



# Surgical Review and Clinico-Pathologic Profile of Nasal Polyps in the University of Port Harcourt Teaching Hospital

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## ABSTRACT

**Background:** Nasal polyps are benign growth arising from the mucosa of the nose or sinuses protruding into the nasal cavity. They are translucent to pale gray, pear shaped, smooth, soft, and freely mobile. The aim of the study was to determine the clinical and histological pattern of nasal polyps in UPTH.

**Patients and methods:** This is a retrospective study that involves all patients that were managed for nasal polyp at the ENT surgery department of UPTH. Data collection was from June 2008 to June 2018. The clinic registers and patients folders were the source data from which the biodata, clinical presentations, treatment, complications and histology were extracted. These were analyzed using simple statistical tools SPSS 20.0.

**Results:** A total of 46 patients were treated for nasal polyp, 24 male and 22 female with a ratio of 1.1:1.0. The age range was 14-65 years with the mean age of 32 years. The duration of symptom range from 3mths – 10 years. The mean duration of post op stay was 5days. Complications seen were recurrence 20.5%, adhesions 9.1%.

**Conclusion:** Nasal polyp is a common nasal condition that often requires surgical intervention to reduce the attendant morbidity. Nasal blockage being the commonest presenting complaint and recurrence the commonest complication.

## INTRODUCTION:

Nasal polyps are benign growth arising from the mucosa of the nose or sinuses protruding into the nasal cavity.<sup>1,2</sup>They are translucent to pale gray, pear shaped,

smooth, soft, and freely mobile.<sup>2,3</sup>They initially begin as small growth that slowly increases in size to occupying the nasal cavity.<sup>1,4</sup>The prevalence of nasal polyp worldwide is 1-4%.<sup>2,5</sup>Nasal polyps are not common in children however when they occur it's usually associated

with cystic fibrosis.<sup>2</sup>Nasal polyps aetiology is very complex and not well-understood.<sup>1</sup> Some causes of nasal polyp are inflammatory (recurrent nasal infections, sinusitis), disorders of ciliary motility (cystic fibrosis), allergy, fungi and deviation of the nasal septum.<sup>2,3</sup> Polyps which are sessile in the beginning become pedunculated due to gravity and the excessive sneezing.<sup>5</sup>The commonest sites of involvement are the anteriorethmoid and maxillary sinuses.<sup>2, 6</sup> Clinical features of nasal polyps include nasal congestion or blockage, post-nasal discharge, rhinorrhea, headache, pain, or facial pressure and anosmia.<sup>2</sup>The treatment of nasal polyps consists of two categories of medical and surgical treatments.<sup>6</sup>Medical treatment involves the use of topical or systemic corticosteroids with systemic antihistamines.<sup>7</sup>Surgical treatment is indicated in case of nasal obstruction and lack of response to medical treatment.<sup>7</sup> The surgical treatment of choice is endoscopic sinus surgery.<sup>7</sup> However, there are other surgical options of simple polypectomy, intranasal ethmoidectomy, external ethmoidectomy and Caldwell-Luc procedure.<sup>7</sup> Diagnosis of nasal polyps is confirmed by histopathology report from tissue specimen. The aim of this study is determine the clinical and histological pattern of nasal polyps in UPTH.

## PATIENTS AND METHODS

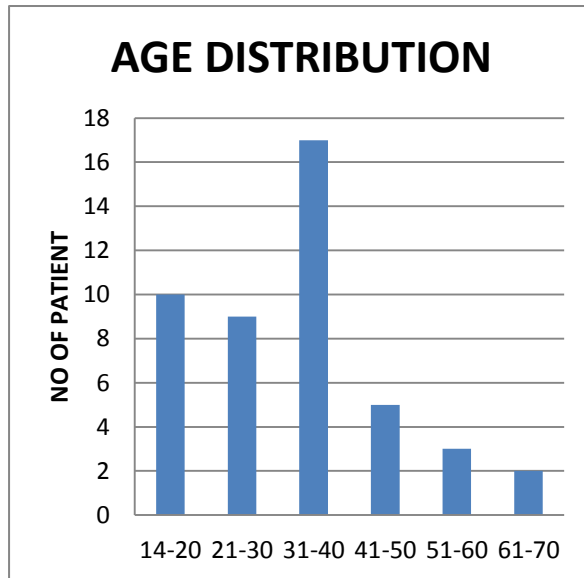
This is a retrospective study that involves all patients that were managed for nasal polyp at the ENT surgery department of UPTH. This is a retrospective study that involves all patients that were managed for nasal polyp at the ENT surgery department of UPTH. Data were collected from the clinic registers, clinical records of the patients from June 2010 to June 2020. The clinic registers and patient's folders were the source data from which the biodata, clinical presentations, treatment, complications and histology were extracted. These were analyzed using simple statistical tools SPSS 20.0

