



A CLINICO-PATHOLOGICAL STUDY OF BLEEDING NASAL MASSES AND THEIR MANAGEMENT

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ABSTRACT Nasal masses are common finding in ENT (Ear, Nose and Throat) outpatient department. A variety of non-neoplastic and neoplastic bleeding masses involving nasal cavity are commonly encountered in clinical practice. These masses produce wide range of clinical features ranging from epistaxis, nasal obstruction, headache and olfactory disturbances to destructive symptoms like proptosis, diplopia, visual disturbances and facial swelling¹. Malignancies although rare are of immense importance as early symptoms are vague and often mimic symptoms of less serious conditions. Hence, they pose a diagnostic as well as therapeutic challenge to the surgeon

KEYWORDS : Epistaxis, angiofibroma, proptosis, Annapurna, Surekha

Aim of the study:

- To study the clinical behaviour of different masses of nasal cavity.
- To study the pathological and radiological findings of these masses.
- To study the outcome following different modalities of treatment.

PATIENTS AND METHODS

This is a retrospective study conducted in Department of ENT, SVRRGGH. The present study includes 60 patients attending ENT OPD at SVRRGH, Tirupathi between July 2016 and December 2017.

Inclusion criteria: Patients of all age groups and both sexes with bleeding masses in nasal cavity were included in this study.

Exclusion criteria

- Patients with sino nasal polyps, adenoids and nasopharyngeal tumours
- Cases of facial trauma

Method of evaluation

A detailed clinical history along with complete Ear, Nose, Throat, and Head and Neck examination was done. Diagnostic nasal endoscopy, IDL examination was followed by haematological, radiological and histopathological examination [in an OT setup whenever required].

All patients were treated by empirical medical therapy followed by surgery and followed by a minimum period of 6 months.

OBSERVATIONS AND RESULTS

Table 1: Age distribution of patients studied

Age in years	No. of patients	%
0 -10	0	0%
11-20	5	8.3%
21-30	6	10%
31-40	13	21.6%
41-50	21	35%
51-60	7	11.6%
61 and above	8	13.3%
TOTAL	60	100%

Table 2 : Age distribution of each type of lesion in study population.

Age in years	No. of patients with Non-Neoplastic lesions	%	No. of patients with Benign Tumours	%	No. of patients with Malignant Tumours	%
0-10	0	0%	0	0%	0	0%
11-20	1	1.66%	4	6.66%	0	0%
21-30	2	3.33%	4	6.66%	0	0%

31-40	3	5%	10	16.66%	0	0%
41-50	2	3.33%	18	30%	1	1.66%
51-60	0	0%	6	10%	1	1.66%
Above 60	0	0%	6	10%	2	3.33%
Total	8	13.32%	48	79.98%	4	6.65%

Table 3: Average age distribution of patients studied

TYPE OF MASSES	AVERAGE AGE(In Yrs)
NON-NEOPLASTIC	32.5
BENIGN	42.5
MALIGNANT	57.5

Table 4: Gender distribution of patients studied

Gender	No. of patients	%
Male	36	60%
Female	24	40%
Total	60	100%

Table 5 : Gender distribution of different types of masses in study population

Type	Male	Female	M:F	Total
Non- neoplastic	5	03	1.6:1	8
Benign	28	20	1.4:1	48
Malignant	3	01	3:1	4

Table 5 shows gender distribution of patients with different types of masses showing higher incidence in males

Table 6 : Distribution of different types of tumours in patients studied.

Type of Tumour	No. of patients	%		
Non-Neoplastic	Rhinosporidiosis	8	13.3%	
Benign	Epithelial	Inverted papilloma	28	46.6%
	Non-Epithelial	Capillary Haemangioma	10	16.6%
		Benign Schwannoma	4	6.6%
		Angiofibroma	6	10%
Malignant	Epithelial	Squamous cell carcinoma of Maxilla	4	6.6%
	Non-Epithelial	-	-	-
Total		60	100%	

Table 6 shows maximum number of cases i.e., 28 (46.6%) diagnosed to have Inverted papillomas followed by Capillary haemangioma 10 (16.6%) and Rhinosporidiosis 8 (13.3%).

Benign tumours are more common than Malignant tumours whereas Epithelial tumours are more common than Non-Epithelial.

Table 7 : Symptom Distribution of patients studied

Mode of presentation	No. of cases	Percentage
Epistaxis/Blood stained nasal discharge	60	100%
Nasal obstruction	54	90%
Headache	40	66.6%
Nasal discharge	36	60%
Anosmia	10	16.6%
Eye symptoms	8	13.3%
Facial Swelling	2	3.33%

Table 17 shows all the 60 cases presented with Epistaxis or Blood stained nasal discharge(100%)followed by nasal obstruction(90%), headache (66.6%), nasal discharge(60%).

