

## Reoccurring epistaxis-overlooked tumor?

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### ABSTRACT

Epistaxis is bleeding from the nasal cavity and/or nasopharynx. It is classified as anterior, which accounts for 90% of bleeding, and posterior, in the rest 10% with a more severe clinical picture. Apart from environmental factors and anticoagulant medications, epistaxis can be caused by nasal and paranasal tumors. In case of reoccurring epistaxis, nasal congestion, swelling and numbness of the face, ulceration on the skin, growths in the nose or unilateral headaches should be suspected of tumor formations. In this paper, a case of a 70-year-old male patient is presented, who came to the otorhinolaryngology clinic because of reoccurring nosebleeds and a month long feeling of nasal congestion. After the initial treatment of the epistaxis, further processing revealed an expansive soft tissue formation in the right middle and lower nasal passages. The patient is referred for surgery, and invasive squamous cell carcinoma is diagnosed based on the pathohistological findings.

**Keywords:** epistaxis, diagnosis, neoplasms

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### INTRODUCTION

Epistaxis is a nosebleed that in 90% of cases occurs in the front part of the nose, i.e., within Kiesselbach's plexus in the frontal part of nasal septum. About 10% of bleeding occurs in the back of the nose and it often requires medical attention [1]. Most of the epistaxis are benign in nature, but sometimes it can indicate a more serious illness.

Epistaxis can be a consequence of systemic and local factors [2]. Local causes include inflammatory, infectious, traumatic, anatomical (deviation of nasal septum and septal spur), chemical or climatic changes, neoplasms, and foreign bodies. Systemic causes of epistaxis can be hematological diseases, causing coagulopathy and cardiovascular diseases (hypertension, vascular heart disease, liver disease, and kidney disease) and anticoagulant drugs which are not direct causes of epistaxis, but can induce and prolong it [3]. In 80%-90% of patients, no identifiable cause can be found—in those cases the epistaxis is called idiopathic [4]. The habit of blowing the nose, excessive coughing due to obstructive lung diseases, straining during constipation, benign prostatic hyperplasia and lifting

heavy objects can also be provoking factors for the occurrence of epistaxis [5].

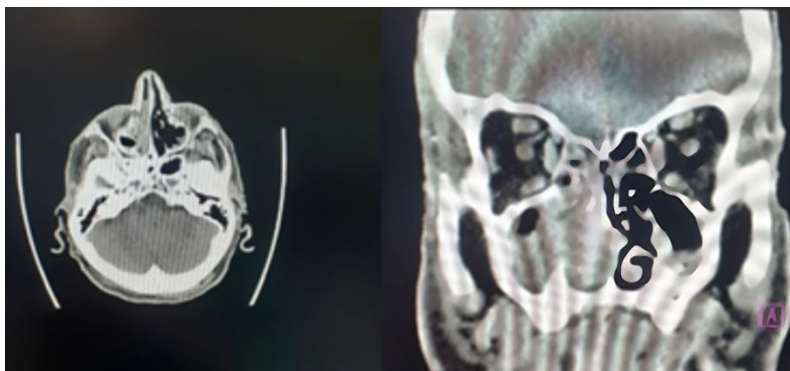
Tumors should especially be considered in case of reoccurring epistaxis following nasal congestion, long-term sinusitis, retention of secretion, facial swelling, unilateral facial numbness, skin ulceration, growths in the nose, unilateral headaches, toothache, and double vision. When any of the above symptoms appears, it is necessary to refer the patient to further treatment [6].

### CASE

A 70-year-old male patient came to the emergency otorhinolaryngology clinic due to active reoccurring nosebleed. He stated that the bleeding started an hour ago and complained of difficulty breathing through the right nostril 20 days ago.

A detailed medical history was taken, and it was found out that the patient did not suffer from other diseases and did not take any medications. He stated that he occasionally measured his blood pressure, but it had never been elevated. He denied nosebleeds for the past few years. Before coming to emergency otorhinolaryngology clinic, he did not contact his chosen family medicine doctor. A physical examination

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**Figure 1.** CT findings in a 70-year-old patient (reprinted with permission of patient)

and otorhinolaryngological status were performed. The patient's blood pressure was measured at 170/100 mmHg. Rhinoscopically, bleeding from the right nostril was observed and the coagulum was removed. The patient was placed in a sitting position, with the head facing forward. Gauze was soaked in lidocaine and adrenaline and placed in the nostril. Continuous pressure was applied to both nostrils for 15 minutes.

After the bleeding stopped, newly formed blood clots were gently removed, and an inspection was performed. Referrals for laboratory findings were issued and fiber endoscopy was immediately performed, showing a deviation of the septum to the right and a formation in the right nostril partially extending into the left cavum at the back. The vocal cords were white and mobile during respiration and phonation. The left side of the pyriform sinus was filled with brownish deposits of fungal etiology. Enlarged lymph nodes were not palpable on the neck. The patient was referred for a CT scan of the paranasal sinuses and was admitted to the Clinic for surgical treatment. The CT findings, as shown in **Figure 1**, showed an expansive soft tissue formation in the right middle and lower nasal passage, measuring about  $47 \times 23 \times 32$  mm in diameter, extending posteriorly through the choanae into the nasopharynx, medially through the antrum into the right maxillary sinus absorbing its medial wall and towards the medial side it rested on the nasal septum, which was partially consumed by the tumor.

