Epistaxis; Review of Causes and Management in Kirkuk City

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Abstract:

***Background*:** Epistaxis, or bleeding from the nose, is a common complaint. It is rarely life threatening but may cause significant concern. Most nose bleeds are benign, self-limiting, and spontaneous, but some can be recurrent. Many uncommon causes are also noted.
Causes of epistaxis involve; local causes a systemic causes.
Management options include; medical treatment, nasal packing, cautery (chemical and electrical), embolization, arterial ligation and surgery.
Objectives: To determine the causes of epistaxis in different sexes and different age groups and to know the ways of management of epistaxis in these cases.
Patients and methods: A cross sectional study was conducted at Azadi teaching hospital and Kirkuk General Hospital in Kirkuk city from (5/1/2014 to9/3 /2015).The total number of 200 cases chosen randomly and the data was collected by interviewing with the patients in the hospital by a special questionnaire contained following questions:
Name, age, sex , occupation , date , duration of the bleeding , cause of the bleeding , site of the bleeding and treatment method where we tried a simple handmade posterior pack for those cases of posterior bleeding .
Results and discussion: The overall result of our study which included 200 cases (116 males and 84 females) (56%) of the patients who had epistaxis were due to idiopathic causes, inflammatory reaction: (12%), trauma to nose: (10%), hypertension: (6.5%), hereditary haemorrhagic talangiectasia: (3%), nasal tumor: (2.5%), nose picking: (2%), drugs (aspirin): (2%), hemophilia: (1%), renal failure: (1%),Von willebrand disease: (0.5%).
Conclusion and Recommendation: Epistaxis occurs due to different local and systemic causes and it affects all age groups and both sexes, with males more than females. Non-surgical treatment is still useful to arrest nasal bleeding, safe and cost effective and a handmade balloon from simple available hospital materials proved to be very effective in controlling epistaxis especially posterior bleeding..
Epistaxes don't have risk on life, but should not be neglected especially in case of recurrent bleeding, and patients should visit doctor for proper diagnosis and treatment.
***Keyword*:** Epistaxis, Nose, Hemorrhage.

Introduction:

Epistaxis, or bleeding from the nose, is a common complaint. It is rarely life threatening but may cause significant concern [(1)]. Most nosebleeds are benign, self-limiting, and spontaneous, but some can be recurrent. Many uncommon causes are also noted.

Etiology:

Nasal bleeding can conveniently be divided into anterior and posterior epistaxis. Anterior bleeds come out the front of the nose, whereas posterior bleeds run down the back of the nose into the pharynx. Roughly (90%) of cases of epistaxis can be classified as anterior. The common sites of anterior bleeding include the anterior aspect of

the nasal septum, anterior edge of the inferior turbinate and the anterior ethmoid sinus. Among them, the anterior aspect of the nasal septum is the single most common site, where sometimes referred to as Kisselbach's plexus (Little's area). Kisselbach's plexus contains a rich capillary blood supply that is at the confluence of four different arterial blood supplies, which are sphenopalatine artery, greater palatine artery, superior labial artery, and anterior ethmoid artery [1, 2].

Posterior epistaxis typically arises from vessels on the posterior septum, on the floor of the nose in the posterior choana, or from the back of the middle or inferior turbinate. The area at the back of the inferior turbinate is specified as Woodruff's plexus [3, 4].

It is easy to injure nasal mucosa and generate epistaxis, as it is rich with blood vessels just underneath mucosa. A number of factors and conditions contribute to the development, severity and recurrence of epistaxis [4, 5, 6].

