Relation between Epistaxis and Hematological- Disorders

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Abstract

Epistaxis is common problem both in children and adult (7,98%) of total ENT cases. 124 patients from both sexes with epistaxis were studied prospectively, patients divided in to three age groups; The first age group : 1/childhood(1 to 15 yrs). Second age group: 2/young adult (16 to 45 yrs); Third age group : 3/old adult(more than 46 yrs). Each patients with epistaxis assessed by the following 1/history taking 2/physical examination 3/lab. investigations 4/some cases image. The study showed that mild epistaxis is more common than sever (mild/72.6%) (sever/27.4%), mean while epistaxis mainly in pediatric age group than other age group (pediatric/62.1%), (young/17.7) (old/20.2). Hematological disorders presented in (22,6%) the main hematological disorders (aplastic anemia, idiopathic thrombocytopenia purpura, acute leukemia, polycythemia, patient on anticoagulant).

Conclusion: hematological disorders must be considered in diagnosis and treatment of epistaxis, (22.6%) of total cases in this study.

Introduction

The prevalence of epistaxis is 10-12% and the age distribution between (15-25), (45-65) years. The anterior epistaxis is more common in children and young adult, whereas posterior epistaxis is more common in elderly.

The causes of epistaxis are classified into:

Local causes.

Systemic causes, one of the main systemic causes is the hematological – disorders (1).

These disorders are characterized clinically by spontaneous or become evident after some incinity event (e.g. Trauma or surgery) abnormal- bleeding may have as its cause:

Defect in the vessel wall.

Platelet deficiency or dysfunction.

Plasma clotting factors deficiency (2).

Clinical- manifestation of bleeding disorder can be divided into two groups:

Superficial bleeding, which is usually associated with platelet defect or vascular disorder e.g. epistaxis, petechiae (<3mm) or gingival bleeding.

Deep bleeding which associated with plasma clotting factor deficiencies e.g. hematoma or hemarthrosis. (3).

Causes of bleeding disorders:

I. Vascular disorders:- these include:

a. 1-Hereditary vascular disorders: "Hereditary hemorrhagic telangictasia:.

a.2- Hemangioma- thrombo cytopenia syndrome (Ehlers-Danlos syndrom.).

b.Acquired vascular disorders:

b. 1-Allargic purpura (Henoch- scho.-nlein purpura).

b.2- Senile purpura.

b. 3- Drug- induced purpura: e.g. sulfonamide, iodides.

b. 4- Vitamin C deficiency (scurvy).

b. 5- Paraproteinemia and amyloidosis.

c.Purpura of unknown origin:

C. 1- Easy bruisability.

C. 2- Psychogenic purpura.

II.platelet disorders:

a.reduction of platelet count (Thrombocytopenia) normal plate count is 140-400x 10L cc, thrombocytopenia count < 100,0001cc.

causes of thrombocytopenia:

1.Acute leukemia.

2.A plastic anemia.

3.Cytotoxic drugs.

4.Marrow infiltration by malignant growth.

b.Increase platelet consumption with normal, platelet count, caused by:

1.Idiopathic thrombocytopenia purpura (ITP).

2.Drug-induced purpura.

3.Hypersplenism.

4.Disseminated intrasvascular coagulation (DIC).

c.functional-platelet disorders:

c.a- inherited disorders:

1.Glanzman's disease: normal platelet count, morphology with dysfunction.

2.Bernard soulier syndromes:- a moderate reduced platelet with giant platelet and defective function.

c.b-drug induced platelet dysfunction e.g. aspirin –NSAIDS.

III.coagulative disorders:

1-Inherited:

a.Hemophilia: factor VIII deficiency.

b.Hemophilia B: (christmus disease): sex linked disease characterized by factor IX deficiency.

c.Von willebrand disease autosomal inherited.

d.Disorder due to VW factor defiency.

2-Acquired

a.Disseminated intravascular coagulation (DIC).

bLiver disorders.

c.Massive transfusion.

d..Anticoagulant drugs.

Basic screening test for hemostasis:

1-Platelet count: 140.000-400.000/ cc.

2-Bleeding time: 1.5-5 minutes prolonged in vascular disorder and thrombocytopenia.

3-Prothrombine time: useful for factor VII. Other clotting factors including: X-V-II-I

4-Partial thromboplastin time (PTT) useful for factor VIII-IX-XI-XII(4, 5, 6, 7).

Aim of study: To detect the percentage of hematological disorders among the patients with epistaxis.

Patients and methods

Over a period lasting from Feburury 2010 to July 2011, a 124 patients from both sex with epistaxis were studied prospectively at Salahudeen governorate, the patients divided into:

1.Childhood: 1-15 years (77patients, 62%).

2.Young adult: 16-45 years (22patients, 18%).

3.Old adult: ≥ 46 years (25patients, 20%).

Each patient with epistaxis assessed by the following:

1.History taking:

- Systemic disorders: anemia, HT, DM.
- Drugs: anticoagulant.
- Family history.
- Other site of bleeding, Gum, hematuria, Menorrhagia.

2.Physical- examination

3.Laboratory investigation:

- CBC: Hb, WBC, platelets count.
- Blood film.
- Hemostasis screening test.

1.Bleeding time.

2.Clotting time.

3.Prothrombin time.

4.Partial thromboplastin time.

- Bone marrow aspirate/ biopsy if necessary.
- Biochemical – test.