## RESULTS

A total of 46 patients were treated for nasal polyp, 24 male (52%) and 22 female (48%) with a ratio of 1.1:1. The age range was 14-65 years with the mean age of 32 years. The commonest symptom was nasal blockage 100%, this was closely followed by nasal discharge 84.7%, reduced smell was 68.5%, nasal growth 68.5%, post nasal drips 66.2%, allergic symptoms 50.0%. The duration of symptom ranged from 3mths – 10 years. Duration from 1<sup>st</sup> visit to surgery ranged from 1month to 2years 6months. The modal period of stay, post-surgery was 4 days while the range was 3-10 days. Nasal polyp found on the left 45.7%, right 36.9%, bilateral 17.4%, antrochoanal 13.0%. The surgery done was nasal polypectomy 73.9%, calwell-luc 26.1%, intranasalethmoidectomy 15.2%. Histological report showed inflammatory polyp in 66.9%, allergic polyp predominately eosophilia 13.0%, fibrous polyp 6.5%,

chronic non-specific inflammatory polyp 6.5%, inverted papilloma 4.3%. The mean duration of post op stay was 5days. Complications seen were recurrence 20.5%, adhesions 9.1%, and facial swelling.

**Figure 1: AGE DISTRIBUTION OF PATIENTS**



**Table 1: SITE OF POLYP SEEN IN PATIENTS**

LATERALLY	NUMBER	%
RIGHT	17	36.9%
LEFT	21	45.7%
BILATERAL	8	17.4%
ANTROCHOANAL	6	13.0%

**Table 2: PATIENT SYMPTOMATOLOGY**

SYMPTOMS	NUMBER	%
Nasal blockage	46	100%
Nasal discharge	39	84.7%
Reduced smell	32	68.5%
Nasal growth	32	68.5%
Post nasal drips	30	66.2%
Allergic symptoms	23	50.0%
Mouth breathing	17	36.9%
Frontal headache	9	19.6%
Halitosis	4	8.7%
Epitaxis	3	6.5%

**Table 3: SURGERY PERFORMED FOR POLYPECTOMY**

SURGERY	NUMBER	%
Intra Nasal polypectomy	34	73.9%
Calwell-luc	12	26.1%
Intranasal ethmoidectomy	7	15.2%

**Table 4: HISTOLOGICAL PATTERN OF TISSUE SPECIMEN**

HISTOLOGIC PATTERN	NO	%
INFLAMMATORY POLYP	32	66.9%
FIBROUS POLYP	6	13.0%
CHRONIC NON-SPECIFIC INFLAMMATION	3	6.5%
ALLERGIC POLYP PREDOMINANTLY EOSINOPHILIA	3	6.5%
INVERTED PAPILOMA	2	4.3%

## DISCUSSION

Nasal polyp is marked by the formation of benign, stem-like growths on the mucous membrane, severely affecting daily life. Nasal polyp is a common disease affecting the nose and Paranasal sinus with a prevalence of 1-4% globally.<sup>2,3</sup> In this study nasal polyp was found to be commoner in the age group 30 – 40 years, this is similar to the review by Mohammad S.S that report nasal polyp to be common in adult older than 20 yrs<sup>6</sup>. Nasal polyps are uncommon in children less than 10 years, however when they do occur it could be a sign of cystic fibrosis<sup>6</sup>. Qaisar K. et al also noted that majority of the patients (33.33%) were in age group 11-20 years followed by (21.21%) in age group 21-30 year<sup>7</sup>. The mean age in this study is similar to that by Ogunleye A.O and Fasunla A. J. Who reported 33.5 years<sup>3</sup>. Tezer I. et al reported a mean age of 34 years, range: 15–53 years in their study<sup>8</sup>. This study showed nasal polyp to be slightly commoner in male. Other studies also reported higher male preponderance. Ogunleye and Fasunla, Qaisar K et al., Fahy C. et al., Payman D. et al., Andrijana V. et al.<sup>3, 7, 9, 10, 11</sup>. However Tezer I. et al., report female preponderance in his work in Iran<sup>8</sup>. Left nasal polyp was commoner, however Ogunleye and Fasunla reported bilateral to be more, followed by left nasal polyp<sup>3</sup>.

