

STUDY OF EPISTAXIS IN CHILDREN OF SOUTH KARNATAKA AT DIFFERENT AGE GROUP

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ABSTRACT

Background: The underlying mechanisms contributing to epistaxis susceptibility remain largely unknown. Hence, apart from its etiology and prevention strategies, it has to be ruled out. **Materials and Methods:** 75 (seventy-five) children are classified into three groups: group A—20 (2 to < 5 years), group B—30 (5 to < 12 years), and group C—25 (12 to 18 years). Blood examinations include CBC, CT, BT, and PT. Anterior rhinoscopy/diagnostic nasal endoscopy was carried out. **Result:** 31 (41.3%) trauma, 11 (14.6%) idiopathic, 10 (13.3%) inflammation, 4 (5.33%) tumors, 4 (5.33%) foreign bodies, and 15 (20%) blood dyscrasias were noted. Treatment modalities were 29 (38.6%) medication observation, 22 (29.3%) ANP, 11 (14.6%) ANP+Foley's catheter balloon tamponade, 8 (10.6%) surgeries, 2 (2.66%) cauterization with electrocautery, 1 (1.3%) multiple procedures, site of bleeding were 36 (48%) little's area, 21 (28%) not ascertained, 10 (13.3%) lateral nasal area, 8 (10.6%) diffuse. **Conclusion:** Most common cause is idiopathic, most common area of epistaxis is little's area. In every case of ENT examination, it is mandatory to rule out pathology or foreign bodies. Prevention strategies play an important role in controlling epistaxis.

INTRODUCTION

Epistaxis is defined as acute haemorrhage from the nostril, nasal cavity or nasopharynx. Incidence of epistaxis 30% in children younger than 5 years and greater than 50% in children older than 5 years.^[1] While most episodes are self limited and resolve without medical intervention, recurrent episodes of epistaxis can significantly affect the quality of life for children and their parents or guardians. The underlying mechanism contributing to epistaxis susceptibility remains largely unknown, making it challenging to develop effective prevention strategies.^[2]

Seasonal variations in epistaxis incidence have long been observed, with fluctuations in humidity and temperature linked with changes in the mucosa of the Kiesselbach's plexus, thereby influencing the frequency of epistaxis.^[3] As awareness of climate change and its effects on human health continue to rise, an expanding body of research is investigating the connections between meteorological factors and incidence of epistaxis.^[4] Hence an attempt is made to evaluate the patterns and aetiologies of epistaxis in children of different age group.

MATERIALS AND METHODS

75 (seventy-five) children regularly visited the pediatric department of Oxford Medical College, Hospital and Research Centre, Yadavanahalli, Bangalore-562107 were studied.

Inclusion Criteria

Children 2 to 18 years visiting the OPD (outpatient clinic) or emergency room of our casualty department with epistaxis. The parents or guardians who gave their consent for study in writing were selected.

Exclusion Criteria

Children with hypertension, hepatic or renal failure, rheumatic heart disease, collagen vascular disease, malignancy, or under medication contributing to bleeding tendency.

Method: Out of 75 patients, they were divided into three groups as per their age group A-20 patients, 2 years to <5 years, B group 30 patients 5 to <12 years, group C 25 patients 12 years to 18 years.

The clinical and socio-economical history of every patient was noted. Blood examination included CBC, CT, BT, PT, and anterior rhinoscopy/diagnostic nasal endoscopy was carried out.

The modalities of treatment were type-I observation and medication type-II anterior nasal packages (ANP), type-III ANP + Foley's catheter balloon

tamponade, type-IV surgery type-V, cauterization with electro cautery, and type-VI multiple procedures.

The duration of the study was from May 2023 to December 2025.

Statistical Analysis: Aetiology epistaxis in different age groups classification of option needed for management were classified with percentage. The statistical analysis was carried out using SPSS software. The ratio of male and female neonates was 2:1.

RESULTS

[Table 1] Study of aetiology of epistaxis in different age group of children

- Trauma: 10 group-A, 13 group-B, 8 group-C, and total 31.
- Idiopathic: 2 group-A, 5 group-B, 4 group-C, and Total 11.
- Inflammatory: 3 group-A, 4 group-B, 3 group-C, and Total 10.
- Tumours: 4 in group-C
- Foreign body: 2 group-B, 2 group-C, and Total 4.
- Blood dyscrasia: 5 group-A, 6 group-B, 4 group-C, and Total 15.

[Table 2] (A) Laterality of nasal bleed: 36 (48%) both side of the nostrils

(B) Site of Nasal bleed: 36 (48%) little's area, 21 (28%) not ascertained, 10 (13.3%) lateral nasal area, 8 (10.6%) diffuse.

