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A Study on Posterior Epistaxis under Endoscopic Guidance

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ABSTRACT

Background: Epistaxis is one of the most common oto-laryngology emergencies. Accurate identification of the bleeding point is the key to efficient epistaxis management and reduces the need for more complex procedures, which can prolong hospital stays, increase patient morbidity, and place demands on hospital resources. **Methods**: A prospective observational study was done on 56 adult patients presenting with recurrent epistaxis from Feb 2021 to March 2023. They were evaluated through the use of an endoscope for the identification of bleeding points in the nasal cavity. Once the bleeding point was identified cauterised under local anesthesia. Then the patients were followed for 6 months to one year for any recurrence. The bleeding pattern in rare conditions like vicarious menstruation, and hereditary hemorrhagic telangiectasia is also mentioned. **Results**: Bleeding points in patients of 40 years and above were observed twice that of patients below 40 years in the posterosuperior quadrants of either septum or lateral wall. Comorbid conditions increase the prevalence of epistaxis from the septum 10 times whereas from the lateral wall 9 times (PR=9 to 10 times). **Conclusion**: As age advances, the posterosuperior quadrant of the septum and lateral wall should be examined for the search bleeding point. The anatomy of covert areas bleeding sites from the nasal cavity was well described e.g. 'S' point, middle meatus, inferior meatus. Rare presentation of epistaxis in vicarious menstruation and hereditary hemorrhagic telangiectasia was also described. Eletrothermocautery under local anesthesia is a simple, economical, successful and uncomplicated treatment method for posterior epistaxis.

KEYWORDS: Nasal cavity, Nasal septum, Telangiectasia, Turbinates

INTRODUCTION

Bleeding from the nose is called epistaxis which is both a sign and symptom and is benign and self-limiting in most of the affected individuals. Even though it is very common in the general population, severe and life-threatening epistaxis requiring immediate treatment is less common. [1] The commonest area of epistaxis is Little's area (kiesselblach's plexus) which is visible on routine anterior rhinoscopy examination on the anteroinferior part of the septum, it can be controlled easily. [2, 3] In earlier days posterior nasal packing was the treatment method for the epistaxis coming from posterior parts of the nasal cavity (other than Little's area) which was gradually replaced by Foley's catheterisation, and commercially available balloons. Before the advent of the nasal endoscope, it was regular dictum to put postnasal packs, Foley's catheter, etc. They are often done as blind procedures and also lead to Gram-negative septicemia and septic shock syndrome. [4] Bilateral nasal packing can result in impaired pressure equalization via the auditory (Eustachian) tube, leading to the patient's discomfort due to negative pressure in the middle ear. [5] Recurrent episodes of epistaxis may be triggered by improper packing and trauma to the deeper parts of the nasal cavity. [6] Complications like sinusitis, alar & columellar necrosis and scarring, septal perforations, hypoxia, hypercapnia, and cardiovascular accidents have been reported. [7, 8] Sometimes Foley catheters are undeflatable due to malfunctions in the catheter valve system. [9]

Control of bleeding sites in the deeper parts of the nasal cavity poses many challenges. Hence there is a need to study the common areas of bleeding and understand various pathologies in the covert of the nasal cavity. With the introduction of nasal endoscopy, the precise assessment of the bleeding site along with immediate cauterization of the bleeding point became possible. So, there is a necessity to design a study to map the common bleeding sites.

With the help of an endoscope to evaluate the efficacy of a simple method of treatment (electrocauterization) as well as to evaluate whether such a method can replace the old practice of posterior nasal packing.

Aim

Endoscopic evaluation of epistaxis in the covert areas of the nasal cavity.

Objectivee

- To describe the various sites of bleeding based on the vascular pedicles (VP).
- To study the pathologies in different vascular pedicle territories.
- To describe the role of electro-cauterization in various vascular territories.
- To evaluate the necessity of postnasal packing after the primary treatment (electrocauterization).

MATERIAL AND METHODS

This is a prospective study of patients with recurrent episodes of epistaxis presenting to the outpatient department and emergency department from Feb 2021 to March 2023 in a tertiary health care hospital in Telangana State India after obtaining ethics committee approval (IRB/IEC No: 87/21). Informed written consent was taken from all participants.

Inclusion Criteria

- Male and female patients.
- Patients above 15 years of age.
- Recurrent episodes (>2) of epistaxis.