Table 8 : Modalities of treatment for different lesions

TYPE	No.	Surgery		Radiotherapy
		FESS	Surgery	
Non -neoplastic	8	8	0	0
Benign	48	30	18	0
Malignant	4	0	4	4
Total	60	38	22	4
Percentage		63.3%	36.6%	6.6%

Table 8 shows that Functional Endoscopic Sinus Surgery was commonly performed surgical procedure i.e., in 38 (63.3%)cases in this study. Surgical excision by Lateral Rhinotomy approach was done in 22(36.6%) cases. Malignant cases underwent surgery and radiotherapy.

PHOTOGRAPHS OF OBSERVATIONS

1) Capillary haemangioma:

A case of capillary haemangioma showing reddish mass attached to septum. CT –Scan coronal section showing mass attached to septum in the left nasal cavity. Endoscopic picture showing Reddish mass in the left nasal cavity. Histopathology section showing abundant capillaries and less stroma.

2) Schwannoma

A case of scwannoma of nose showing pale mass in the right nasal cavity.CT-Scan axial sections showing mass involving right nasal cavity and maxillary sinus.intra-operative picture showing surgical excision by lateral rhinotomy approach. Histopathology section showing a non-encapsulated hypercellulartumor composed of round to ovoid cells with both spindle shaped schwann cell rich area with nuclear palisading(Antoni A) and schwann cell poor loose myxoid areas(Antoni B).

6) Ca maxilla

A case of Carcinoma maxilla showing right facial swelling. Endoscopic picture showing redding mass occupying right nasal cavity. CT – Scan axial section showing mass involving right nasal cavity and right maxillary sinus. Histopathology section showing epithelial cells with nuclear atypia and increased mitosis.

DISCUSSION

Age and Gender distribution

In this study, Out of 60 patients the lowest and highest age at presentation was 14 years and 68 years respectively with a mean age of 42.1years. Males had higher preponderance when compared to females. Predominance of males (60%) seen in our study.

Symptom distribution: The most common symptom was Epistaxis or blood stained nasal discharge. The present study shows that all the 60 cases presented with epistaxis⁸ or blood stained nasal discharge followed by nasal obstruction (90%), headache(66.6%), nasal discharge(60%)and loss of smell(16.6%)².

Eye symptoms were seen in 8 cases (13.3%) and facial swelling³ was observed in 2 cases (3.33%) in this study.

Out of 60 cases in the present study, 8 cases (13.3%) were non-neoplastic and 52 cases (86.66%) were neoplastic, showing neoplastic lesions were more common than non-neoplastic lesions in this study which was similar to above studies. All the 8 cases of non-neoplastic lesions were found to be Rhinosporidiosis. Out of 52 neoplastic lesions, 48 cases(80%) were benign and 4(6.66%) were malignant showing benign tumours are more common than malignant tumors in our study.

When classified in to epithelial and non-epithelial,32 cases (61.5%) were epithelial and 20 (38.4) were Non-epithelial, which shows epithelial tumours were more common than non-epithelial in our study⁴.

28 cases (46.6%) were Benign epithelial and 20 (33.3%)were Benign non-epithelial. Only Malignant epithelial tumor encountered in this study was squamous carcinoma of maxilla which constituted 6.66%(4 cases) of total study population.

NON-NEOPLASTIC LESIONS

In this study, 8 cases(13.3 %) were non neoplastic. The most common age group with non-neoplastic lesions was 11-50 years in the present study⁵. No non-neoplastic lesion was identified after 50 years of age in the present study. Out of 8 patients the lowest and highest age at presentation was 19 years and 48 years respectively with the mean age of 32.5 years.

The sex ratio was 1.6:1. In this study all the 8 cases of Non-neoplastic lesions were Rhinosporidiosis⁶, Out of which 5 were males and 3 were females showing male. Most common presentation was Epistaxis and Nasal obstruction⁷.All the 8 patients had a history of bathing in ponds and we believe that this may be the source of infection.

Rhinosporidiosis¹⁵ is the granulomatous disease affecting the mucosa of nasal cavity⁷. Inferior turbinate, floor of nose and nasal septum are the common sites of involvement. Out of 8 cases in this study, 5 were seen arising from inferior turbinate and in 3 cases, it was from nasal septum. Biopsy was taken and histopathology confirmed the diagnosis⁸. All 8 cases were treated endoscopically.Excision was done from base followed by electro cauterization. One case was lost in follow-up and the other cases showed no evidence of recurrence till now.

BENIGN LESIONS

In this study, out of 60 cases, 48 cases(80%) were benign. Maximum number of cases i.e., 28 cases(60.3%)were found in the age group of 31-50 years. No benign tumour was identified before 10 years of age in our study. The lowest and highest age of presentation^{10,16} was 14 years and 65 years respectively with themean age of 42.5.