Causes of epistaxis:

Local causes:

- Trauma to nose may be iatrogenic or external force.
- Deviated septum
- Inflammation
  - Rhinitis
  - Sinusitis
  - Autoimmune disorders
  - Environmental irritants
- Tumors in the nose:
  - Benign
    - Inverted papilloma
    - Juvenile nasopharyngeal angiofibroma
  - Malignant
    - Nasopharyn geal carcinoma
    - Esthesioneuroblastoma

Systemic causes:

- Hypertension.
- Coagulopathy like Hemophilia and thrombocytopenia.
- Renal failure.
- Chemotherapy for cancer or other diseases.
- Medication-related like aspirin or heparin.
- Hereditary Hemorrhagic Telangiectasia. [7, 8, 9, 10, 11, 12, 13]

Management options:

- Nasal packing
  - Traditional anterior pack
  - Nasal sponges
  - Gelfoam
  - Traditional posterior pack
  - Nasal balloon
- Cautery
  - Silver nitrate
  - Electrical cautery
- Embolization
- Arterial ligation
  - Transantral ligation of the internal maxillary artery
  - External ligation of the ethmoid arteries
  - Endoscopic ligation of the sphenopalatine artery
- Surgery
  - Septoplasty
  - Septal dermoplasty [8]

Patients and methods:

A cross sectional study was conducted at Azadi Teaching Hospital and Kirkuk General Hospital in Kirkuk city from (5th of january 2014) to (9th of March 2015) to estimate the causes and ways of management of epistaxis. The total numbers of 200 cases chosen randomly and the data was collected by interviewing with the patients in the hospital by a special questionnaire. The questionnaire was contained a number of questions including:

Name, age, sex, occupation, date, duration of the bleeding, cause of the bleeding, site of the bleeding and

treatment method and we made use of this opportunity to try a simple handmade posterior pack for those cases of posterior bleeding from some usually available items in any medical unit like disposable gloves, scissor, blade, 2 cc syringe, IV giving set and bandage and these materials are used to assemble a handmade balloon (figures1, 2, 3& 4).

The balloon was inserted into nose filled with normal saline gently until bleeding stopped and the usual amount was 10-15 cc after that the bandage is fixed around the patient`s head stay there for 72 hours and removed.

Aims of This Study:

- To determine the causes of epistaxis in different sexes and different age groups.
- To know the ways of management of epistaxis in these cases.

Figure (1)

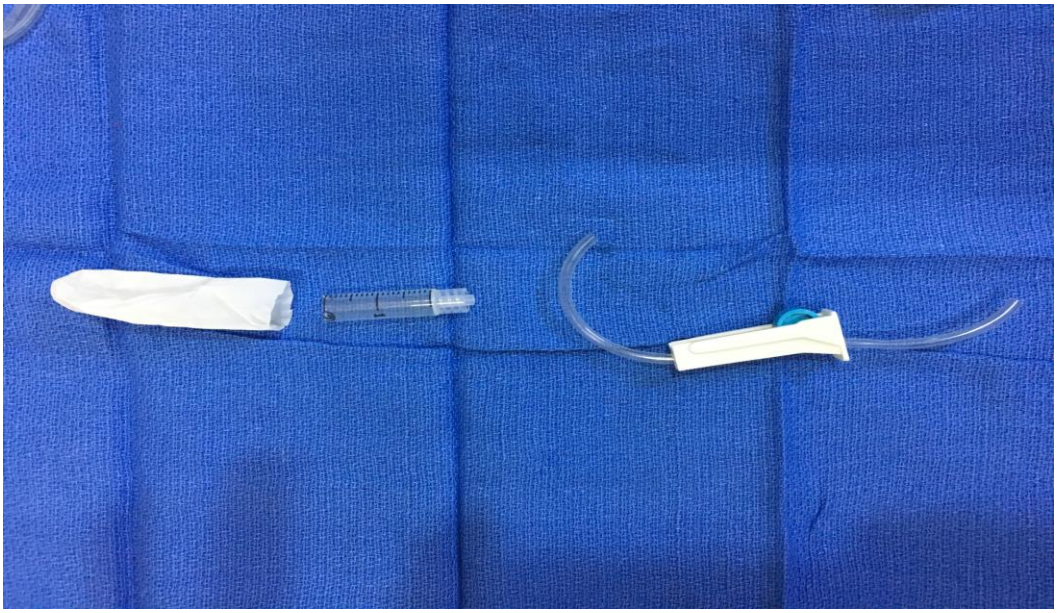

Figure (2)

