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AETIOPATHOLOGICAL AND DEMOGRAPHIC EVALUATION OF EPISTAXIS AND MANAGEMENT

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ABSTRACT

Epistaxis is a common emergency condition in Otorhino-laryngology. People of all ages can be affected. The management of epistaxis enjoys a wide range of strategies and treatment options. However, it is important to appreciate when to correctly employ the different individual interventions. A total of 100 cases were managed during the period of this study. The percentage incidence of epistaxis - 5%. It was observed that epistaxis was more in male patients especially in the 4th decade and after the 5th decade in this study The peak age incidence was in the 41 - 50 year group. There was a significant male preponderance, ratio 2.03:1. In the present study of 100 cases, 67 cases (67%) were males and 33 (33%) females.

Keywords: Epistaxis, demographic characteristics, Ligation, Septoplasty

Introduction

Epistaxis is defined as bleeding through the nose and it is only a symptom of various diseases. This prosaic definition belies the difficulties associated with one of otolaryngology's most common and most difficult to treat emergencies. Fortunately these episodes are usually minor resolve spontaneously and do not require any medical attention. Conversely they may be more severe, ranging from recurrent episode precipitated by minor trauma to major episodes of bleeding that can be life threatening. Finding the aetiological factor for epistaxis is as important as treating an episode of epistaxis. In this study attempt is made. To evaluate the cause of epistaxis in one hundred cases selected at random, with the help of relevant investigations. To find out the modality of treatment for the control of epistaxis. This study shows how important is to remove the primary cause in controlling epistaxis.

MANAGEMENT CHILDHOOD EPISTAXIS:

Simple measures such as pinching the nose and ensuring that the child keeps his / her head forward are usually sufficient. Reassure the child and the parent that the condition is benign. Making the child to situp in the examining chair, or on the parents knee with a good light source a good view of the nasal cavities can be obtained by elevating the tip of the nose before using a nasal speculum or an endoscope. Auriscope with a good sized speculum can also be used. If there are clots, the child can be asked to blow the nose to remove them and in a cooperative child gentle pressure suction can be used. If using an anaesthetic/decongestant agent, it can be applied directly using a cotton wool bud.

Commonly used therapeutic Options:

Expectant treatment ie.first the management of acute bleeds as they arise. Use of an oil based antiseptic cream
Application of petroleum jelly

Nasal cautery using AgNO3
Electrocautery to the suspected bleeding point

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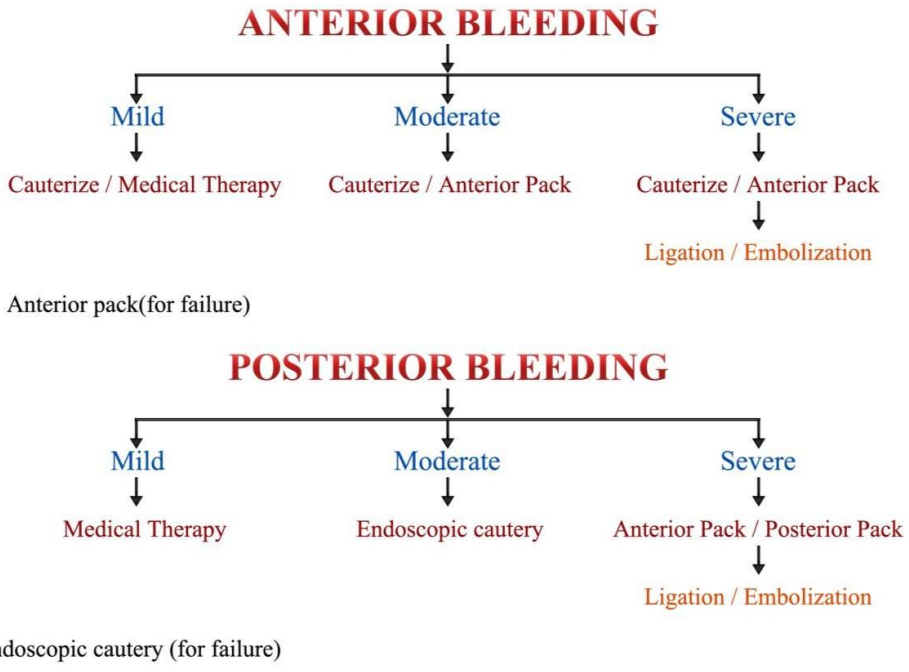
If these are unsuccessful, anterior nasal pack or balloon tamponade can be tried. If further bleeding continued, post nasal packing can be done under general anesthesia.

Less common Interventions:
Laser therapy, limited septoplasty, Local application of tranexemic acid gel and fibrin glue, endoscopic treatment ofoffending vessels by diathermy or ligationand in recalcitrant cases embolization. The most widely used antiseptic cream NASEPTIN a combination of chlorhexidine and Neomycin. As it contains peanut oil, it must not be used in suspected peanut allergy.

