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# The Characteristics of Epitaxis Patients at Sumedang Regional Public Hospital Emergency Departement in 2021-2022

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**Abstract.** Epitaxis is a term from Greek, epistaizein, which means bleeding from the nose. Epitaxis is common problem ranging from minor traces of blood or clot to isolated massive bleeds that may be life-threatening and one of the common ear, nose, throat emergencies that present to emergency department or the primary care clinic . From an epidemiological of view, the lifetime incidence of epitaxis has been reported to be as high as 60% people worldwide during their lifetime. However, a real number is difficult to be estimated as only a very small proportion requires specialist management and therefore many cases escape to evaluation. Only 10% of patients with epitaxis will present to a physician. This study aims the characteristics of epitaxis patients in Emergency Departement of Sumedang Regional Public Hospital from January 2021 to December 2022. This study was designed as a retrospective descriptive study. Research used medical records on patients diagnosed with epitaxis. The research's results showed that there are 74 patients in that period with 7 patients experiencing recurrent epitaxis, 2 patients with hypotension and 27 patients with anemia. The incidence in male is higher than female. Patients with epitaxis more common in the age group >45 years. The most common cause of epitaxis is by systemic cause.

**Keywords :** Epitaxis; Hypotension

## INTRODUCTION

The incidence of epitaxis has been reported to be as high as 60% people worldwide during their lifetime, only 10% patients with epitaxis will present to a physician. Epistaxis (nosebleed) is one of the most common ear, nose, and throat (ENT) emergencies that present to the emergency room or primary care. There are two types of nosebleeds: anterior (more common), and posterior (less common, but more likely to require medical attention) (Ayesha & Julia, 2022). Epistaxis is a common chief complaint representing a wide spectrum of severity. Key features such as the vital signs, location of the bleeding, and patient history, as well as practice and facility with certain procedures, can assist significantly with patient outcomes and dispositions (Ballard et all, 2021).

Epitaxis can be divided from bleeding site into anterior or posterior site. In anterior epitaxis, the bleeding originates from the Kiesselbach plexus, usually bleeding is most often self-limited after the application of direct pressure and easy to overcome. Posterior epitaxis is more frequent in elderly, so it can be a serious problem due to anemia and hypotension. Epistaxis originating from the anterosuperior nasal cavity and nasopharynx can be easily misdiagnosed as posterior epistaxis or unknown bleeding sites. Areas that should be considered as possible origins of epistaxis in cases with unknown bleeding sites were identified (Lou, 2019). Posterior bleeds are generally higher volume and arise laterally from branches of the sphenopalatine artery (SPA). Bleeding may also be classified as primary (or idiopathic), or secondary, which results from known local or systemic factors. As we know while the advent of the endoscopic era has greatly improved our ability to identify and manage the specific site of the bleeding, some patients presenting to a general emergency department will continue to lack a definitive diagnosis and thereby remain in the idiopathic category.

Children with idiopathic RAE were treated with endoscopic MWA and reevaluated at 1 and 4 weeks and at 6 months thereafter (Lou, 2019). The primary outcome was successful hemostasis on the day of the procedure. Secondary outcomes were the rebleeding rates after 1 and 4 weeks, and 6 months, and any complications (Lou, 2019). Delayed post-traumatic bleeding at various sites is known due to vascular abnormalities related to structural changes in the vessel walls, in the form of pseudo aneurysms and arteriovenous malformations. Delayed epistaxis following facial trauma is a distinct entity that presents as recurrent episodes of bleeding from the nose

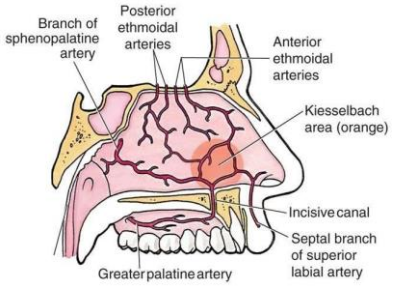
(Jain et al, 2023). Local causes are trauma, anatomic deformities, iatrogenic, foreign body, infection, and neoplasm. Systemic causes include bleeding diathesis, hematologic malignancy, hypertension, hepatobiliary disease, alcoholism, vascular/connective tissue disorders, malnutrition, and drugs. So, this study aims to determine the characteristics of epitaxis patients at Sumedang Regional Public Hospital Emergency Departement from January 2021 to December 2022.