Exclusion Criteria

- Epistaxis from Little's area (which is an area of vascular anastomosis called Kiesselblach's plexus and the commonest site in the anteroinferior septum).
- Children below 15 years.
- Acute and chronic rhinosinusitis.
- Polyps, haemangioma, and other vascular lesions.
- Epistaxis with History of Trauma.
- History of bleeding disorders.
- Midline granulomatous diseases and Septal perforations.
- Recent sino nasal surgery.
- Nasal and nasopharyngeal tumors.

Once the patient is stabilized with treatment, complete history including demographics, duration and pattern of bleeding, known systemic illness or comorbidity, previous treatment history and intake of any anticoagulant medications, etc. details were taken. Blood samples were also taken for a complete haemogram, coagulation profile, lipid profile, and liver function tests.

Methodology

All patients were examined with 0, 30, and 70-degree, 4mm endoscopes under local anesthesia (with plain lignocaine cotton patties) to identify the bleeding points. The nasal cavity was thoroughly examined Septum, and the lateral wall was divided into 4 parts according to imaginary lines shown in diagrams 1 and 2. The nasal septum (NS) thus has 4 vascular territory areas namely; anterosuperior (AS), anteroinferior (AI), posterosuperior (PS) and posteroinferior (PI). The lateral nasal wall (LNW) has been categorized into anterosuperior (AS includes atrium - an area in front of middle turbinate), anteroinferior (AI includes anterior end of inferior turbinate), posterosuperior (PS includes middle turbinate and above) and posteroinferior (PI includes middle and posterior part of the inferior turbinate, eustachian tube, and posterior choana). Most of the time, bleeding sites anterior to the vertical line were visible on the anterior rhinoscopy. In the process of examination, wherever necessary scraping is done, and once the flow is identified, electrically cauterized. The length of the cautery probe is 12cm long and the voltage of power used is 25mvolt. Each case has been followed up for 72 hours and if any repeat procedure within this period, documented and the average follow-up time was 13months (4 months to 24 months).

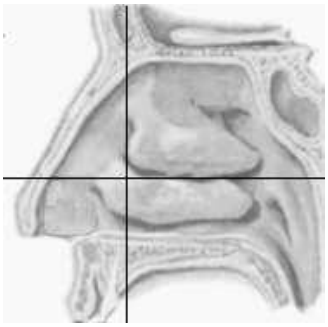


Figure 1: Nasal septum (NS)

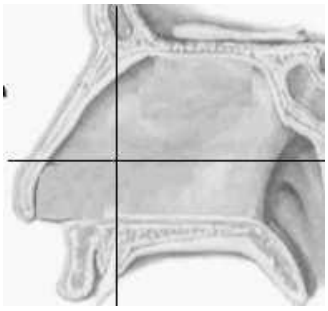


Figure 2: Lateral nasal wall (LNW)

Figure 1- A vertical line in the plane, along the axilla of the middle turbinate, and a horizontal line along the inferior

margin of the middle turbinate, and Figure 2 also shows the same parallel lines.

Statistical analysis

Demographic, clinical, and treatment details were collected, and tabulated in an Excel sheet and the data was analyzed with simple descriptive statistical methods.

RESULTS

Variable	N (%)
Age	
15-19 years	10(17.85%)
20-39 years	21(37.5%)
40- 59 years	16(28.5%)
> 60 years	09(16.0%)
Gender	
Male	29 (51%)
Female	27 (48.2%)
Comorbidities	
Hypertension	5 (8.9%)
Diabetes	6 (10.7%)
Hypertension & Diabetes	5 (8.9%)
Hereditary haemorrhagic telangiectasia	2 (3.57%)
Liver pathology	4 (7.1%)
Vicarious menstruation	3 (5.3%)
Type of epistaxis	
Anterior	0
Posterior	56

Table 1: Demographic details

6 out of 56 patients presented with active epistaxis (4 patients with postnasal packing from the periphery) to the casualty and required admission for about 2 to 3 days and blood transfusion was done for 2 patients. 56 patients were divided into 2 groups. Group I includes 31 patients (15 -39 years) and Group II includes 25 patients (40 and above) and with a mean age of 25.77 in Group I and a mean age of 57.76 in Group II (Table 1).

From Table 1, various comorbid conditions were observed overall in the epistaxis patients. Hypertension in 4, Diabetes in 6, and both Hypertension & Diabetes in 5, patients observed.