TREATMENT OPTIONS IN THE MANAGEMENT OF EPISTAXIS

Medical management
Nasal packing - Traditional anterior packs
Nasal sponges
Gel foam
Traditional posterior pack
Nasal balloon
Cautery
AgNO3
Endosopicelectrocautery
Laser cautery
Embolization
Ligation
Surgeries
Septoplasty
Septaldermoplasty

MANAGEMENT PROTOCOL FOR ACUTE EPISTAXIS



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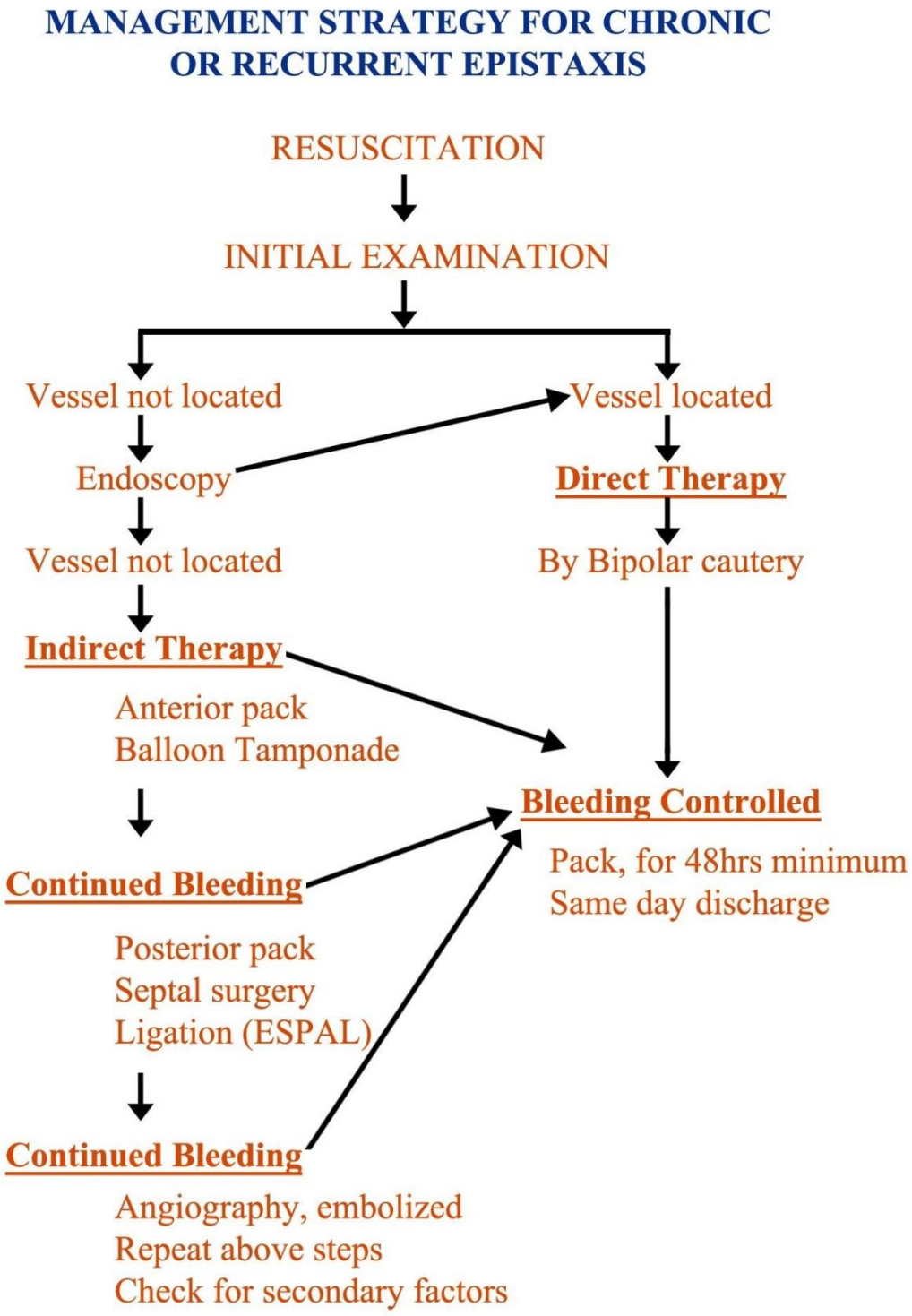

RESUSCITATION

First aid by pinching the alanasi HIPPOCRATIC TECHNIQUE compresses the vessels of Little's Area. In TROTTER'S METHOD patient is made to sit learning a little forward to spit any blood and breathe quietly from the mouth. Cold compresses can be applied to the nose to cause reflex vasoconstriction.

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Topical Anaesthesia with a combination of 4% TOPICAL LIDOCAINE WITH 1: 100 000 PSEUDOEPHEDRINE can be applied with cotton tipped application or aerosol or custom made cotton pledget.

DIRECT THERAPIES

Direct (Bleeding Point specified therapies are logically, therapeutically superior).

