

Management of nasal polyps at a tertiary care hospital

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Abstract

Background: Endoscopic techniques are now well established. In combination with modern imaging technique particularly CT, these techniques provide diagnostic possibilities unimagined a few decades ago. Modern endoscopic sinus surgery is arbitrarily divided into the Masseurklinger and Wing and approaches. **Methodology:** Patients treated between study period were subjected to a comprehensive history and clinical evaluation and histopathological examination as per the proforma designed for this study. **Results:** In our study 26 patients (86.6%) underwent functional endoscopic sinus surgery, 3 patients (10%) simple polypectomy and 1 patient (3.4%) Clad well Luc surgery. **Conclusion:** All polypoidal masses removed from nose and paranasal sinuses should be thoroughly evaluated histopathologically

Key Words: Clad well Luc Surgery, Paranasal Sinuses, Polyps.

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INTRODUCTION

Nasal polyposis is the most common chronic disease affecting the mucous membrane of the nasal cavities and the paranasal sinuses¹. This condition was recognized in India and by 1000 BC curettes had been devised to remove them. "Hippocrates (460-370 BC) recognized them as well as advocated "sponge method" to remove them. He used Red hot iron rods to stop the bleeding. Effective methods like cauterization and snaring were tried². Multiple factors including infections, allergy, trauma, chemical, metabolic diseases and psychogenic factors have all been implicated as possible etiologies of nasal polyposis³. Polyps are nasal manifestations of the unstable respiratory mucosa, which may be limited to nose and sinuses or extended into the chest. Polyps are edematous hypertrophied prolapsed mucus membrane with a stalk⁴. Conventionally, these are treated by nasal polypectomy with avulsion technique in children and by

Cladwell Luc's operation in adult. In recent times successful results of endoscopic removal have been reported⁵. The functional endoscopic sinus surgery technique provides a tool by which the clinician can accurately diagnose, meticulously and with minimum trauma perform surgery and precisely provide postoperative care and follow-up for nasal polyp disease and least chance of recurrence⁶. Endoscopic techniques are now well established. In combination with modern imaging technique particularly CT, these techniques provide diagnostic possibilities unimagined a few decades ago⁷. Modern endoscopic sinus surgery is arbitrarily divided into the Masseurklinger and Wing and approaches^{8,9}. The Masseurklinger technique is an anterior to posterior approach that most commonly involves only the anterior ethmoid and maxillary sinus ostium. It can be extended to the posterior ethmoid, sphenoid and frontal sinus if necessary and hence is ideal for patients with anterior ethmoid disease with or without maxillary or frontal sinus disease. The Wigand technique is contrast is a posterior to anterior technique, which involves all sinuses of the involved site and hence an ideal for patient with pansinusitis who have or are apt to fail the more limited Masseurklinger technique. Generally speaking, FESS is considered to be a relatively safe and effective procedure for treating chronic sinusitis with or without nasal polyps in adults¹⁰.

MATERIAL AND METHODS

Patients treated between study period were subjected to a comprehensive history and clinical evaluation and histopathological examination as per the proforma designed for this study. Records of patients treated between study period were retrieved from medical records section of Medical College to get the required data. The histopathological slides and blocks were retrieved from the Department of Pathology and were reviewed by the Pathologist. Data obtained from these records was compiled to meet the requirement of this study.

Investigations

1. Hematological investigations – Hb%, total leukocyte count, differential count, absolute eosinophil count, bleeding limit, clotting time, blood grouping and typing, random blood sugar and urine routine examinations were done.
2. Radiological investigations included
3. Plain para nasal sinus x-rays (Water’s view / Cladwell’s view / Lateral view).
4. Computerized tomographic scan of nose and paranasal sinuses (coronal and axial with or without contrast enhancement) was done wherever indicated.

Surgical Intervention

Excision of the nasal polyposis with prior consent of the patient by ransnasal, endoscopic approach or a Caldwell Luc operation as indicated and confirming to well recognized, practiced and established modalities of treatment.

Histopathological Examination

All surgically excised nasal polyposis were subjected to histopathological examinations in the department of Pathology. Haematoxylin and eosin stains were used for all section for histopathological examination and natures of nasal polyposis were ascertained.

Study Pattern

- Depending on the clinical features, radiological and histopathological findings.
- Nasal polyposis are classified
- Antrochoanal and
- Ethmoidal polyps

RESULTS

Table 1: Distribution of cases on Clinical Findings

| Diagnosis | Number of Patients | Percentage |
|--------------|--------------------|---------------|
| A-C Polyps | 14 | 46.67 |
| Eth. Polyps | 10 | 33.33 |
| Other Polyps | 06 | 20.00 |
| Total | 30 | 100.00 |

In our study 14 (46.6%) patients were diagnosed to have antrochoanal polyp, 10 (33.33%) had ethmoidal polyp and 6 (20%) as the polyps originating from other sites.