History of alcohol intake was observed in 14 out of 56 patients but elevated liver enzymes (increased ALP) were observed in 4 patients.

Vicarious menstruation

3 Adolescent girls (16, 19, and 22 years old) presented with multiple episodes of epistaxis and were having bleeding episodes starting 7-10 days before menstruation & during menstruation and then a bleeding-free period of 15 to 20 days. Bleeding episodes were also present during sleep and in the early morning and sometimes woke up with foul breath. This was for about the duration of 4-10 years. Bilateral (at a time or sometimes one-sided) nasal bleeding was like drops towards choana. On examination woodruff's plexus was noticed in the nasal cavity.

HEREDITARY HEMORRHAGIC TELANGIECTASIA

Patient 1: Prameela of 32years old female patient had a history of headaches with bilateral nasal bleeding for 11 years duration. Classical history of throbbing headache, frontal region (like it starts within 2-3 days, peaks before epistaxis, and subsides within 10-15 minutes after the bleeding episode). With time, the severity and duration of the headache increased progressively. Bleeding from the nose was the bilateral, profuse, anterior, and posterior types. On examination, multiple bleeding points were observed (telangiectasias) on both sides of the nasal cavity (Figure 4).

Patient 2: Kalamma of 57 years old female patient had nasal bleeding for the past 30 years. Vague pain and fullness on the vertex for 3 to 5 days before bleeding was present which subsides after bleeding. On examination of the nose, and right side of the nasal cavity, multiple bleeding points (Figure 4 **)** were observed on the septum & lateral wall mucosa and on the left "S" point (on the septum) identified in addition to the above. Her hemoglobin level was 5.1gr/dl; a blood transfusion was given to the patient. Platelet count, bleeding time, and clotting time were normal, but mild elevation of INR value 1.2 was found.

Parameter	Value (%)
Nasal obstruction	18(32.14%)
sneezing and other allergic symptoms	6 (10.7%)
Headache	5 (8.9%)
Cough	2 (3.57%)
DNS	31(55.35%)
Spur	17 (30.3%)
ITH (Inferior Turbinate Hypertrophy)	14(25%)

Table 2: Other clinical features

Nasal obstruction is the most common associated symptom in our patients 18 out of 56 (32.14%). DNS (deviated nasal septum) was commonly seen in our study in 31 out of 56 (55.35%); next is spur (17, 30.3%) and turbinate hypertrophy (14, 25%) (Table 2).

Quadrant	Anterosuperior quadrant	
NS/LNW	**Septum (27)**	**LNW (26)**
Group I (<40 years)	3	0
Group II (≥40 years)	1	2
	Anteroinferior quadrant	
Group I (<40 years)	Not included	3
Group II (≥40 years)	Not included	1
	Posterosuperior quadrant	
Group I (<40 years)	4	3
Group II (≥40 years)	12	6
	Posteroinferior quadrant	
Group I (<40 years)	6	8
Group II (≥40 years)	1	3

Table 3: Number of patients with epistaxis in different vascular territories

Morphology of the bleeding point: as observed in both septum and lateral wall.

- Pale or pinkish prominent blood vessel at the superior most of the septum posterior to the septal body corresponding to the root of the middle turbinate has been referred to as Stamms 'S' point as described by Kosugi et al. [10]
- Prominent blood vessels, white or red in colour with volcano-like bumps described by Z-C Lou et al. [11]
- Small blanchable red spots (Isolated primary telangiectasia).

Factors impede endoscopic visualization of bleeding points:

- Anatomical variations like Inferior turbinate hypertrophy, deviated nasal septum with or without spurs limit the simultaneous use of suction and cautery. [11]
- Direct use of lignocaine with adrenaline packs (its vasoconstrictive action will produce a blanching effect that masks the bleeders (especially isolated primary telangiectasia).
- Late presentation if the patient comes immediately and on the same day (within 24 hours) it would be easier to identify the bleeder rather than late. Because bleeding patterns and blood stain direction will help us to focus on that particular area.

From Table 3, observed bleeding points in the lateral wall in descending frequency are PI (8), PS (3), and AI (3) in group I (total 14) and in group II (total 12) PS (6), PI (3), AS (2) and AI (1). Similarly observed bleeding points from the septum in descending frequency PI (6), PS (4), AS (3) in group I (total 13) and in group II (total 14) in descending frequency PS (12), PI (1), AS (1).