CAUTERY

Once the active bleeding site is identified and anaesthetized SILVER NITRATE is commonly used to cauterize the vessel. It is advisable to cauterize circumferentially around the bleeding site first before applying the cautery to the bleeding area, otherwise the more act of cautery may provoke bleeding. Cauterized areas are noted to have grayish white coloration.

INDIRECT THERAPIES

Failure to find the bleeding point is an indication for traditionally favoured indirect strategies.

ANTERIOR PACKING

When cautery is unable to control epistaxis

When the bleeding site cannot be identified placement of anterior nasal pack is required. Most commonly used packs are

PETROLEUM JELLY strip guaze coated with an antibiotic ointment

BISMUTH – IODOFORM – PARAFFIN PASTE (BIPP) an antiseptic coated guaze. It is placed over the entire length of the nasal cavity. Such a pack can be left in place for 24 -72 hrs while the patient takes broad spectrum antibiotics.

The technique for packing is critical. Starting inferiorly along the floor and packing superiorly taking care to push the gauze under the inferior turbinate. Only closed loops of guaze are placed posteriorly to prevent strands of packing from dangling down from the nasopharynx. The pack is kept either in horizontal or vertical layers.

Anterior Nasal pack

Packing with KALTOSTAT (CALCIUM SODIUM ALGINATE) is useful in young children since it can be inserted without local anaesthesia. Occassionally a dissolvable packing may be used. This is particularly useful in patient with coagulopathy because there is no trauma on

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removing the nasal pack. OXIDISED CELLULOSE preparations (OXYCEL, SURGICEL) or an absorbable GELATIN SPONGE (GELFOAM) can be used for this purpose. Modern variations on anterior packing includes Special tampons (MEROCEL AND KALTOSTAT) and Balloon catheters (BRIGHTON OR EPISTAT) Over inflated balloons will prolapse anteriorly and posteriorly with the risk of hypoxia and alar necrosis. Complications of packing includes sinusitis, septal perforation, Alar necrosis, Hypoxia and myocardial infarction.

Merocel

INFLATABLE BALLOON PACKS
Two types of balloon tampons are used.
FOLEYS CATHETER
CATHETER designed solely for the control of epistaxis After applying topical anaesthesia, a 12 or 16 no. French gauge FOLEY's CATHETER with a 30 cc balloon is placed along the floor of the nose until the balloon is seen in the nasopharynx. The balloon is then slowly inflated with 15 ml water and the catheter is retracted arteriorly to wedge the balloon snugly into the posterior nasal cavity. The anterior packing is then inserted. Epistaxis balloon tampons provide a low pressure double balloon system that serves as both an anterior and posterior pack.

Foleys 16 inch catheter

MEDICAL THERAPY (ADJUVANT THERAPY)
Avoid nasal trauma

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Nasal hydration with saline mist. Nasal gels and ointment Increasing ambient humidity with a humidifier or vaporizer.

ANTI FIBRINOLYTICS: TRANEXAMIC ACID
EPSILON AMINO CAPRIOIC ACID at a dose of 1.5 gm TDS
Indication:
As an adjuvant therapy in recurrent or refractory cases
Contraindication: Preexisting thromboembolic disease
These drugs do not increase fibrin deposition and so do not increase the risk of thrombosis in normal patients.

HOT WATER IRRIGATION:
Irrigation of the nasal cavity with water at 50o C involve reflex vasodilatation and reduction in nasal lumen dimensions.

SURGICAL MANAGEMENT DIRECT THERAPY
Endoscopic diathermy of the bleeding point under anaesthesia may control the bleeding if still not controlled.

INDIRECT THERAPIES :
Posterior packing
Ligation techniques
Septal surgery techniques
Embolization techniques

POSTERIOR NASAL PACKING
Although the posterior pack may directly tamponades the bleeding point, it may also act as a buttress against which an effective anterior pack can be placed. The classic pack consisting of a guazetampon placedtransorally into the nasopharynx and held in place by silk suture brought out through the nostril. Nasal pack is made from rolled guaze and soaked in antibiotic ointment or solutions. The pack is kept for minimum 48 hours. The patient is hospitalized and observed carefully.

COMPLICATIONS:
Pain and hypoxia secondary to soft palate edema. Sinusitis and middle ear effusions are common. More serious complications include necrosis of the septum and columellate. Antibiotics and opiate analgesia are necessary.

ARTERIAL LIGATION
Selective arterial ligation has been proposed as an alternate more effective technique to control intractable epistaxis. Ligation should be performed as close as possible to the likely bleeding point.
ESPAL (ENDONASAL LIGATION OF SPHENOPALATINE ARTERY)
The sphenopalatine foramen which is a U shaped notch in the vertical portion of the palatine bone transmits the sphenopalatine artery, vein and the nasal palatine nerve. A small bony projection lies anterior to the foramen in 96% cases called the “CRISTA ETHMOIDALIS” and is the landmark for surgical localization of the foramen for ligating the artery.