The pathohistological finding showed that it was an invasive squamous cell carcinoma of histological grade I/II. The margins could not be determined, and lympho-vascular invasion was not found.

## DISCUSSION

Epistaxis means bleeding from the nasal cavity and/or nasopharynx, which is mostly idiopathic. We classify them as anterior (Kiesselbach plexus), which includes 90% of bleeding, and posterior, which is rare but has a more severe clinical picture (sphenopapaltal artery) [7].

The most common provoking factors are dry air, dust, traumatizing the mucous membrane, blowing out the nose,

inflammatory and allergic diseases of the mucous membrane, chronic sinusitis, pregnancy, alcohol, drugs such as acetylsalicylic acid, anticoagulant therapy, chemicals, nasal sprays (decongestants and corticosteroids), trauma, condition after surgery in the nose area, nasal polyp (postnasal drip, chronic rhinosinusitis, blocked nose, loss of sense of smell, rhinoscopically visible growth), nasal and paranasal tumors. Tumors should especially be considered in the case of reoccurring epistaxis, nasal congestion, long-term sinusitis, retention of secretions, facial swelling, unilateral facial numbness, skin ulceration, growths in the nose, unilateral headaches, toothache, and diplopia [8]. It is important to emphasize that nosebleeds are not a consequence or symptom of hypertension, although high blood pressure can trigger or prolong it [9].

In the clinical picture, there is blood from one or both nostrils or recurrent "coughing up" of blood from the mouth–posterior oropharyngeal drainage (drip). In the differential diagnosis, it can be confused by hematemesis (vomiting blood) and hemoptysis (coughing up blood). In hematemesis, the blood is usually dark in color with an appearance like coffee grounds and the patient has the urge to vomit, while in hemoptysis the blood is usually frothy [10].

The diagnostic procedure begins with a detailed anamnesis, examining data on the onset of bleeding, duration, intensity, whether the person vomits blood. It is also important whether epistaxis recurs and the person's comorbidities and chronic therapy–analgesics, anticoagulant therapy are often a provoking factor. As part of the physical examination, the oropharynx and nasal cavity should be inspected, and blood pressure and pulse should be measured (emphasis on trauma) [11].

Further diagnostic procedures depend on the previous clinical findings and the cause of the bleeding.

Epistaxis due to inflammatory conditions of the upper respiratory tract, dry air and allergy does not require further diagnostic procedures. These are usually minor bleedings that occur, for example, when blowing the nose. All that is needed is further monitoring of the patient and care of the nasal mucosa [12].

All other conditions causing epistaxis to require further treatment. It is necessary to perform laboratory tests (routine laboratory, liver tests, coagulation tests-PV, APTV, and treatment of thrombocytopenia). Radiological treatment is no longer recommended at the level of family medicine. If polyposis or a malignant process is suspected, the patient is referred to an otorhinolaryngologist.

The first aid for epistaxis is to place the patient in a sitting position, with the head facing forward. Apply pressure to both nostrils for 15 minutes without letting up. Gauze is soaked in lidocaine and/or adrenaline, placed in the nostrils and then squeezed. The procedure is repeated once more if necessary [13]. If the bleeding has stopped, the freshly coagulated blood is gently removed (blow out) and an inspection is done.

In the case of a clear cause of bleeding (inflammation, irritants, drugs, etc.), omit the nasal medicine, correct the arterial pressure, in the case of dryness of the nasal mucosa, introduce an ointment for the care of the nasal mucosa and recommend a nasal toilet. Control is carried out in case of re-bleeding. Acetylsalicylic acid is omitted only in case of tamponade. Anticoagulant therapy is always continued, except for uncontrolled bleeding if the risk of bleeding is greater than the risk of a thromboembolic event [14].

In the case of an unclear cause, laboratory tests are performed, and if the findings are normal, and the epistaxis is repeated, then the patient is scheduled for a regular appointment with an otorhinolaryngologist.

If the bleeding has not stopped and is profuse, tamponade is performed, and the patient is ordered to be monitored in a few days [15].

If malignancy is suspected, the patient is urgently referred to an otorhinolaryngologist. In case of severe bleeding, urgent transport to the hospital with an escort is required, and the venous route is opened, and fluid replacement is started [16].

## CONCLUSION

Epistaxis has numerous causes and is most often idiopathic, but in the case of reoccurrence, long-term nasal congestion and sinusitis, unilateral swelling, facial numbness or headaches, skin ulceration or growths in the nose, a serious condition should be suspected, and the patient should be urgently referred for further treatment by an otorhinolaryngologist, as further diagnostic and therapeutic procedures would be started as soon as possible.

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