Figure (3)

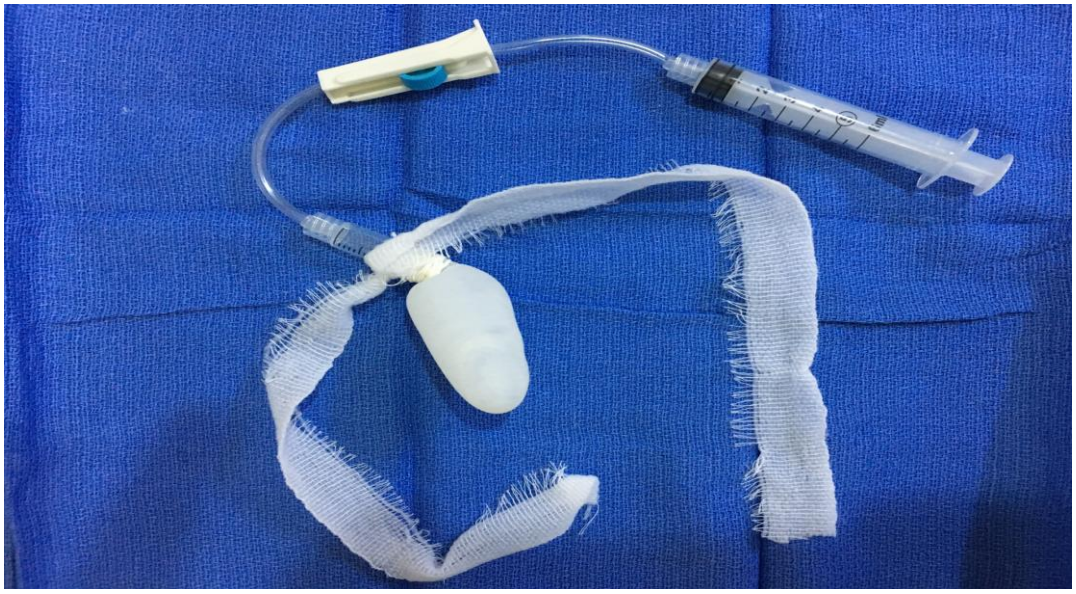

Figure (4)

Results:

The result of our study which included 200 cases (116 males and 84 females) where as follow:

-We found that (56%) of the cases where idiopathic (unknown).

And (12%) of the cases where due to inflammatory reaction such as acute upper respiratory infection, allergic rhinitis, sinusitis.

Traumatic causes where 10% of the cases

Patients with hypertension comprise (6.5%).

-The percentage of the males, which is (58% of the study sample), was higher

than the female which is (42% of the study sample) with the largest age group was (11-20) years old.

We found that most causes of epistaxis are present in both sexes in different proportions.

-We found that the percentage of the causes differs in different age groups but in most of them the highest percentage of the causes is idiopathic except the age group (51-60 years)

Where the highest percentage of causes was hypertension in this age group.

We found that in cases of idiopathic epistaxis (54%) of the patients did not attend the hospital or visit centers for treatment of the epistaxis from the first attack, they treat it at home by applying pressure or cold water and they came to hospital after recurrent bleeding.

While in the other causes the patient visited the hospital at first and where treated by different methods according to severity and the cause of the epistaxis.

Actually two cases needed surgical interference but the patients relatives wanted referral and they were excluded from the study as the was not conducted in our hospital.