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COMPLICATIONS

Rebleeding, (Anastamosed) Infections and nasal adhesions. LIGATION OF INTERNAL MAXILLARY

ARTERY Trans – antralRoute : Local or general anaesthesia is required. A Cald-well luc incision made. The maxillary antrum entered. The posterior wall of the sinus is removed. Internal Maxillary artery is identified in the pterygo palatine fossa. Hemostatic clips placed in the internal maxillary artery, sphenopalatine artery and descending palatine arteries.

COMPLICATIONS:

Sinusitis, Damage to the infra orbital nerve, Oroantral fistula, dental damage and anaesthesia, rarely ophthalmoplegia and blindness.

COMBINED ANTERIOR AND MEDIAL (ENDOSCOPIC) TECHNIQUE :

A middle meatalantrostomyis made as instrument port with a 4 mm endoscope inserted through a small canine fossa antrostomy.

FESS Instruments

LIGATION OF EXTERNAL CAROTID ARTERY

This can be performed under local anaesthesia. A horizontal incision is made about two finger breadths below the margin of the mandibular crossing the anterior border of sternocleido mastoid muscle. Sub platysmal flaps raised. Sternomastoid muscle is retracted posteriorly and the dissection is caused down to the carotid sheath. Carotid bifurcation identified and the external carotid artery isolated and ligated below the origin of the ascending pharyngeal artery. Complication: Wound infection, haematoma and Neurovascular damage. LIGATION OF

ETHMOIDAL ARTERIES:

The anterior ethmoidal artery is frequently encountered in a mesentryjust below the skull base between the ethmoid fovea and lamina papyracea. Damage to the mesentry can lead to troublesome bleeding from the artery. Transection of the vessel during surgery can result in retraction of the bleeding end into orbit with subsequent pressure haematoma and risk of visual

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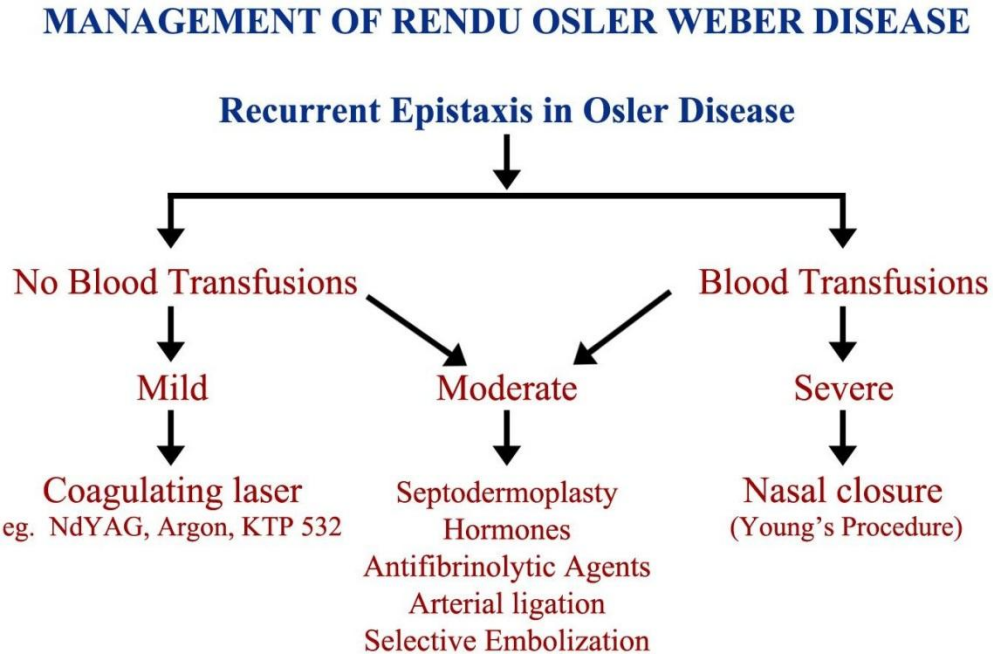
loss. It can be ligated via an external (medial canthaal approach or in the rare occasion where the bony anatomy permits endoscopically (transethmoidal) if bleeding stopped the posterior ethmoid is not approached.

SUBMUCOSAL RESECTION OF NASAL SEPTUM OR SEPTOPLASTY

For prominent septal deviation or vomeropalatine spur, this can be performed for better visualization of the bleeding site and cauterization. Elevating the mucoperichondrial flap, the blood supply to the septum is interrupted and haemostasis secured.

MANAGEMENT OF SECONDARY EPISTAXIS FOLLOWING INFERIOR TURBINECTOMY

Attempts to control haemorrhage following turbinectomy should be directed towards the poster superior aspect of the inferior turbinate where pressure bipolar to the submucosal segment of the artery should prove effective.