In the posterosuperior quadrant of the septum, the prevalence ratio of a bleeding point is 12/14 and 4/13. Thus, the prevalence of bleeding in the posterosuperior quadrant of the septum is 2.8 times more in individuals of 40 years and above. In the posterosuperior quadrant of the lateral wall of the nose, the prevalence ratio of a bleeding point is 3/14 and 6/12. Thus, the prevalence of bleeding in the posterosuperior quadrant of the lateral wall is 2.38 times more in patients of 40 years and above.

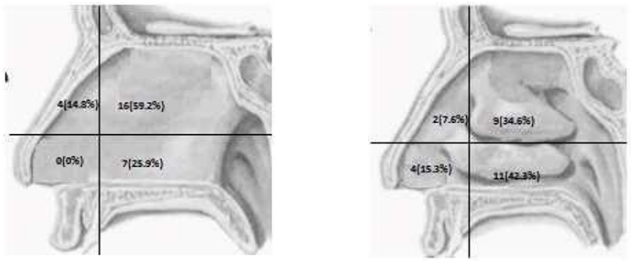


Figure 3: Mapping of the bleeding sites in the nasal septum and lateral nasal wall

Figure 3: Bleeding sites on the septum observed were 27 (48.2%) and on the lateral wall were 26 (21 + 5 woodruff's areas, 46.4%). 3 out of 5 patients with bleeding points from the Woodruff area were found to have vicarious menstruation. Overall bilateral epistaxis was seen in 8 (14.28%) patients. The bleeding pattern in the patients with vascular pedicles was like a stream. Whereas it was dripping or trickling in Telangiectasia.

Parameter	N (%)
Hemoglobin less than 10 gm/dl	18 (32.14%)
INR ratio more than 1.1	25 (44.6%)
Abnormal lipid profile	10 (17.85%)

Table 4: Blood parameters

Group	Present	Absent
Group I, n=13	1	12
Group II, n=14	11	3

Table 5: Pathology of the septal bleeders

From Table 5, the comorbidities of septal bleeding points in group 2 are 10 times more than the comorbidities of patients below 40.

Group	Present	Absent
Group I, n=14	1	13
Group II, n=12	8	6

Table 6: Pathology of the lateral nasal wall bleeders

From Table 6, comorbidities of lateral nasal wall bleeding points in group 2 are 9 times more than the comorbidities of patients below 40.

Site
Septum: 1. 'S' point area-superior most of the septum posterior to the septal body corresponding to the root of the middle turbinate (Figure 5). 2. Antero superior part of the septum corresponding to the atrium of the lateral wall (in front of the middle turbinate) (Figure 6). 3. Antero superior corner of the septum which is covered by the ala corresponding to the nasal valve area (Figure 6). 4. Middle and posterior parts of the septum (Figure 7).
Lateral wall: 1. Posterior to the middle turbinate near SPF foramen area. 2. The middle turbinate- above, medial surface, lateral surface and free margin (which is most common on the lateral wall) (Figure 8). 3. Middle meatus-Lateral wall of the middle meatus-posterior to the bent of the uncinate, below the bulla (Figure 8). 4. Inferior meatus- Lateral wall of the posterior end of the inferior meatus (Figure 9). 5. Floor beneath the inferior turbinate. 6. Postnasal space from woodruff's plexus-posterior 1cm of the nasal floor, inferior meatus, and posterior to the middle meatus and vertical strip of the mucosa anterior to the Eustachian tube. Floor beneath the inferior turbinate (Figure 9). 7. Inferior turbinate-anterior end (Figure 10), medial margin of the posterior end of the inferior turbinate. 8. Atrium area (in front of middle turbinate) (Figure 10).

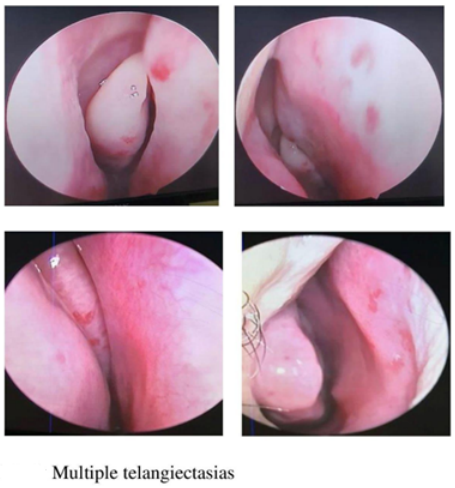
Table 7: Anatomical Site of the bleeding

From Table 7, these are the different sites of bleeding that were observed overall in the nasal cavity. Most of them were prominent blood vessels with or without ulceration or bump-like projection and around 7 cases were isolated primary telangiectasias.

