packed blood cells and four units of fresh frozen plasma, but still hemostasis was not achieved. A second angiography and endoscopy performed the following morning again did not indicate the source of bleeding. On the 2nd day after admission, the patient developed pulmonary edema. There were no changes, either in electrocardiogram or in myocardial enzyme level, and the patient was successfully treated with morphine and diuretics. At this stage bleeding from the left nostril was noted, which could not be caused by a right-sided nasogastric tube. The ear, nose, and throat examination revealed bleeding from the posterior third of the left inferior turbinate. As the exact point of bleeding could not be determined, an anterior nasal tamponade using a paraffin gauze dressing was performed, following which all bleeding ceased. The patient was only then stabilized with a hemoglobin level of 114 g/L (11.4 g/dL).

*Submitted, revised, October 31, 1989.*

*From the Ear Nose and Throat Department, Chaim-Sheba Medical Center, Tel-Hashomer, The Sackler School of Medicine, Tel-Aviv University, Israel. Requests for reprints should be addressed to Dr Michael Wolf, MD, The ENT Department, Chaim-Sheba Medical Center, Tel-Hashomer 52621, Israel.*

Four days later the nasal packing was removed uneventfully. Sinus x-ray films demonstrated a fluid level in the left maxillary sinus that cleared within 2 weeks. The patient was discharged on the 7th day following admission with a normal laboratory profile, except for mild hyperbilirubinemia of 34  $\mu\text{mol/L}$  (2.0 mg/dL). During a 6-month-long follow-up, the patient remained asymptomatic, and ear, nose, and throat examination was normal.

## Case 2

A 1-year-old boy with the tetralogy of Fallot was admitted to investigate several episodes of hematemesis and melena during the 72 hours prior to admission. He was scheduled to undergo an aortopulmonary shunt (modified Potts operation) 2 weeks later. The initial examination revealed clots of blood around his nostrils, but when fresh blood was aspirated from the stomach, upper gastrointestinal tract bleeding was diagnosed. Conservative treatment was given, which included gastric lavage and antacids. In the next 24 hours the child received a total amount of 470 mL of blood. Findings from complete blood coagulation tests and an upper gastrointestinal tract survey were normal. Blood pressure was normal. Following the treatment, his hemoglobin level gradually rose from 102 g/L (10.2 g/dL) to 150 g/L (15.0 g/dL). Two weeks later when a full recovery was achieved, the child underwent the planned operation. Following surgery he developed a fever of 38.0°C, which was attributed to postpericardiotomy syndrome, and aspirin treatment was given. Recurrent episodes of anterior epistaxis then appeared and were finally controlled by cautery and nasal packing. All coagulation tests were again normal. No further episodes of bleeding were encountered in this child in the next 18 months of follow-up.

In retrospect, and in view of the negative gastrointestinal tract findings, the possibility of epistaxis that went unnoticed may be assumed to be the cause of the initial complaint at admission.

## DISCUSSION

Although nasal bleeding is usually easily controlled, in some cases it must be considered potentially hazardous.<sup>2-4</sup> In the last 3 years, 74 hospitalized patients with epistaxis, either primary or secondary (Table 1), were encountered in the Sheba Medical Center. Among these, eight patients, including those reported here, needed blood transfusions, an incidence of 10.8%. This figure is similar to the one reported by Hara,<sup>6</sup> whereas in the study of Juselius,<sup>7</sup> 492 out of 1724 patients with epistaxis (28.5%) received blood transfusions.

TABLE 1. EPISTAXIS CASES ENCOUNTERED IN THE SHEBA MEDICAL CENTER FROM 1983 TO 1986

Associated Problem	Number of Cases
Hypertension	19
Leukemia	4
Postrhinoseptoplasty	3
Nasal trauma	2
Hereditary hemorrhagic telangiectasia	2
Anticoagulant treatment	3
Deficiency in coagulation factors	2
Idiopathic thrombocytopenic purpura	2
Thrombotic thrombocytopenic purpura	1
Thrombasthenia	1
Chronic renal failure	2
Hepatic cirrhosis	1
Hepatic tumor	1
Infectious hepatitis	1
Idiopathic	30
Total	74

Cauterization of bleeding vessels and anterior, posterior, or combined nasal packing are still regarded as standard procedure<sup>8</sup>; ligation or embolization of the vascular supply—the ethmoidal, the internal maxillary, or the external carotid arteries—is seldom needed.<sup>6,9</sup>

The reported cases, as well as a few others,<sup>10,11</sup> emphasize the need to consider nasal or nasopharyngeal bleeding when hematemesis of obscure cause is encountered, especially when a history of recent epistaxis, facial trauma, blood dyscrasia, anticoagulant treatment, liver malfunction, and previous dyspepsia is lacking. Yet, the possibility of the coexistence of both, upper gastrointestinal tract bleeding and epistaxis, should be particularly considered in cases of bleeding disorders such as hereditary hemorrhagic telangiectasia, thrombotic thrombocytopenic purpura, and others.

Thus, a thorough examination of the nose, sinuses, and the nasopharynx is recommended in any case of hematemesis of obscure cause.

## References

1. Ballenger JJ: Diseases of the Nose, Throat, Ear, Head and Neck, ed 13. Philadelphia, Lea & Febiger, 1985, pp 100-103
2. Bean WB: Infarction of the heart; a morphological and clinical appraisal of 300 cases. I. Predisposing and precipitating conditions. *Am Heart J* 1937; 14:684-702
3. Hallberg OE: Severe nose bleed and its treatment. *JAMA* 1952; 148:355-360