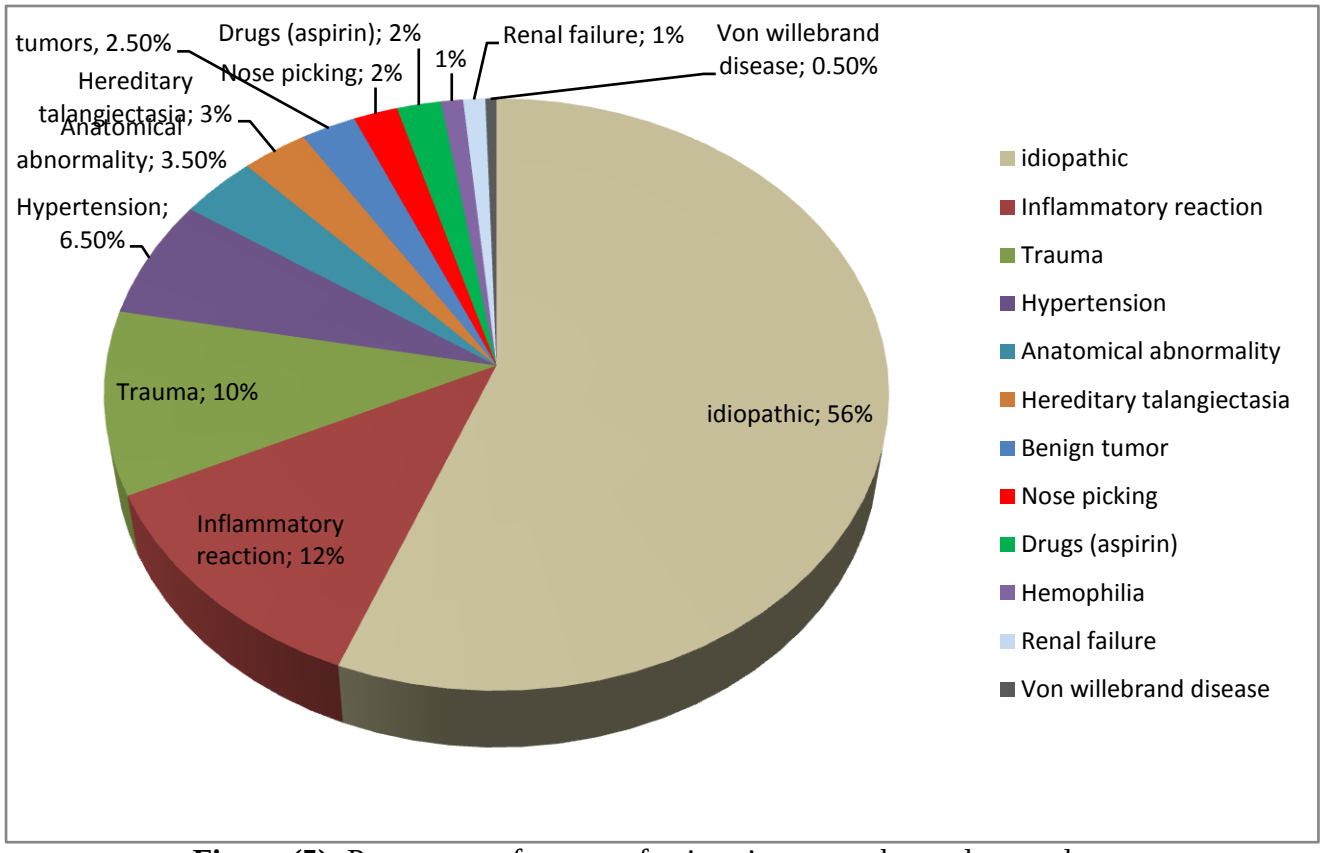

Figure (5): Percentage of causes of epistaxis among the study sample.