Group	Single intervention n (%)	Two or more interventions n (%)	Need of postnasal packing n (%)
Group I, n=30	25(46.29%)	5(9.25%)	2(3.7%)
Group II, n=24	22(40.74%)	2(3.70%)	0

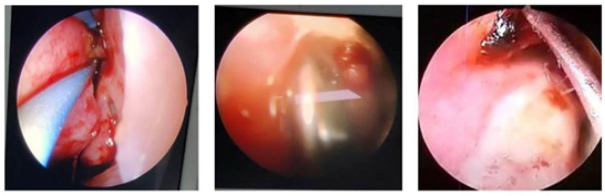
Table 8: Role of electrothermo cautery treatment in epistaxis patients

From Table 8, electrocautery treatment was given to all the patients (54, in 2 patients bleeder was not found). There was a recurrence of bleeding in 7 patients observed who were having the pathology of vicarious menstruation and HHT. Out of 7 patients, 2 were (of vicarious menstruation) required postnasal packing.



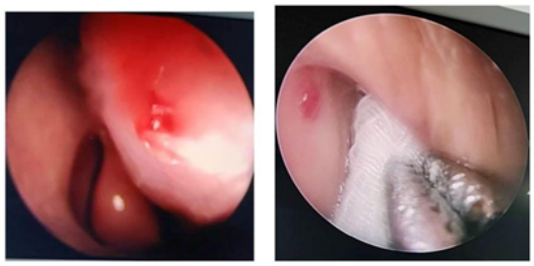
Multiple telangiectasias

Figure 4: Endoscopic picture depicting multiple pinkish-red spots on both walls of the nasal cavity. Each spot consists of a flat or raised cluster of multiple dilated vessels



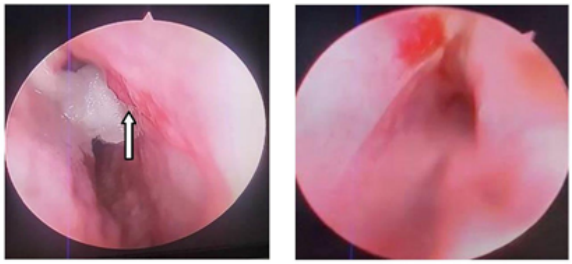
Posterosuperior quadrant - 'S' point on septum and its zoomed view, VP covered with blood clot

Figure 5: Endoscopic picture depicting posterosuperior quadrant septal vascular pedicle (VP) called Stamm's "S" point (it is just behind the septal tubercle on the septum, corresponding to the area superior to the root of the middle turbinate) and its close-up view. Another VP in the middle of the septum is covered with a blood clot



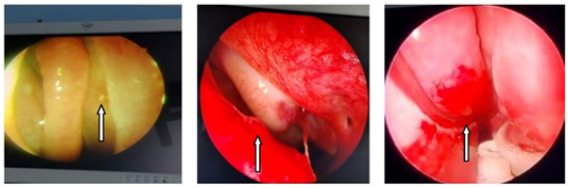
Anterosuperior quadrant: anterior to MT and nasal valve area

Figure 6: Endoscopic picture depicting anterosuperior quadrant of the nasal septum showing VP's. One is anterior to the middle turbinate and the second one is on the superior part of the septum in the valve area which is normally covered by the fold of alar nasi



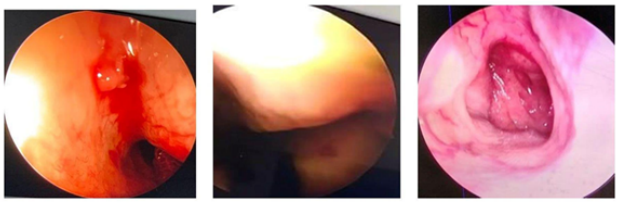
Posteroinferior quadrant: in the middle septum, near choana

Figure 7: Endoscopic picture depicting posteroinferior quadrant vascular pedicles on the lower middle part and posterior part of the septum corresponding to the medial surface of the inferior turbinate