In this study, Out of 48 benign tumours, 28 were males and 20 were females with male to female ratio 1.4: 1 showing male preponderance⁹. Of 48 cases of Benign tumours in our study, maximum number of cases i.e., 28(46.6%) were diagnosed to have Inverted papilloma followed by capillary haemangioma 10(16.6%) and angiofibroma 6 (10%). When classified in to Epithelial and Non-Epithelial^{10,11}, 28 cases (46.6%) were Benign epithelial and 20 (33.3%) were benign non-epithelial showing epithelial were more common than non-epithelial tumours¹⁶. In the present study all the 28 cases of benign epithelial tumours were found to be Inverted papillomas and Non-epithelial benign tumours (20) were capillary haemangioma(10), angiofibroma (6) and benign schwannoma (4).

Maximum number of cases with inverted papillomas were in the age group of 31-50 years with male to female ratio 1.5:1 showing male preponderance. All the patients presented with nasal obstruction and blood stained nasal discharge^{21,26}. Symptoms like Headache, loss of smell, hypo nasality were also reported in some cases. Among 28 cases of inverted papillomas, 18 cases where tumour was not that much extensive were excised endoscopically and in 10 cases surgical excision was done by Lateral Rhinotomy approach. In the present study, Recurrence was seen in 3 cases (5%).

Capillary haemangiomas are benign non-epithelial tumours of vascular origin^{16,21}. Out of 48 cases of benign tumours in this study, we observed only 10 cases (16.6% of total study population) of capillary haemangioma. Maximum numbers of cases were in the age group of 31-40 years. 6 were males and 4 were females showing male preponderance. All the patients presented with recurrent epistaxis and nasal obstruction. In 7 cases mass was seen arising from nasal septum and in 3 cases from lateral wall. Computed tomographic scan was performed and final diagnosis was made by histopathology report.

All the 10 cases of capillary haemangioma were excised endoscopically and electrocauterised from their base and no recurrence was seen in follow-up till now.

Angiofibromas are benign non-epithelial tumours commonly involves nasal cavity and nasopharynx^{22,17}. In 48 cases of benign tumours, 6 cases were angiofibromas out of which 4 were males and 2 were females. All 6 patients presented with nasal obstruction and frank epistaxis. In the present study all the 6 cases (10%) were seen arising from lateral wall of nose involving nasal cavity and paranasal sinuses. Out of 6 cases, 2 were treated endoscopically and in 4 cases, surgical excision was done by Lateral Rhinotomy approach¹⁸. No recurrence was seen in follow-up till now.

Schwann cell tumours are non-epithelial tumours. In the present study, Out of 60 cases, 4 cases (6.6%) were benign schwannomas^{19,23,24}. The commonest age group with benign schwannomas in this study was 40 – 70 years. 3 cases were females and 1 was male. Out of 4 cases, 3 cases were seen arising from lateral wall of nose involving nasal cavity and paranasal sinuses and in one case mass was seen arising from posterior end of nasal septum. Computed tomographic scan was performed^{2,3}. Histopathology report confirmed the diagnosis. All the 4 cases of Schwannoma were excised by Lateral Rhinotomy approach. No recurrence was seen in follow-up till now.

MALIGNANT TUMOURS

In our study all the 4 cases (6.6%) were squamous cell carcinomas arising from maxillary sinus¹². Most common age group was 41 -70 years with mean age of 57.5. No malignant tumor identified in the patients less than 40 years of age. In this study, 3 patients were males and 1 was female with male to female ratio 3:1.

All 4 patients were presented with nasal obstruction, epistaxis¹³. Out of 4, one case presented with swelling over maxillary area. 3 male patients were chronic smokers for more than thirty years²¹. One patient is associated with wood work¹⁴ and furniture business since his childhood. 3 out of 4 were T₁N₀M₀, and 1 case was T₂N₀M₀. All cases were treated surgically by lateral rhinotomy approach and given post-operative radiotherapy. No recurrence was seen in the follow-up till now.

CONCLUSION:

1. Bleeding sinonasal masses have various differential diagnoses.
2. Benign lesions show a peak during 2nd to 4th decade of life, while malignancies are generally observed only after 4th decade. They have a male preponderance^{1,4,7}.
3. The chief presenting features are Epistaxis and Nasal obstruction⁷.
4. The findings must be interpreted in light of greater clinical suspicion, and complete ENT examination including Radiological and Endoscopic studies.
5. Clinical diagnosis is often difficult and has to be relied on histopathological examination of biopsy specimen and is necessary to carry out further management of these lesions.
6. In this study, Benign lesions were more common than Malignant lesions and Epithelial tumours were more common when compared to Non-epithelial.
7. Among Benign lesions, Inverted papilloma²⁶ was the commonest followed by Haemangioma and Angiofibroma.

8. Medical management is often not adequate and surgery is the treatment of choice for benign lesions²⁶.
9. A combination of surgery and Radiotherapy is helpful in the malignant conditions²⁷.
10. Early diagnosis with the help of newer diagnostic modalities with prompt treatment is necessary for these patients²⁷.

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