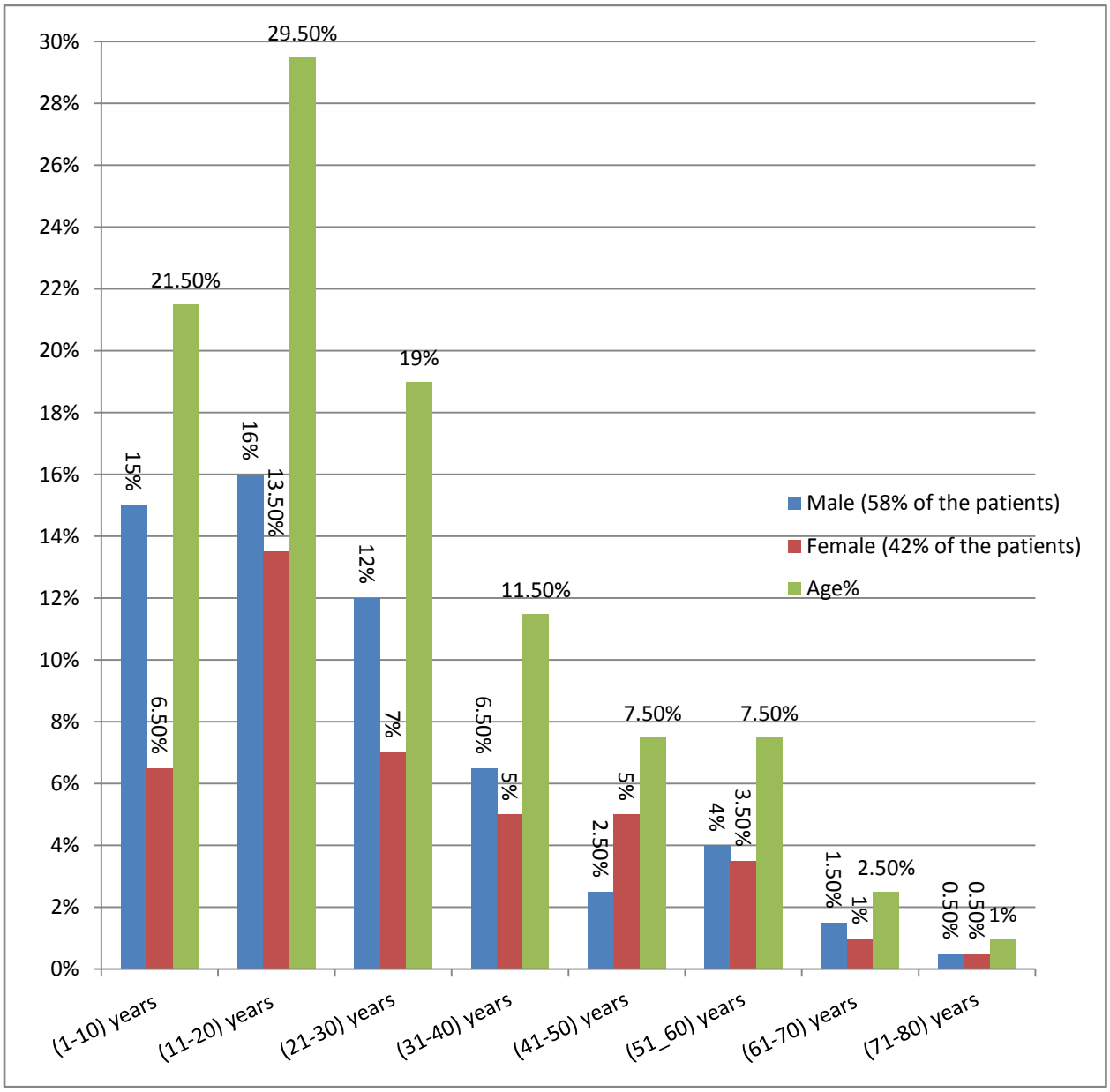

Figure (6): Percentage of age and sex among the study sample.