1.Renal function test.

2.Liver function test.

After evaluation of each patient by the mentioned parameters epistaxis classified into:

1.Mild epistaxis.

2.Sever epistaxis.

Results

A 124 patients from both sexes with epistaxis are included in this study. Seventy seven (62%) of these patients was male (♂ > ♀).

It has been shown that mild epistaxis was most common form in all age group and represent the of 72.6% (90 patients) of total number and sever epistaxis response for remaining 27.4% (34 patients), table(1), pediatric age group (1-15 years) were shown to be the most common age group presented with epistaxis 77 patients of total no. 62% followed by old adult group (25 patients of total no. 20.2%).

Whereas, the young adult group had been showed to be the less common age group presented with epistaxis (22 patients of total no. 17.7%),table(2). Mild epistaxis in pediatric age group was the most common form 53 patient out of 77 patients (68.8%), while sever epistaxis presented in (24 patients, 31.2%).

History taking, physical-examination and Labaratory investigation with or without radiological evaluation showed most cases of epistaxis both mild and sever caused by other disorders and seen in (96 of total no. 77.4%).

The remaining 28 patients (22.6%) showed to have an underlying hematological disorders and mostly (aplastic anemia, Idiopathic thrombocytopenia purpura, acute leukemia, polycythemia hemophilia, or anticoagulant e.g. aspirin), table (3).

Regarding mild epistaxis, found in most of children (53 patients, 68.8%), fourty nine of them (92.5%) of other-cause while the remaining (7.5%) showed to have an associated hematological disorders.

Sever epistaxis, seen in 24 patients of pediatric age group (31.2%).

Twenty one of them (87.5%) have associated other disorders while three patients of them showed an associated underlying Hematological disorder (12.5%), table(4).

In young adult group (16-45 years) mild epistaxis seen in most of the patients (14 patients, 63.6%), while sever epistaxis seen in remaining 8 patients (36.4%).

It has been showed that most of cases of both mild and sever epistaxis arise from other problems (12 patients, 85%) and (8 patients 62%) respectively in young adult age group.

An associated hematological disorders that seen in young adult group for mild and sever epistaxis found in two patients (14.3%), and three patients (37.5%), respectively, table (5).

In old adult group, also mild epistaxis had been shown to be most common (16 patients out of 25 patients 64%) and sever epistaxis in 9 patients (36%).

In the same age group that most cases of mild epistaxis arise from other causes (9 patients, 69.2%), rather than an underlying hematological disorders (4 patients 30.8).

Although slight elevation of percent of those presented with sever epistaxis, due to underlying hematological disorders (5 patients out of 12 patients, 41.7%), while other problems presented in most of the patients (7 patients out of 12 patients, 58.3%), table (6).

Discussion

It has been found that the most common cause of nasal bleeding bleeds is injury from picking or blowing the nose(8), Andrew etal at 2008 have been showed that epistaxis due to local irritation is often a main factor and these bleeds are usually a little easier to control, These followed by facial trauma, foreign body, nasal or sinus infection. less is common respiratory allergies, e.g: hay fever, chemical irritation aerosols, cocaine. Other hematological disorders can cause nasal bleeding e.g: Leukemia or anticoagulant drugs (aspirin), high blood pressure and liver disease e.g: liver cirrhosis, thrombocytopenia, platelets disorders and coagulopathy(10). Although bleeding tendencies, ((Hemophillia) can control but epistaxis spontonously or after minor truma, posterior epistaxis is generally more sever (9) Mohamed A. *et al*, 2007 showed that epistaxis more common in male (69,7%) ,mean while the main cause of epistaxis is the idiopathic (31,1%), truma (25,2%), bleeding disorders (17,1)(10). Garcia CF 1998 demonstrated that in mild epistaxis just (10,3%) associated with blood anomaly ,while in sever epistaxis may reaches to (57,9%), (11). Randall DA shows that epistaxis mainly occurs in extreme ages (12). In our study hematological disorders presented (22,6%) of total epistaxis cases. In pediatric age group (7,5%) of mild episaxis presented with blood disorders, (12,5) in sever cases. In young adult (14,3) in mild, (37,5) in sever. In old adult (30,8) in mild , (41,7) in sever cases.

Conclusion: mild epistaxis is more common than sever epistaxis, the percentage of hematological disorders increase with age reach maximum in elderly.

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Table (1) severity of epistaxis

Epistaxis	No	%
Mild	90	72.6
sever	34	27.4
	124	100

Table (2) the incidence pf epistaxis in 3 age groups

Age group	No	%
1-15 y	77	62.1
16-45	22	17.7
> 45	25	20.2
Total	124	100

Table (3) shows the percentage of hematological disorders to other causes of epistaxis.

Causes	No	%
Other disorders	96	77.4
Hematological	28	22.6
Total	124	100

Table (4) pediatric age group

	no	%	Hemato		Others	
Mild	53	68.8	4	7.5	49	92.5
Sever	24	31.2	3	12.5	21	87.5
Total	77		7		70	

Table (5) young adult

			others		Hemato	
Mild	14	63.6	12	85.7	2	14.3
Sever	8	36.4	5	62.5	3	37.5
Total			17		5	

Table (6) old adult (≥ 46y)

	no	%	Others		Hemato	
Mild	13	52	9	69.2	4	30.8
Sever	12	48	7	58.3	5	41.7
Total	25		16		9	