MATERIALS AND METHODS

The present work has undertaken to study the aetiological factors ofepistaxis and its management at SreeBalaji Medical College and Hospital, Chromepet, Chennai . The total number of new cases seen in the ENT out patient department for the period of one and half years from March 2014 – October 2015 presented with history of epistaxis. One hundred cases of epistaxis were selected at Random for the present study. The case history, clinical findings, relevant investigations as well as special investigations as and when required were carried out and recorded. The modality of treatment given for the control of epistaxis was also entered. A master chart was prepared and analysed.

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INCLUSION CRITERIA:
Age group – 5-70 years of age (young and middle aged adults)
All the cases with history of Epistaxis.

EXCLUSION CRITERIA:
Postoperative cases with epistaxis
Epistaxis due to iatrogenic trauma during minor or major nasal procedures

METHODOLOGY:
This is a prospective descriptive study. Based on inclusion criteria and exclusion criteria 100 Patients attending department of otorhinolaryngology in SBMCH are involved in this study. Informed consent will be taken from patients selected. A detailed history and clinical examination of the patients will be done. A very detailed local examination of the nose and nasopharynx is done with the help of anterior rhinoscopy and diagnostic nasal endoscopy and the observations are tabulated. The modality of treatment given can be medical (non-surgical), surgical and combined (medical and surgical) depending on underlying cause of epistaxis . History regarding trauma in face and nose, nasal surgery, bleeding disorder, common cold, and use of drugs that can affect coagulation will be recorded. haematological investigations (Total and differential WBC count, Haemoglobin, Platelets, Bleeding and clotting time, PT/INR, aPTT), biochemical investigations (Liver function test, Urea, Creatinine,) will be done in all patients. Diagnotic nasal endoscopy (DNE) will be done as opd procedure for in all patients involved in this study. CT SCAN will be taken if required The modality of treatment given can be medical (non surgical), surgical and combined (medical and surgical) depending on underlying cause of epistaxis. The medical modality of treatment are Anterior nasal packing ,Posterior nasal packing and Cauterization. The surgical modality of treatment are septoplasty, electro Cauterization of bleeding vessel, Submucous resection Spurrectomy, excision of the rhinosporidal mass, benign lesion and bleeding polypus of the septum, FESS, Closed reduction of the fractured nasal bones due to trauma, Endoscopic Polypectomy and ligation of Sphenopalatine Artery.

RESULTS AND OBSERVATIONS

Incidence of Epistaxis:

Number of ENT cases reported during this period	12,155
No of epitaxis cases during this period	608
Percentage of incidence of epistaxis	5%

SEX INCIDENCE

Males were affected more frequently than females. In the present study, 67 cases (67%) were males and 33 (33%) females. The male to female ratio is 2.03: 1

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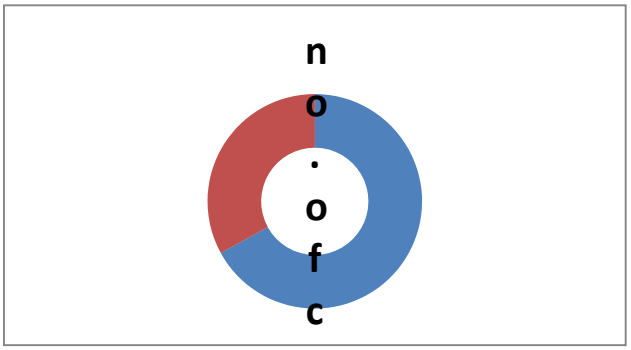
TABLE – 1- SEX INCIDENCE

Sex	No. of cases
Male	67
Female	33



DEMOGRAPHIC CHARACTERISTICS OF STUDY POPULATION

Patient varied from 5 to 70 years. Most of the patients were over 40 years of age. The maximum, i.e., 38 (38%) were in the age group of 40 -50 years and minimum, i.e., 4 (4%) were age group of 60 -70 years. The mean age was 47.8

TABLE 2: DEMOGRAPHIC CHARACTERISTICS OF STUDY POPULATION (N=100).

Age Groups (years)	Male (N) (%)	Female N (%)	Total N (%)
5-10	4	3	7
11-20	11	7	18
21-30	6	4	10
31-40	4	3	7
41-50	27	11	38
51-60	12	4	16
61-70	3	1	4
TOTAL	67	33	100

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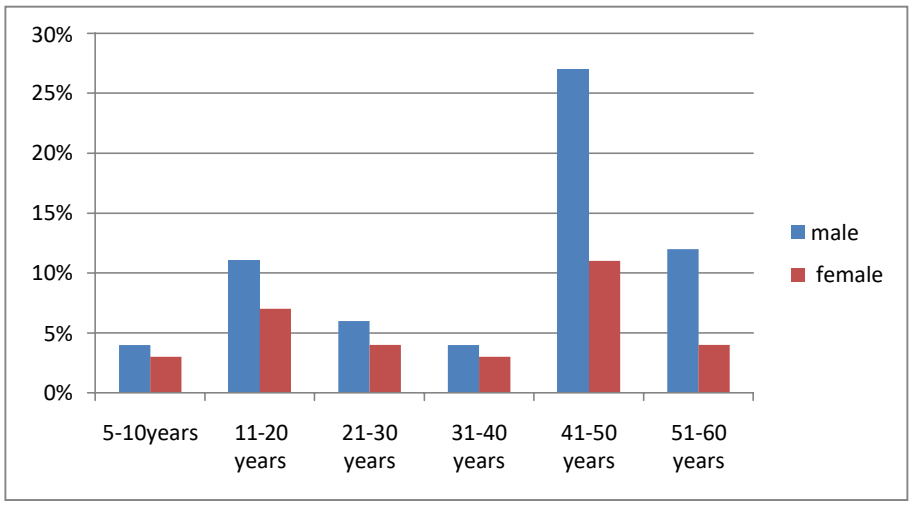