## METHODS

This study as a retrospective descriptive study design of total sampling method using medical record data of epitaxis patients in 2021-2022 at medical record center of Sumedang Regional Public Hospital Emergency Departement with inclusion criteria consist of recurrent epitaxis incidence, ages, sex, causes and complications of epitaxis. The exclusion criteria were uncomplete medical records.

## RESULTS

The nose has a rich vascular anatomy with multiple anastomoses. The arterial supply arises from branches of both the internal and external carotid arteries (Figure 1). The ethmoidal arteries, branches of the internal carotid, enter the nose superiorly and supply the upper extremes of the septum and lateral nasal wall. The facial and the internal maxillary artery are the two branches involved in the supply of the nasal cavity and are part of the external carotid. The internal maxillary divides into six branches and includes the greater palatine and sphenopalatine arteries (SPA). These contribute to Keisselbach's plexus and supply up to 80% of the nasal vault. The facial artery is the second major branch of the external carotid to supply the nose, which also contributes to Keisselbach's plexus (Stephanie, 2015).

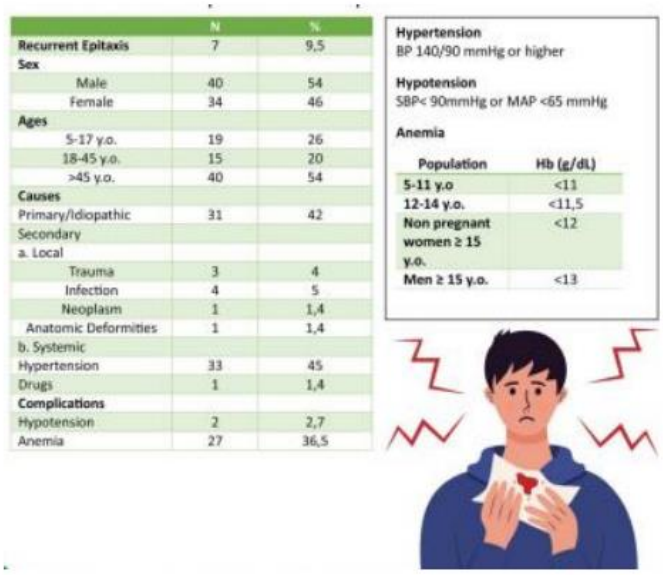



Source: data processed

**Figure 1.**
**Blood supply to the nasal septum**

Epistaxis is most commonly classified into anterior or posterior bleeds. This division lies at the piriform aperture anatomically. More than 90% of episodes of epistaxis occur along the anterior nasal septum, which is supplied by Keisselbach's plexus in a site known as the Little's area.2 The Keisselbach's plexus is an anastomotic network of vessels located on the anterior cartilaginous septum. It receives blood supply from both internal and external carotid arteries (Stephanie, 2015). Total number of epitaxis patients during this period were 74 patients. Result were analyzed into 4 categories. They were patients with recurrent epitaxis, ages, sex, causes and complications of epitaxis. Epistaxis is a common condition and the leading cause of hospital visits. Although it is rarely life threatening, epistaxis is a cause of concern and requires appropriate treatment, especially in elderly patients with cardiovascular disease (Byun et al, 2020).

The guideline development group made recommendations for the following key action statements (Tunkel et al, 2020) (1) at the time of initial contact, the clinician should distinguish the nosebleed patient who requires prompt management from the patient who does not; (2) the clinician should treat active bleeding for patients in need of prompt management with firm sustained compression to the lower third of the nose, with or without the assistance of the patient or caregiver, for 5 minutes or longer; (3a) For patients in whom bleeding precludes identification of a bleeding site despite nasal compression, the clinician should treat ongoing active bleeding with nasal packing; (3b) The clinician should use resorbable packing for patients with a suspected bleeding disorder or for patients who are using anticoagulation or antiplatelet medications; (4) The clinician should educate the patient who undergoes nasal packing about the type of packing placed, timing of and plan for removal of packing (if not resorbable), postprocedure care, and any signs or symptoms that would warrant prompt reassessment; (5) The clinician should document factors that increase the frequency or severity of bleeding for any patient with a nosebleed, including personal or family history of bleeding disorders, use of anticoagulant or antiplatelet medications, or intranasal drug use.