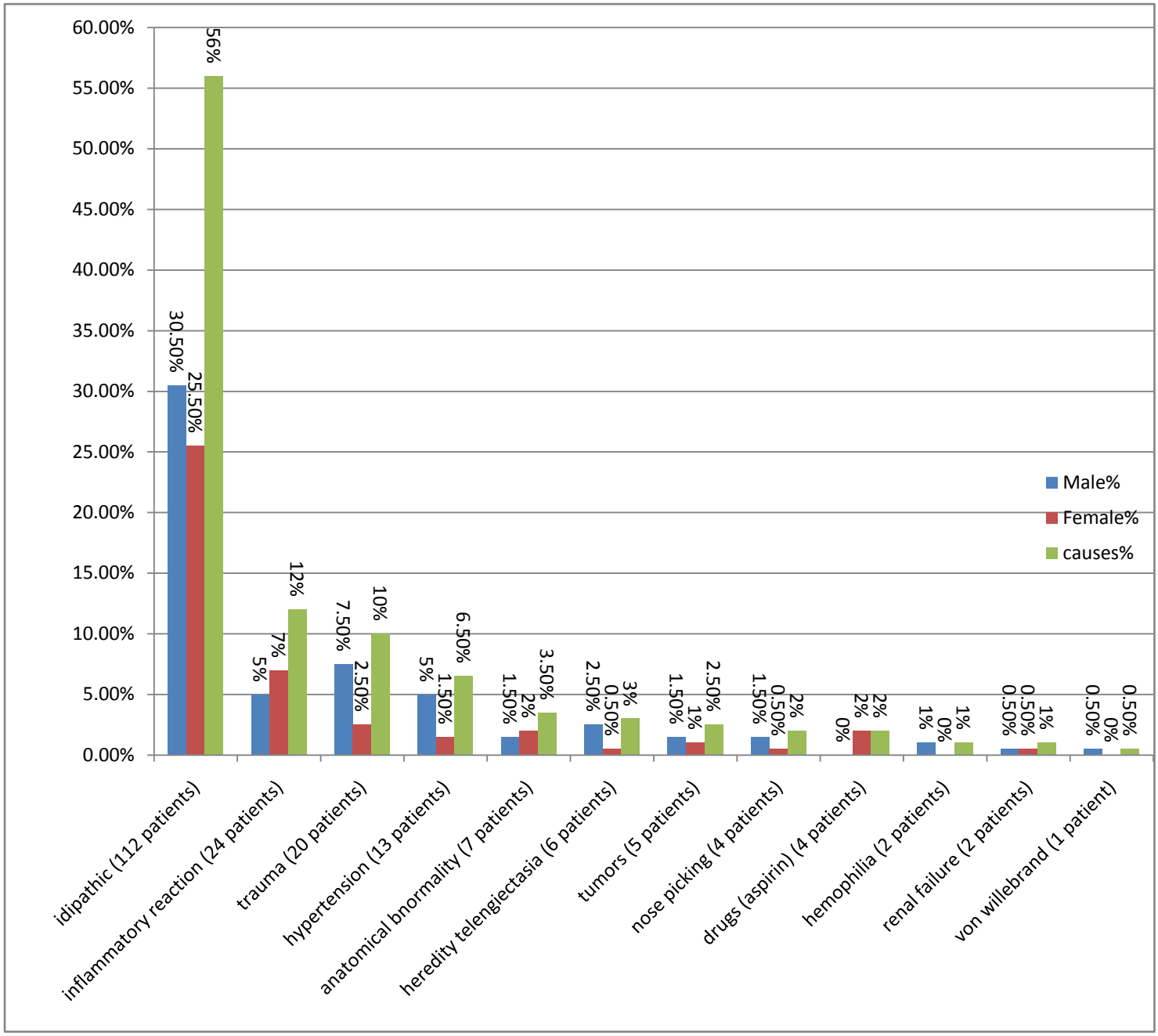

Figure (7): Causes of epistaxis in both sexes among the study sample.