TABLE 3: CAUSES OF EPISTAXIS (ETIOLOGY)

Cause	No of cases	Percentage
Idiopathic	16	16%
Trauma	14	14%
URTI	17	17%
Hypertension	10	10%
Bleeding diathesis	9	9%
Sino-nasal malignancy	8	8%
Bleeding polyp	7	7%
Deviated septum	19	19%
TOTAL	100	

TABLE 4: MODALITY OF MANAGEMENT

Type of treatment	Number of cases	Percentage
Medical	41	41%
Surgical	59	59%

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TABLE 5: MEDICAL MANAGEMENT

Procedure	Number of cases	Percentage
Medical Line	10	10%
Anterior nasal packing	16	16%
Posterior nasal packing	5	5%
Silver nitrate Cauterization	10	10%

TABLE 6: SURGICAL MANAGEMENT

Procedure	Number of cases	Percentage
SMR	8	8%
Spurrectomy	9	9%
Septoplasty	11	11%
Rhinosporidiosis excision & cauterization	5	5%
Sphenopalatine Artery ligation	9	9%
Diathermic excision of bleeding polyp	7	7%
Endoscopic excision of inverted papilloma	3	3%
Nasal bone reduction	14	14%
Endoscopic Polypectomy& FESS	9	9%

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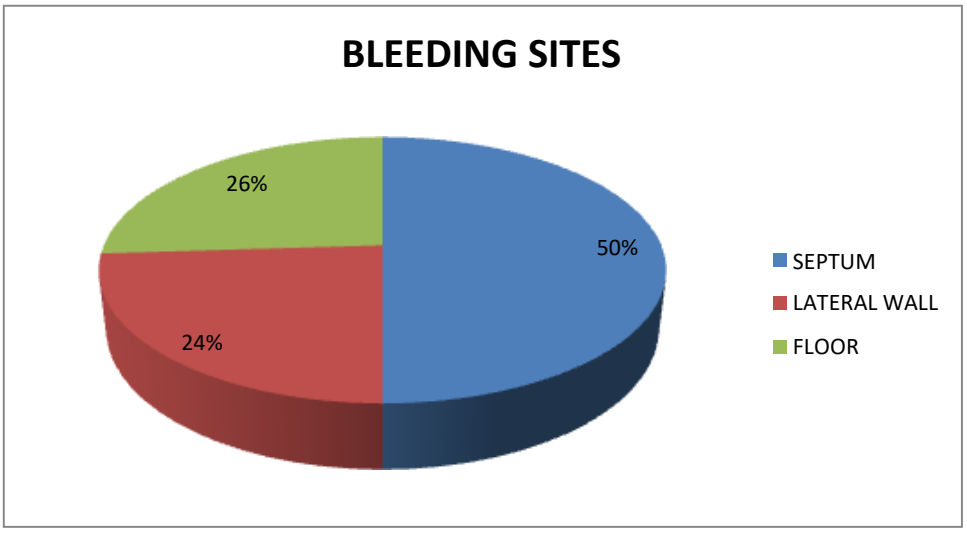

TABLE 7: DISTRIBUTION OF CASES ACCORDING TO THE FINAL DIAGNOSIS

S. NO.	Findings	No. of Patients	Percentage
1	DNS	19	19%
2	Septal spur	9	9%
3	Nasal Polyp	9	9%
4	Mass lesion	8	8%
5	Nasal Bone Fracture	14	14%

DISCUSSION

Epistaxis is a reasonably common symptom encountered in our Otolaryngological experience. Epistaxis is common in all age groups. Common cause is different in different age group. Common local causes for epistaxis are trauma, infections of nasal cavity and paranasal sinuses, foreign body, neoplasm, etc. Systemic causes are bleeding disorder, febrile illness in children, liver diseases or renal failure, cardiac diseases.

INCIDENCE :

The present study shows that the percentage of incidence of epistaxis is around 5%. Shaheen (1967) in his study found that the prevalence of epistaxis in random samples of the population was to be taken 10 and 12%. Petruson (1974) in his study found that in population sample 6%

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has atleast once epistaxis which required doctors help. The incidence in the present study is less comparable with above studies since not all the patients seek medical help in our country. The remaining reason for this can be illiteracy and lack of health consciousness in our population. Most of the cases of epistaxis are treated by non-specialists and only complicated cases are referred to specialists.