| | N | % |
|---|---|---|
| **Recurrent Epitaxis** | 7 | 9,5 |
| **Sex** | | |
| Male | 40 | 54 |
| Female | 34 | 46 |
| **Ages** | | |
| 5-17 y.o. | 19 | 26 |
| 18-45 y.o. | 15 | 20 |
| >45 y.o. | 40 | 54 |
| **Causes** | | |
| Primary/Idiopathic | 31 | 42 |
| Secondary | | |
| a. Local | | |
| Trauma | 3 | 4 |
| Infection | 4 | 5 |
| Neoplasm | 1 | 1,4 |
| Anatomic Deformities | 1 | 1,4 |
| b. Systemic | | |
| Hypertension | 33 | 45 |
| Drugs | 1 | 1,4 |
| **Complications** | | |
| Hypotension | 2 | 2,7 |
| Anemia | 27 | 36,5 |



Source: data processed

**Figure 2**
**Results**

(6) The clinician should perform anterior rhinoscopy to identify a source of bleeding after removal of any blood clot (if present) for patients with nosebleeds; (7a) The clinician should perform, or should refer to a clinician who can perform, nasal endoscopy to identify the site of bleeding and guide further management in patients with recurrent nasal bleeding, despite prior treatment with packing or cautery, or with recurrent unilateral nasal bleeding; (8) The clinician should treat patients with an identified site of bleeding with an appropriate intervention, which may include one or more of the following: topical vasoconstrictors, nasal cautery, and moisturizing or lubricating agents; (9) When nasal cautery is chosen for treatment, the clinician should anesthetize the bleeding site and restrict application of cautery only to the active or suspected site(s) of bleeding; (10) The clinician should evaluate, or refer to a clinician who can evaluate, candidacy for surgical arterial ligation or endovascular embolization for patients with persistent or recurrent bleeding not controlled by packing or nasal cauterization; (11) In the absence of life-threatening bleeding, the clinician should initiate first-line treatments prior to transfusion, reversal of anticoagulation, or withdrawal of anticoagulation/antiplatelet medications for patients using these medications; (12) The clinician should assess, or refer to a specialist who can assess, the presence of nasal telangiectasias and/or oral mucosal telangiectasias in patients who have a history of recurrent bilateral nosebleeds or a family history of recurrent nosebleeds to diagnose hereditary hemorrhagic telangiectasia syndrome; (13) The clinician should educate patients with nosebleeds and their caregivers about preventive measures for nosebleeds, home treatment for nosebleeds, and indications to seek additional medical care; and (14) The clinician or designee should document the outcome of intervention within 30 days or document transition of care in patients who had a nosebleed treated with nonresorbable packing, surgery, or arterial ligation/embolization.

Patients with epitaxis more common in the age group >45 years. n our study, peak incidence of epistaxis was noted among the pediatric age group less than 10 years of age and it was again observed among those above 60 years of age. The increased incidence in the pediatric age population in our setting may be due to the fact that they are more prone to digital manipulation or nose picking, and are also often victims of trauma such as minor falls. A rise in the old age group was also seen and may be attributed to factors such as hypertension and poor blood pressure control.

## CONCLUSION

The research's results showed that there are 74 epitaxis patients with 7 patients experiencing recurrent epitaxis, 2 patients with hypotension and 27 patients with anemia. The

incidence in male is higher than female. Patients with epitaxis more common in the age group >45 years. The most common cause of epitaxis patient in Sumedang Regional Public Hospital is hypertension which belong to systemic cause. Patients with long standing hypertension usually have chronic vessel damage. It is at risk of epitaxis especially in the abnormal rise in blood pressure. Beside that, epitaxis patients with hypertension have recurrent hemorrhages in the nasal passages that are rich in autonomic innervation of the mid-posterior , intermediate and inferior parts. I suggest more and deeper studies to continue to expand the knowledge of these hemorrhagic events.

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