Table 2: Distribution of cases according to site of Origin of A-C Poly

| Site | Number of patients | Percentage |
|------------------|--------------------|---------------|
| Accessory ostium | 10 | 71.42 |
| Maxillary sinus | 4 | 28.57 |
| Total | 14 | 100.00 |

In our study the site of origin of antrochoanal polyp was accessory ostium of maxillary sinus in 10 patients (71%) being the most common. And in 4 patients the site of origin was not determined.

Table 3: Comparison of histopathological pattern of nasal polyp

| Types | Allergic (Eosinophilic predominance) | Inflammatory (Neutrophil+plasma cell predominance) |
|--------------|--------------------------------------|--|
| Eth. Polyp | 7 (70%) | 3 (30%) |
| A-C Polyp | 2 (14.35%) | 12 (85.7%) |
| Total | 9 | 15 |

$\chi^2 = 7.725 = p < 0.01$ High significant

Allergic picture with eosinophilic predominance were found in 70% of Ethmoidal polyps while inflammatory type was more common in the antrochoanal polyps (85.7%).

Table 4: Comparison of Histopathological and Clinical Findings

| | Histopathological findings | | Clinical Findings | |
|--------------|----------------------------|--------------|-------------------|--------------|
| | No. | % | No. | % |
| A-C Polyp | 14 | 46.67 | 14 | 46.67 |
| Eth. Polyp | 10 | 33.33 | 10 | 33.33 |
| Others | 06 | 20.00 | 6 | 20.00 |
| Total | 30 | 100.0 | 30 | 100.0 |

In our study there is no difference between clinical and histopathological findings.

Table 5: Treatment of Nasal Polyposis

| Parameters | Number of Patients | Percentage |
|---------------------------|--------------------|------------|
| FESS | 26 | 86.6 |
| Polypectomy with avulsion | 3 | 10.0 |
| Caldwell Luc | 1 | 3.4 |
| Total | 30 | 100 |

In our study 26 patients (86.6%) underwent functional endoscopic sinus surgery, 3 patients (10%) simple polypectomy and 1 patient (3.4%) Caldwell Luc surgery.

DISCUSSION

In our study 14 were diagnosed with antrochoanal polyp and 10 patients were diagnosed as having ethmoidal polyps while in 6 patients it was from other sites. In the Levine’s study¹⁰, 42 had antrochoanal polyp and 458 ethmoidal polyps, in contrast to our study. The more present of

antrochoanal polyp in the present study would be because of recurrent infection and neglect of the condition due to unaffordability for the treatment as most of the cases were from low socio-economic status. In our series most of the patients with antrochoanal polyp, polyp was originating from accessory ostia, and in many cases it was uncertain. In a study by Sem Basak⁴⁶ *et al.*, the most common site of polyp was accessory ostia followed by neutral ostia in case of antrochoanal polyp. In our study, the most common site of origin of antrochoanal polyp within the maxillary sinus was inferolateral wall (42%), the other sites like inferomedial and superomedial wall accounted for 14% and 7% respectively, in 35% of cases the site of origin could not be determined. In study by Anuj Kaushal *et al.*, (2004)¹¹, they found the commonest site of origin of antrochoanal polyp was inferolateral wall (35%) followed in decreasing order by superomedial and inferomedial (10% each) and annular (5%). In 40% cases the site of origin was uncertain. The ethmoidal polyps were commonly originating from anterior ethmoidal cells (60%) followed by posterior ethmoidal cells (30%) and bulla ethmoidalis (10%). Other sites were uncinate process (50%), infundibulum (33%) and middle turbinate (16%). According to Stammberger, endoscopic visualization was concluded the finding that with few exceptions, almost all polyps that appear in nasal cavity arise from ethmoid or its immediate antomic vicinity, in uncomplicated cases, the anterior ethmoid is almost always involved, the most frequent site is the contact area of the uncinate process and the middle turbinate and the ethmoid infundibulum, they also originate from anterior aspect of ethmoid infundibulum or protrude anteriorly between middle turbinate and uncinate process into middle meatus. Plain x-ray of para nasal sinuses was done in all cases. In antrochoanal polyp, plain sinus x-ray showed unilateral antral opacification and soft tissue mass in the nasal cavity and nasopharynx. CT scan was done in 13 cases and confirmed that polyp arose from maxillary antrum. In one of our cases X-ray and CT findings helped in arriving at a proper diagnosis. It was an infected antrochoanal polyp, which clinically looked like an infective granuloma. Thus X-ray and CT scan helped in averting a major surgical intervention. In cases of ethmoidal polyps, all sinus x-rays showed ethmoidal sinus opacification with soft tissue mass in the nasal cavity. Coronal CT scans were done in 9 cases to know the site and extent of polyps in the ethmoidal sinuses. Bilateral changes such as opacification, polypoid changes, attenuation of bony ethmoidal trabeculae or the sinus wall bulging were found in all cases. The polyps are divided into two types depending on the eosinophils and inflammatory cells. The eosinophilic polyp, which have abundant eosinophils are said to be associated with