DEMOGRAPHY:

Patient varied from 5 to 70 years. Most of the patients were over 40 years of age. The maximum, i.e., 38 (38%) were in the age group of 40-50 years and minimum, i.e., 4 (4%) were age group of 60 -70 years. The mean age was 47.8 i.e most of them are in middle age group.

SEX INCIDENCE:

In our study there were 67 male patients and 33 female out of total number of 100 cases.Male predominance is supported by many studies.2,6 -9.In this study the male predominance can be attributed to the aetiological factor trauma. Out of 14 cases of epistaxis due to trauma 9 cases were males. Most of these came with history of road traffic accidents or assault. The age ranged from 3 years to 68 years with mean age 28.4 in males and 3 yeas to 65 years with mean age 25.8 in females. Out of 100 cases 77 cases were males and the remaining 23 cases were females. The average age of the males are slightly higher than that of the females. As men are more involved in these events, naturally the incidence is more.

AETIOLOGY :

In present study of 100 cases ,exact cause of epitaxis are could not be ascertained in 16 cases(16%) i.e., Idiopathic. Deviated nasal septum (19%) was commonest cause of epitaxis in this series.Next common group was of upper respiratory tract infection (17%),followed by trauma (14%),Hypertension (10%) etc. In the study by , the commonest cause of epistaxis was trauma (46.9%) followed by Hypertension (26.9%). But a study by Hanif et al has reported hypertension to be the commonest cause. 68% of the cases are in the younger age group of below 30 years the upper respiratory infections are common below 30 years of age and more so below 10 years. Hara (1962) found 14% cases of epistaxis were due to acute and chronic nasal infection.

UPPER RESPIRATORY INFECTION:

Poor living conditions nutritional factors, untreated chronic conditions of paranasal sinuses, tonsils and adenoids attribute to this. The other major cause of epistaxis was trauma in 13% of cases. Most of these cases were either to road traffic accidents or due to assault. In 1 of this 13 case, the trauma was caused by foreign body. The higher incidence can be explained on account of mainly higher accident rate. Rash driving and improper traffic rules contribute to this. In 10% of the cases no reason can be attributed for the epistaxis. Nasal and nasopharyngeal rhinosporidiosis, which is prevalent in and around Rajapalayam in Madurai District, is the next important aetiological factor for epistaxis. In the present study 11% of the cases belong to this group. 7 cases of epistaxis are found to be hypertensive with high diastolic blood pressure (more than 90mm of Hg), which has come impact on the severity of epistaxis. All these are above the age of 35years. In the miscellaneous group which is accounted for 15 of total cases, 5 cases belong to benign neoplasms namely Juvenile nasopharyngeal angiofibroma 1 case, bleeding polypus of septum 3 and inverted papilloma 1 case. 2 cases of malignancy include hemangioendothelioma 1 case and sphenoethmoid malignancy (histopathologic examination – Squamous cell carcinoma) 1 case.

LOCALISATION OF BLEEDING :

In regard to localization of bleeding the present study shown 50% from septum, 24% in the lateral wall and 26% in floor of the nose.

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CLINICAL EXAMINATION FINDINGS :

The anterior and posterior Rhinoscopy has revealed a few important finding which can be attributed for the cause of epistaxis. The external appearance of nose and paranasal sinuses showed abnormality in 6 cases and 19 cases the septum was deviated either to right to left. The vestibule showed congestion or infection in 14 case. The mucous membrane showed evidence of inflammation or congestion in 27 cases, pale in 5 cases and normal in 68% of cases. 14% of cases had either growth orrhinosporidial mass in the nasal cavity. 13% of cases showed hypertrophy of turbinate. 1% of cases had foreign body in the nasal cavity.

MANAGEMENT :

Patients were categorized into two groups on the basis treatment: nonsurgical/non interventional and surgical/interventional [Table 6]. The patients, whose' nonsurgical/non interventional approaches failed, went on to surgical/interventional treatment. Selection of the adequate approach to the patient with severe epistaxis must consider three parameters: efficiency, complications, and cost-benefit. Regarding control of nasal bleeding, we used three conservative modalities like Anterior nasal packing, Posterior nasal packing Cauterization of the bleeding site with silver nitrate and diathermy. Initially silver nitrate Cauterization if bleeding point was visible, Anterior nasal packing if bleeding was profuse, and Posterior nasal packing if failed Anterior nasal packing. The same approach to control epistaxis was also followed by Rope et al as well 59 cases (59%) out of total number of 100 cases were hospitalized and have been treated for a period of less than 10 days.

MEDICAL MANAGEMENT:

41 cases (41%) out of total number of 100 cases were treated on medical line. Underlying medical problem if any, was identified and appropriate treatment was given in all cases.Specific treatment for the underlying medical problem was given to the patients with hypertension, upper respiratory infection and others. One patient with haemangioendothelioma had been admitted in our ward and multiple blood transfusions were given for correction of anemia.