[Table 3] Study of successful of option needed for different groups

- Medication (N=29): 10 group-A, 12 group-B, 7 group-C.
 - ANP (N=22): 6 group-A, 10 group-B, 6 group-C.
 - ANP+Foleys catheter temponade (N=11): 3 group-A, 3 group-B, 5 group-C.
 - Surgery (N=8): 2 group-B, 6 group-C.
 - Catheterization with electrocautery (N=2): 2 group-B
 - Multiple procedure (N=1): 1 in group-C.
- [Table 4] Successful management as per aetiology:
- Trauma (13): 17 in type-I, 8 in type-II, 5 in type-III, 1 in type-V.
 - Idiopathic (11): 3 in type-I, 3 in type-II, 3 in type-III, 2 in type-V.
 - Trauma (4): 4 in type-IV.
 - Blood dyscrasia (15): 4 in type-I, 7 in type-II, 3 in type-III, 1 in type-IV.

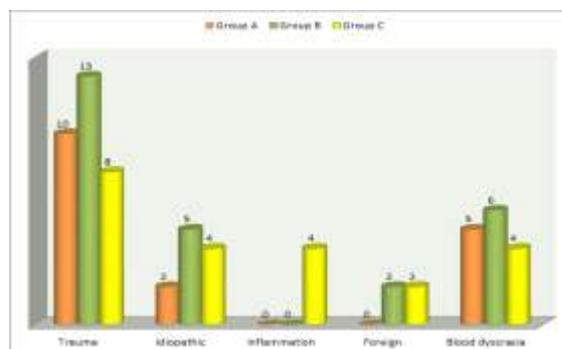


Figure 1: Study of Aetiology of epistaxis in different age groups of children

Table 1: Study of Aetiology of epistaxis in different age groups of children

Aetiology	Group A (20 patients)	Group B (30 patients)	Group C (25 patients)
Trauma No=31 (41.3%)	10	13	8
Idiopathic No=11 (13%)	2	5	4
Inflammation No=10 (13.3%)	--	--	4
Foreign N=4 (5.33%)	--	2	2
Blood dyscrasia N=15 (20%)	5	6	4

Table 2: ?

Laterality of Nasal bleed		
Side	Number of cases	Percentage (%)
Right	36	48
Left	25	33.3
Both	14	18.6
Total	75	99.9
Site of Nasal bleed		
Side	Number of cases	Percentage (%)
Little's area	36	48
Not ascertained	21	28
Lateral Nasal area	10	13.3
Diffusc	8	10.6
Total	75	99.9

Table 3: Study of successful management of option needed for different groups

Aetiology	Group A No=20	Group B No=30	Group C No=25
Observation Medication No=20 (38.6%)	10	12	7
Anterior Nasal packing (ANP) No=22 (29.3%)	6	10	6
ANP+Foleys catheter ballon tamponade No=11 (14.6%)	3	3	5
Surgery No=8 (10.6%)	--	2	6
Cauterization with electro cautery No=2 (2.6%)	--	2	--
Multiple procedure No=1 (1.33%)	--	--	1

(1=Multiple procedure included cauterization and electro cautery)