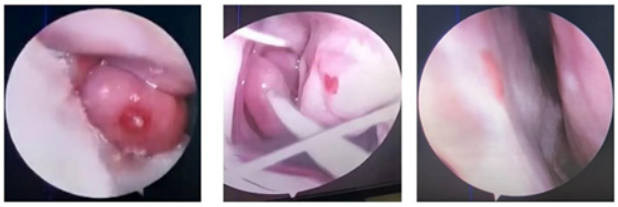
Posterosuperior quadrant vascular pedicles-middle meatus, lateral surface of MT and posterior end of MT

Figure 8: Endoscopic picture depicting posterosuperior quadrant of lateral nasal wall VP's in the middle meatus on the lamina just posterior to the middle part of the uncinate process, another one is on the lateral surface of MT and the last one is on the inferior surface of the posterior end of the middle turbinate



Posteroinferior quadrant - Inferior meatus, posterior end of IT, woodruff's plexus

Figure 9: Endoscopic picture depicting posteroinferior quadrant of lateral nasal wall VP's. The first one is in the lateral wall of the posterior end of the inferior meatus. The second one is on the superior margin of the posterior end of the inferior turbinate and the third one is woodruff's plexus in the posterior part of the lateral nasal wall



Anterior end of IT (VP), AI-Anterior end of IT, AS-atrium area

Figure 10: Endoscopic picture depicting anteroinferior quadrant of lateral nasal wall VP's. The first and second ones are on the anterior end of the inferior turbinate and the third one is anterosuperior quadrant of lateral nasal wall VP on the atrium area (smooth surface of the lateral nasal wall anterior to the middle turbinate and superior to the inferior turbinate)

DISCUSSION

Even though the most common site of the epistaxis is the little's area, covert areas should also be considered to control the epistaxis and prevent the loss of blood.

Maximum number of patients in our study 89% presented to the Outpatient department and nasal obstruction is the most common associated symptom in 18 patients (32.14%). Shivam Ruhela et al [12] in their patients of 88, reported nasal obstruction in 26 (25%) whereas Varshney et al [13] reported an incidence of 46.59%. Headache associated with epistaxis was observed in 2 patients who were having multiple bleeding sites like Hereditary Hemorrhagic Telangiectasia. Though headache was an uncommon presentation in our study, a similar pattern of headache is seen in a case report by Jose Barros in 2017 termed migraine-induced epistaxis [14] and epistaxis was reported as the most common symptom in HHT by Sen Li et al. [15]

On endoscopic examination, the incidence of DNS was 31 out of 56 (55.35%). 17 out of 31 (54.8%) patients presented with bleeders on the septum which is higher than the incidence reported by Safaya et al [6] (23.3%) and explained etiopathogenesis in such cases, because of the drying effect on the mucosa due to air currents passing through narrow

cleft at the site of deviation. In addition to deviation, septal spurs also cause epistaxis by impinging upon the turbinates. Safaya et al. reported 8 cases of posterior deviated septum with middle turbinate hypertrophy. Similar findings were noted in our study at the superior most point of the septum posterior to the septal body and this bleeding site has been referred to as Stamm's S point in a Brazilian study. [10]

Bleeding from the lateral wall was observed in 26 cases (46.42%) and out of 26, 5 were from the woodruffs area (19. 2%) and Tor W Chiu et al [16] reported 8% in the woodruff area. Thorton et al [17] reported a high incidence of bleeding sites from the lateral wall (80%) of the nose which was more than double as observed in the present study (37.5%). In our study, in patients of group I, the posteroinferior quadrant bleeding points on the lateral wall were 30.7% (8) and the septum 6 (22.22%). In group II (40 years and above) bleeding points were found in the posterior superior quadrant of the septum 12 out of 27 (44.44%), and in the lateral wall 6 0ut of 26 (23.07%). Taking into consideration, the bleeding sites in the posterosuperior quadrant of the septum have a high prevalence of 2.8 times more often seen in patients of 40 and above (PR=2.8), and the posterosuperior quadrant of the lateral wall also high prevalence of 2.38 times more often seen in the patient of 40 and above age group (PR=2.38). Tor W Chiu et al [17] reported posterosuperior bleeding sites were 36% however, age group division has not been adopted in their study. Another study by Varshney et al. reported 14 cases (16%) from the posterior part of the septum. [13]