ANTERIOR NASAL PACKING:

Out of these 41cases, 16 cases needed anterior nasal packing under local anaesthesia to arrest the bleeding. The material used for packing was antibiotic coated ribbon gauze, which was kept for 48 to 72 hours. Broad spectrum antibiotic cover given to prevent sepsis with other supportive measures. All of these cases except one did not require re-packing after removal of the anterior nasal packing and discharged subsequently. In one case there was minimal oozing from little's area for which cauterization was done with diathermy.

POSTERIOR NASAL PACKING :

In 5 case the epistaxis could not be controlled with anterior nasal packing alone. So, posterior nasal packing with antibiotic coated rolled gauze was done along with anterior nasal packing under local anaesthesia. Broad spectrum antibiotic cover and intravenous fluids were given with other measures. The packing was removed after 72 hours and the bleeding did not occur.

ENDOSCOPIC NASAL CAUTERY :

Cauterization of the bleeding site with silver nitrate and diathermy cauterization done in 10 cases. Cautery was performed under local anesthesia with 4 percent lignocaine mixed with 1:100,000 adrenaline solution. All these cases did not require second sitting of cauterization.

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SURGICAL MANAGEMENT:

SUBMUCOUS RESECTION/SEPTOPLASTY/ SPURRECTOMY:

In 8 cases sub-mucous resection of the septum ,11 cases septoplasty and 9 cases spurrectomy was performed for recurrent epistaxis. These patients had deviated nasal septum either to right or left with spur. They were benefited from this procedure and there was no further episode of epistaxis in all the patients. During the study period 84 patients with epistaxis by Ramesh Parajuli 1 (1.19%) patient required septoplasty to control the epistaxis L E R Pope reviewed thatSeptal surgery is sometimes performed to allow access to the nasal cavity. As most haemorrhages occur from the septum, raising a mucoperichondral flap during septal surgery can be beneficial as this will decrease blood flow to the mucosa, which often in itself stems bleeding. Surgery is also used to correct a deviated septum or remove a septal spur, which may be the cause of epistaxis. This occurs either by altering air flow through the nose or in severe cartilage deformities, by persistent mucosal irritation.

NASAL BONES CLOSED REDUCTION

Reduction of the fractured nasal bones was carried out in 14 cases with fractured nasal bones due to trauma. Nasal bone fracture reduction in 2 cases (1.9%)done by O. V. Akinpelu

NASAL POLYP/ NASAL MASS LESION :

Endoscopic Polypectomy& FESS done in 9 case.. In study done by O. V. Akinpelu intranasal polypec-tomy and ethmoidectomy done in 5 cases(4.7%), Rhinosporidiosis excision & cauterization from the nasal cavity and nasopharynx was done in 5 cases. In 7 cases Diathermic excision of bleeding polyp bleeding done.

CAUTERISATION OF BENIGN LESIONS:

Endoscopic excision of inverted papilloma was performed in three patients. Endoscopic polypectomy was done in 4 patients who were diagnosed to have mass lesion inside the nasal cavity with bleeding, like angiofibroma, rhinosporidiosis, inverted papilloma.

ENDOSCOPIC LIGATION OF THE SPHENOPALATINE ARTERY:

Despite being a relatively simple procedure, the endoscopic surgeon should have a good knowledge of the technique and the anatomy of the sphenopalatine artery (SPA) as well as the possible anatomical variations in order to achieve a successful surgery. Endoscopic ligation of the sphenopalatine artery was done in 9 patients. A systematic review by Kumar et al. showed that ligation of the SPA and cautery were efficacious in 98% and 100% respectively.

CONCLUSION

Deviated nasal septum (19%) was the first most common aetiological factor seen in this study. The second most common aetiological factor was upper respiratory tract infection (17%) while idiopathic causes were the third most common. Idiopathic. Other aetiological factor were Trauma, Hypertension, Sino-nasal malignancy Bleeding diathesis and Bleeding polyp. Surgical or interventional treatment were effective to arrest epistaxis in most of the patients in this study. 41% of patients were treated by medical line of management 59% of patients were treated by surgical line of management. Among the non-surgical methods 16 cases needed anterior nasal Packing. In 10 cases required chemical cauterization in this study. Other modalities include posterior nasal packing, anterior and posterior nasal packing.

Surgical or interventional treatment includes Septoplasty in 11 cases, SMR in 8 patients and Spurrectomy in 9 patients were done in this study. Reduction of the fractured nasal bones was carried out in 14 cases with fractured nasal bones due to trauma. Endoscopic ligation of the sphenopalatine artery was done in 9 patients. Other Surgical modalities were diathermic excision

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of bleeding polyp, Endoscopic Polypectomy& FESS, endoscopic excision of inverted papilloma and Rhinosporidiosis excision. This study shows that surgical or interventional treatment is the main modality of treatment and were effective for epistaxis in majority of the patients.

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CONFLICT OF INTEREST

The authors declare no conflict of interest

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