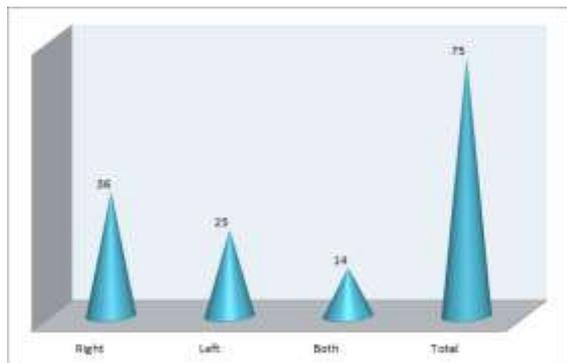


Figure 2: (A) Laterality of Nasal bleed

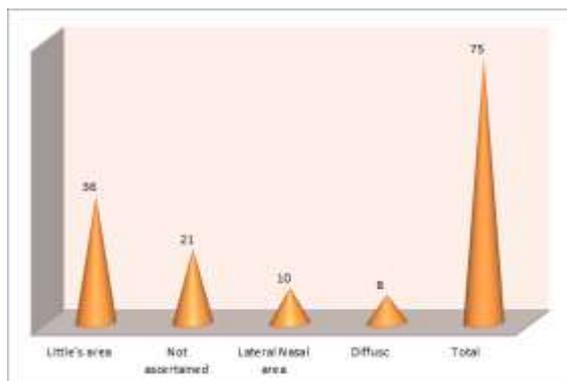


Figure 2: (B) Site of Nasal bleed

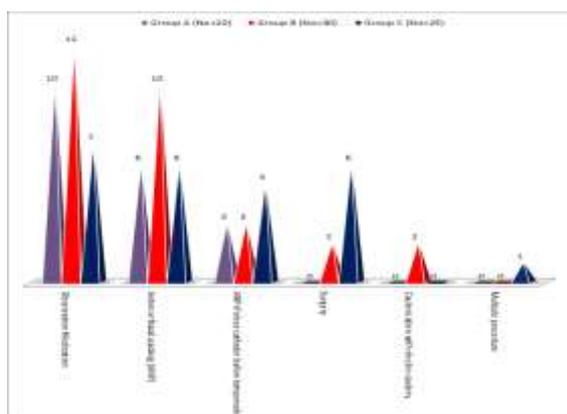


Figure 3: Study of successful management of option needed for different groups

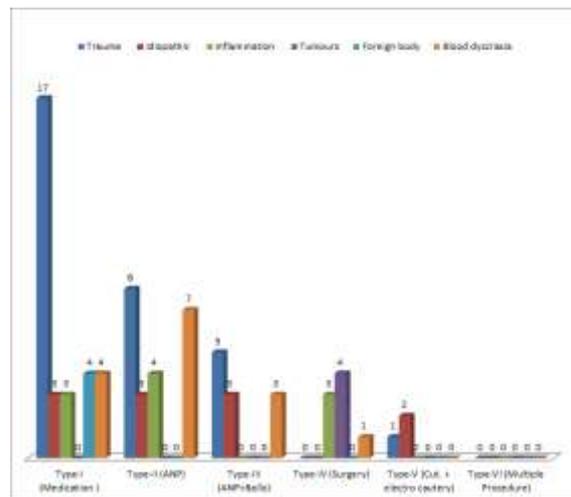


Figure 4: Successful management of as per aetiology

DISCUSSION

Present study of Epistaxis in children of South Karnataka different age groups were studied. In the study of the etiology of different age groups, 31 (41.3%) were traumatic, 11 (14.6%) were idiopathic, 10 (13.3%) were inflammatory, 4 (5.3%) were tumors, 4 (5.6%) were foreign bodies, and 15 (20%) were blood dyscrasia [Table 1]. In the study of successful management, 29 (39.6%) observations (medication), 22 (29.3%) ANP, 11 (14.6%) ANP+Foley's catheter balloon tamponade, 8 (10.6%) surgery, 2 (2.6%) cauterization with electro cautery, and 1 (1.33%) multiple procedures [Table 3]. Laterality of nasal bleeding was 36 (48%) right, 25 (33.3%) left, and 4 (18.6%) both nostrils. The site of nasal bleeding was 36 (48%) Little's area, 21 (28%) not ascertained, 10 (13.3%) lateral nasal area, and 8 (10.6%) diffuse [Table 2]. These findings are more or less in agreement with previous studies.^[5-7] Epistaxis in children is quite different from adult and posterior epistaxis; anticoagulants and blood pressure disorders are less seen in them. Children have a habit of nose-picking and often suffer from respiratory tract infections, finger nail trauma, and crust dislodgement by fingernails, which are common causes of repeated epistaxis in children.^[8] The goal of the treatment is hemostasis, a short hospital stay, a low complication rate, and cost-effectiveness. In the majority of cases, epistaxis responds to conservative treatment such as local pressure, vasoconstrictor drugs, and anterior and

posterior nasal packing. Epistaxis refractory to conservative treatment can be treated surgically.^[9] Recent studies suggested *Staphylococcus aureus* colonization of the nose leads to recurrent epistaxis in children.^[10] A study analyzing anterior nasal cavity samples reported that 68% of children have a positive culture of *S. aureus*. Chronic inflammation induced by the infection induces neovascularization, inducing crusts, which in turn induce pruritis, causing most patients, including children, to manipulate the vestibule in an attempt to extract the crust, thereby exacerbating the inflammation and local infection.^[11]

CONCLUSION

Children's epistaxis are usually benign and generally spontaneously stop at the time of emergency consultation. The pediatrician or physician has an important educational role to assure the family. Aetiologies and treatments vary with patients age and existence or not of active bleeding at the time of examination. Local treatments are usually easy to perform, but pediatricians or ENT surgeons have to ponder their indications depending on the complications present. This study demands further genetic, pathophysiological, environmental, and nutritional status studies in these patients because the exact

underlying mechanisms contributing to epistaxis susceptibility are still unclear.

Limitation of study: Owing to remote location of research centre, small number of patients lack of latest techniques we have limited finding and results.

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