The commonest symptom was nasal blockage seen in all patients, this is similar to report by other authors Ogunleye and Fasunla, Parvin B. et al.,<sup>3, 10, 12</sup> Payman D et al, reported was also similar to this work in which the commonest symptoms was nasal obstruction or congestion, smelling disturbance, headache and facial pain, nasal discharge, post nasal discharge (PND)<sup>10</sup>. Lathi also found that nasal obstruction was the most common (97.3%) presenting complaint, followed by rhinorrhoea (49.1%), hyposmia (31.25%), intermittent epistaxis (17.9%), headache (16.9%), facial swelling (11.6%) and eye-related symptoms (10.7%).<sup>13</sup> Epistaxis was seen in 3 patients, with two of the patients having infected nasal polyp and one having inverted papilloma. However, Ogunleye and Fasunla did not report epistaxis, as it is not frequent in nasal polyp. If it does occur, it may indicate a more sinister underlying pathology than nasal polyps<sup>3</sup>. Qaisar K. et al reported epistaxis as a symptom in 15.15% in their study but no sinister underlying pathology was found in these patients<sup>7</sup>. The duration of symptom ranged

from 3 months to 10 years. Duration from first visit to surgery ranged from 1 month to 2 years 6 months. Patients living with these discomforting symptom for such a long time would affect their quality of life. These delays may be due to the poor health seeking behaviour people and low socio economy status of our country.

This treatment options for nasal polyps are medical and surgical.<sup>3, 12</sup> Medical treatment involves the use of topical or systemic corticosteroids with systemic antihistamines.<sup>12</sup> Mohammad S.S et al in their work showed the effectiveness of antileukotrienes (montelukast, zafirlukast) in the treatment of nasal polyp<sup>6</sup>. Nasal polyps are shown to have more leukotriene C4 and leukotriene B4 than the normal nasal tissue<sup>6</sup>. The presence of leukotriene C4 in nasal polyps is likely the cause of early polyp recurrence<sup>6</sup>. Cysteinyl-leukotrienes have been noted to be the cause of mucus production, mucosal edema and inflammation<sup>6</sup>. Surgical treatment is indicated in case of nasal obstruction and lack of response to medical treatment. In the study most of our patient had intra-nasal polypectomy, others had Caldwell-Lucas and few had intranasal ethmoidectomy this similar to the study by Ogunleye and Fasunla<sup>3</sup>. None of our patient had endoscopic sinus surgery, which is the treatment choice due to no availability of facilities for it<sup>7</sup>.

This study had recurrence rate as high as 20.5%. Drake Lee reported 5% while Ogunleye and Fasunla reported 13%<sup>14</sup>. Our study was about four times that recorded by Drake-Lee<sup>14</sup>. The exact cause of recurrence is not known but all the patients had topical steroid to prevent recurrence. Adhesion was observed in 9.1% of our patients for which the patients had adhesiolysis and stenting done. This study, histopathologic report showed more of inflammatory polyp 66.9%, allergic polyp predominately eosinophilia 13.0%, fibrous polyp 6.5%. while Qaisar K, et al reported that all their sample had histopathology report as simple inflammatory polyps<sup>7</sup>. Our study differs with; Anjali D. et al report allergic polyps (67.3%) and inflammatory (32.7%)<sup>15</sup>. Luciano G.F. et al., reported eosinophilic polyp (73%); fibro-inflammatory polyp: (18%); and polyp with stroma atypia: (2.3%).<sup>16</sup>

## CONCLUSION:

Nasal polyp is a common nasal condition that often requires surgical intervention to reduce the attendant morbidity. Nasal blockage being the commonest presenting complaint and recurrence the commonest complication.

### Conflict of interest

There was no conflict of interest

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