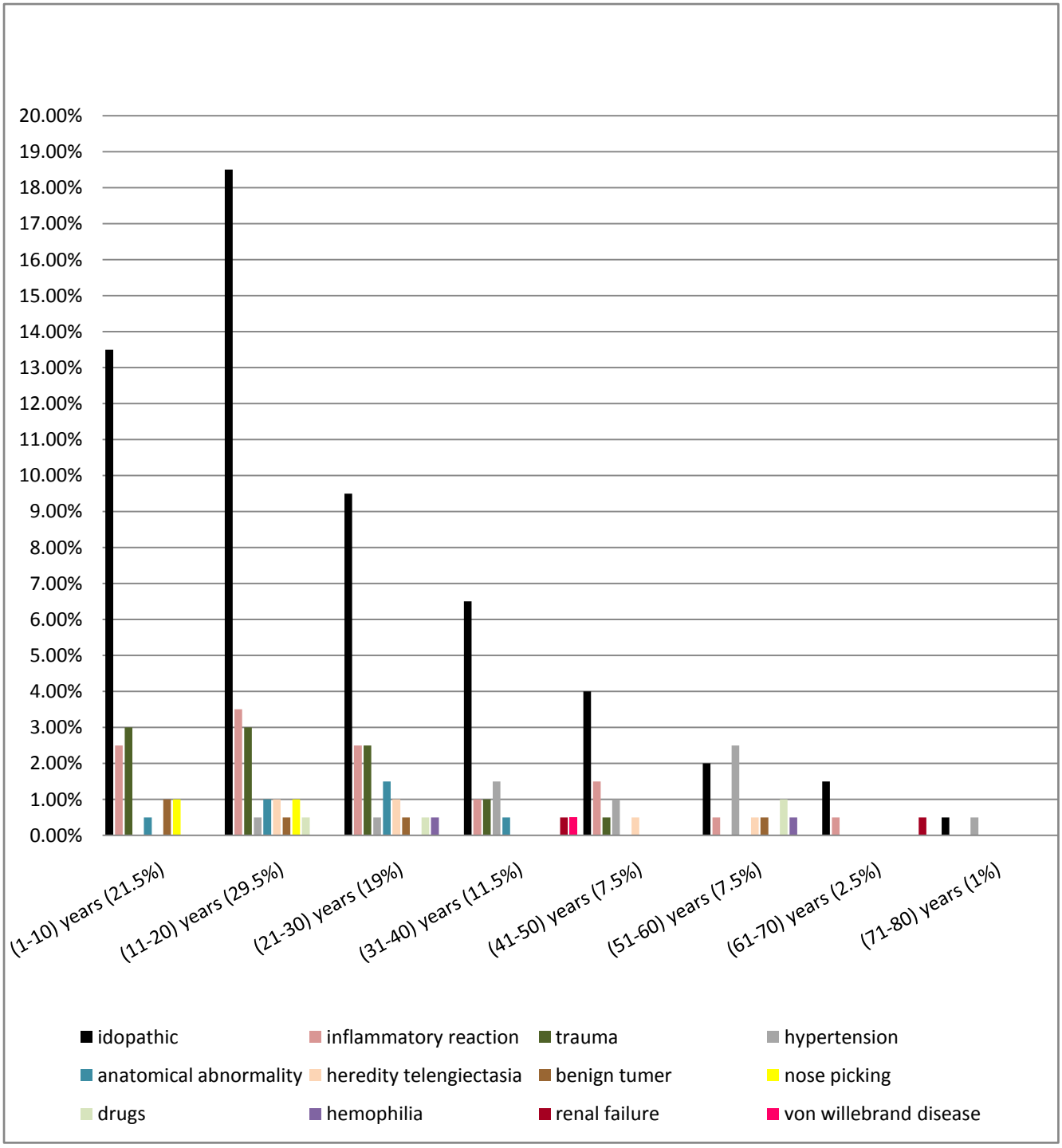

Figure (8): Causes of epistaxis in different age groups among the study sample.

Table (1): Method of management of epistaxis according to cause.

Causes	Method of management					
	Applying pressure%	Medical %	Chemical cautery %	Diathermy Cautery %	Anterior packing%	Posterior packing%
Idiopathic	58	16	7	10	9	none
Inflammatory reaction	17	67	8	8	none	none
Trauma to nose	25	10	10	5	45	5
Hypertension	30	30	none	8	24	8
Anatomical abnormality	72	14	14	none	none	none
Heredity telengiectasia	none	83	none	17	none	none
tumor	none	40	none	none	40	20
Nose picking	none	100	none	none	none	none
Drugs (aspirin)	25	25	none	none	none	50
Hemophilia	none	none	none	none	100	none
Renal failure	none	100	none	none	none	none
Von willebrand disease	none	none	none	none	100	none

Discussion:

Although epistaxis is a common otorhino-laryngological emergency, but in many situations are self-limiting and spontaneous arrest of bleeding may occur and so may not need any medical or surgical intervention to stop the bleeding.