allergy while inflammatory polyps with scanty eosinophils and moderate number of lymphocytes, plasma cells and neutrophils are said to be associated with chronic type. Dandapath A¹² found an incidence of only 48.7% of eosinophilic variety among ethmoidal polyps. However, in our study among ethmoidal polyps 70% showed predominance of eosinophilic type, while 85% of antrochoanal polyp showed inflammatory cell type, mainly neutrophilic. In our study, eosinophilic predominance was seen more (71.4%), compared to Dandapath *et al.*¹² (48.7%), while in antrochoanal polyps, lymphocytic predominance was seen (77.8%) which is nearly similar to that of other study. Nasendoscopy was done in 83.3% of cases. X-ray was done in all cases. CT scan was done in 86% cases based on clinical presentation, extension and size of the mass. Hematological investigations like Hb%, total leukocyte count, differential count, absolute eosinophil count, bleeding time, clotting time, blood grouping and typing and urine routine examinations were done in all cases. Biopsy was done in suspected cases of malignancies. Out of 30 cases of nasal polyp, 26 was (86%) underwent endoscopic assisted polypectomy, the rest were managed by transnasal polypectomy with Avulsion technique and Caldwell Luc operation. Out of 10 cases of ethmoidal polyp 7 cases (70%) underwent functional endoscopic clearance of ethmoidal sinus. Postoperative care was taken as per the protocol. Topical steroid spray was given two weeks after surgery. Regular follow up was done for all cases. Out of 14 cases of antrochoanal polyp 13 cases (92%) underwent functional endoscopic sinus surgery (FESS). In all cases middle meatal antrostomy was done to remove osteomeatal complex block to provide good ventilation. In the remaining cases the polyps were avulsed either transorally or transnasally depending on the size of the polyp.

CONCLUSION

It may be due to a variety of etiologies like infections, allergy, antigenetically stimulating, mechanical and traumatic and possibly many other yet to be identified causes. These may induce formation of tumors resembling or truly neoplastic conditions. It is quite impossible to distinguish between such lesions clinically. Hence it is essential that all polypoid masses removed from nose and paranasal sinuses should be thoroughly evaluated histopathologically, to avoid misleading diagnosis.

REFERENCES

1. Stammberger Heinz, Michel Hawke, "Essentials of Endoscopic sinus surgery", 2nd Edition (1993), Mosby Publications, Pg. 96.

2. Drake Lee A.B. 1997: "Nasal polyps", Scott Brown's Otolaryngology, Vol. 4, 6th Edition, Butterworth-Heinemann, Chapter 4/10/1-15.
3. English GM: Nasal Polyposis In English GM (ed): Otolaryngology, Vol. 2. Philadelphia, Harper and Row, 1982, p1.
4. Drake-Lee A.B. Low D, Swanston A, Grace A, 1984: Clinical Profile and recurrence of nasal polyps "Journal of aryngoogy and Otoogy, 98: 783-793.
5. Ramesh C Deka. 1999: "Antrochoanal polyps – its pathogenesis, origin and management by FESS: "Indian Journal of Otolgy Head and Neck Surgery. 51: 33-35.
6. Jordan S. Josephson, The rle of Endoscopic Sinus Surgery for the Treatment of Nasal Polyposis, The Otolaryngologic clinics of North America, Vol. 22 / No. 4. August 1989.
7. Stammberger Heinz, 1991: "FESS – The Messerklinger Technique "Mosby Yearbook. Pg. Xii.
8. Wigand M.E. 1981: "Transnasal Ethmoidectomy under Endoscopic Control" Rhinology, 19:7-10.
9. Wigand M.E, Steiner W. andJaumann M.P.1978: "Endoscopic sinus surgery with endoscopic contrl: from medical operation to rehabilitation of the mucosa" Endoscopy, 10:255-260.
10. Levine H.L. 1990: "Functional Endoscopic Sinus surgery: Evaluation, Surgery and Follow up of 250 patients "Laryngoscope, 100:79-84.
11. AnujKaushal, Lakshmi Vaid, P.P. Singh, Antrochoanal Polyp-Validating its origin and management by endonasal endoscopic sinus surgery, Indian Journal of Otolaryngology and Head and Neck Surgery, Vol 56, No. 4, October-December 2004.
12. Stammberger H, 1986: "An Endoscopic study of Tubal Function and the deseasedEthmoid Sinus "Archives of Otolaryngology, 243:254-259.

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