In our study, the etiology of the bleeding is idiopathic (34 out of 60.71%) in nature. In the remaining patients Diabetes, Hypertension, Liver pathology with alcoholism, vicarious menstruation, and Hereditary haemorrhagic Telangiectasia were the different pathological conditions observed in the patients with epistaxis. Patients with comorbidities (hypertension and diabetes etc.) were observed to have bleeding from the posterosuperior quadrant area of the septum and lateral nasal wall (Tables 3 and 4). Patients with comorbidities when compared to normal patients have 9-10 times higher predilection to have bleeding sites in the posterosuperior quadrant than those without comorbidity. A note on vicarious menstruation is worth mentioning at this juncture. In our study, we have 3 girls presented with cyclical bleeding and epistaxis. They were diagnosed to have estrogen hormone deficiency and were found to have bleeding from Woodruff's area. After replacement with hormonal supplements, bleeding episodes dramatically disappeared. Similar observations were reported by other authors. [18, 19]

Regarding morphology of the bleeder, in our study the majority of them were prominent blood vessels with or without ulceration, and around 7 cases were isolated primary telangiectasias. Similar findings were reported by Z-C Lou in a case series of 26 patients with 5 patients with prominent vessels, and 3 patients with isolated telangiectasias. [20] Vascular pedicles (volcano-like bumps) 70% and isolated telangiectasias 19% were also reported by Z-C Lou. [11] Similar to our study, the source of the bleeding in the posterior epistaxis from woodruff's plexus was minimal, and the same view held by Kaluskar et al. [21] Electrical cauterization is the method used to treat epistaxis. A single intervention has been effective in 47 (87%) patients and in 7 patients the procedure has been repeated more than twice. In 5 out of 7, the procedure resolved epistaxis and in the remaining 2 patients posterior nasal packing has been kept. Thus, electro cauterization is an effective modality of treatment however, in 3% of patients posterior nasal pack is unavoidable. Kaluskar et al reported 90% efficacy by electro cauterization. Mild discomfort at the cautery area on the day of the procedure was reported in very few cases.

CONCLUSION

Correct identification of bleeding points is the crucial step in the treatment of epistaxis. Bleeding points can be identified in the majority of adult patients presenting with epistaxis under local anesthesia. Comorbid conditions will increase the prevalence of epistaxis from the septum 10 times whereas from the lateral wall 9 times (PR=9 to 10 times). Bleeding points in patients of 40 and above were observed twice that of patients below 40 in the posterosuperior quadrants of either septum or lateral wall (PR >2). Prospective randomized controlled studies may be needed for further confirmation in the future. The anatomy of covert areas bleeding sites from the nasal cavity were described eg: 'S' point on the superior septum, vascular pedicle on the lateral wall and medial wall of the middle meatus, on the anterosuperior part of the septum which is covered by ala nasi. Vicarious menstruation is also well described and for patients having this cyclical bleeding, we can advise hormonal analysis. Eletro Thermocautery under local anesthesia is a simple, economical, successful, and uncomplicated treatment method for posterior epistaxis under endoscopic guidance. Endoscopic guided thermo cautery has an advantage in the gross reduction of the requirement of nasal packing.

DISCLOSURES

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REFERENCES

1. Neto PS, Nunes LMA, Gregório LC, de Paula Santos R, Kosugi EM. Surgical treatment of severe epistaxis: an eleven-year experience. Brazilian Journal of Otorhinolaryngology. 2013;79(1):59–64. Available from: https:

//dx.doi.org/10.5935/1808-8694.20130011.

2. Reddy VM, Judd O, Khalil H. Investigation of the influence of ambient temperature, atmospheric pressure and water vapour pressure on epistaxis admission rate. Rhinology journal. 2010;48(3):348–351. Available from: https://dx.doi.org/10.4193/rhino10.020.

3. Qureishi A, Burton MJ. Interventions for recurrent idiopathic epistaxis (nosebleeds) in children. Cochrane Database of Systematic Reviews. 2012;9:CD004461. Available from: https://dx.doi.org/10.1002/14651858.cd004461.pub3.

4. Hull HF, Mann JM, Sands CJ, Gregg SH, Kaufman PW. Toxic Shock Syndrome Related to Nasal Packing. Archives of Otolaryngology - Head and Neck Surgery. 1983;109(9):624–626. Available from: https://dx.doi.org/10.1001/archotol.1983.00800230060015.

5. Weber RK. Nasal packing and stenting. GMS Current Topics in Otorhinolaryngology - Head and . 2009;8(02):1–16. Available from: https://doi.org/10.3205/cto000054.