-We found that (56%) of the cases where idiopathic (unknown) may be caused by exposure to sunlight to cold weather as they causes dryness in the nasal mucosa or other undiagnosed causes. Findings in most western literature, sites idiopathic causes as the commonest. [14, 15, 16]

And (12%) of the cases where due to inflammatory reaction such as acute upper respiratory infection, allergic rhinitis, chronic rhinosinusitis was the second cause of epistaxis in this report. Congestion of the nasal mucosa with or without formation of crusts predisposes to epistaxis. Most of these patients do well on medical treatment.

Traumatic causes were (10%) of the cases because of trauma to nose due to falling or road traffic accident and hypertension comprise (6.5%) particularly in patient with uncontrolled hypertension or in those who stopped treatment . Varsney and Saxena in Dehradun India recorded hypertension as the second commonest cause of epistaxis after idiopathic causes [17] while Chaiyasate et al reported hypertension to be the commonest cause of epistaxis followed by idiopathic causes in the Chiang Mai University Hospital Thailand [18].

The possibility of epistaxis as a result of underlying neoplasm must always be borne in mind particularly from sinonasal and nasopharyngeal region as well as hematological malignancies such as leukemias [19].

We found that epistaxis does not occur in certain age group but it occurs in different age groups in different proportion, but the largest age group was (11-20) years old and the percentage of the males, which is (58% of the study sample), was higher than the female, which is (42% of the study sample). [16, 17, 18]

We found that most causes of epistaxis are present in both sexes in different proportions.

We found that the percentage of the causes differs in different age groups but in most of them the highest percentage of the causes is idiopathic except the age group (51-60 years).
Where the highest percentage of causes was hypertension in this age group.
In cases of idiopathic epistaxis (54%) of the patients did not attend the hospital or visit centers for treatment of the epistaxis from the first attack, they treat it at home by applying pressure or cold water and they came to hospital after recurrent bleeding. while in the other causes the patient visited the hospital and were treated by different methods according to severity and the cause of the epistaxis.
Among the different ways for control of epistaxis from the simple packing to more sophisticated procedures like endoscopic ligation for artery, embolization, supraselective embolization, coblation and even brackytherapy [20, 21, 22, 23].
We looked for a simpler way for controlling posterior epistaxis by a handmade balloon as our hospitals are somewhat deficit in those equipments needed in this situation although Foley's catheter remains a good choice but it needs anterior packing and using a gauze pack requires general anesthesia while the materials needed to make this balloon is usually available in any hospital and takes few minutes to assemble and works as anterior and posterior pack left in place for 72 hours and removed very easily with no side effects but some pain as in all nasal packs managed by analgesic drugs.

Conclusions:

1-We concluded that epistaxis affects different age groups and both sexes, with males more than females.

2-Epistaxis occurs due to different causes local and systemic.

3-In (56%) of the cases the cause cannot be identified.

4-Some of the cases can be treated at home without the need to hospital; others who fail to stop bleed come to hospital for proper treatment.

5-Different ways of management are applied to treat epistaxis in different causes.

6- A hand-made balloon from simple available hospital materials proved to be very effective in the controlling of the epistaxis, especially for the posterior bleeding.

7- Recurrens of epistaxis is not uncommon and may indicate underlying cause.

Recommendation:

1-Epistaxis does not have risk on life, but should not be neglected especially in case of reoccurrence, and patients should visit doctor for proper diagnosis and treatment.
2-Avoid nose picking or rough nose blowing to avoid damage to the mucosa and avoid long standing in hot or cold weather.
3-Wearing helmets in case of riding motor cycle to avoid head and nose injury.

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