6. Safaya A, Venkatachalam VP, Chaudhary N. Nasal endoscopy-evaluation in epistaxis. Indian Journal of Otolaryngology and Head and Neck Surgery. 2000;52(2):133–136. Available from: https://dx.doi.org/10.1007/bf03000330.

7. Jensen PF, Kristensen S, Juul A, Johannessen NW. Episodic nocturnal hypoxia and nasal packs. Clinical Otolaryngology. 1991;16(5):433–435. Available from: https://dx.doi.org/10.1111/j.1365-2273.1991.tb01034.x.

8. Paul J, Kanotra SP, Kanotra S. Endoscopic Management of Posterior Epistaxis. Indian Journal of Otolaryngology and Head & Neck Surgery. 2011;63(2):141–144. Available from: https://dx.doi.org/10.1007/s12070-010-0054-0.

9. Choy ATK, John DG, van Hasselt CA, Med M. Posterior epistaxis and the undeflatable Foley's urinary catheter balloon. The Journal of Laryngology & Otology. 1993;107(2):142–143. Available from: https://dx.doi.org/10.1017/s0022215100122443.

10. Kosugi EM, Balsalobre L, Mangussi-Gomes J, Tepedino MS, da Silva DMS, Cabernite EM et al. Breaking paradigms in severe epistaxis: the importance of looking for the S-point. Brazilian Journal of Otorhinolaryngology. 2018;84(3):290–297. Available from: https://dx.doi.org/10.1016/j.bjorl.2017.12.007.

11. Lou ZC, Lou ZH. The distribution of bleeding sites in idiopathic hidden arterial epistaxis. The Journal of Laryngology & Otology. 2019;133(4):309–312. Available from: https://dx.doi.org/10.1017/s0022215119000562.

12. Ruhela S, Mittal HK, Bist SS, Luthra M, Kumar L, Agarwal VK. Clinico-Etiological Evaluation of Epistaxis. Indian Journal of Otolaryngology and Head & Neck Surgery. 2023;75(S1):828–835. Available from: https://dx.doi.org/10.1007/s12070-022-03458-7.

13. Varshney S, Saxena RK. Epistaxis: a retrospective clinical study. Indian Journal of Otolaryngology and Head and Neck Surgery. 2005;57(2):125–129. Available from: https://doi.org/10.1007/BF02907666.

14. Barros J, Damásio J, Tuna A, Pereira-Monteiro J. Migraine-Induced Epistaxis and Sporadic Hemiplegic Migraine: Unusual Features in the Same Patient. Case Reports in Neurology. 2012;4(2):116–119. Available from: https://dx.doi.org/10.1159/000339824.

15. Li S, Wang SJ, Zhao YQ. Clinical features and treatment of hereditary hemorrhagic telangiectasia. Medicine. 2018;97(31):e11687. Available from: https://dx.doi.org/10.1097/md.0000000000011687.

16. Chiu TW, McGarry GW. Prospective Clinical Study of Bleeding Sites in Idiopathic Adult Posterior Epistaxis. Otolaryngology–Head and Neck Surgery. 2007;137(3):390–393. Available from: https://dx.doi.org/10.1016/j.otohns.2006.10.035.

17. Thornton MA, Mahesh BN, Lang J. Posterior Epistaxis: Identification of Common Bleeding Sites. The Laryngoscope. 2005;115(4):588–590. Available from: https://dx.doi.org/10.1097/01.mlg.0000161365.96685.6c.

18. Dunn JM. Vicarious menstruation. American Journal of Obstetrics and Gynecology. 1972;114(4):568–569. Available from: 568.

19. Watkinson JC, Clarke RW. Scott-Brown's Otorhinolaryngology head and neck surgery. 8th ed. CRC Press; 2018. Available from: https://books.google.co.in/books/about/Scott_Brown_s_Otorhinolaryngology_and_He.html?id=NjZIDwAAQBAJ&source=kp_book_description&redir_esc=y.

20. Lou ZC. Does epistaxis with an unknown bleeding site originate from the posterior part of the nasal cavity? The Journal of Laryngology & Otology. 2019;133(09):818–821. Available from: https://doi.org/10.1017/s0022215119001701.

21. Kaluskar SK. Endoscopic approach to posterior epistaxis. Minimally Invasive Therapy & Allied Technologies. 1996;5(1):75–77. Available from: https://dx.doi.org/10.3109/13645709609153288.

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