EPIDEMIOLOGY OF NASAL POLYPS AT AN ARMY HOSPITAL IN PAKISTAN

Zaheer Ul Hassan, Farhan Akbar*, Mian Ameer Majeed

Combined Military Hospital Peshawar Pakistan, *Combined Military Hospital Quetta Pakistan

ABSTRACT

Objective: To determine the epidemiology of nasal polyps at an Army Hospital in Pakistan.

Study Design: Cross-sectional study.

Place and Duration of Study: This study was conducted at the department of ENT, Combined Military Hospital, Peshawar over 2 years period from Jan 2000 to Dec 2002.

Patients and Methods: A total of 80 patients who were diagnosed of nasal polyps during this period were included for analysis after taking written informed consent. A predesigned proforma was used to record patient's demographic details along with the history, physical examination, hematological and biochemical tests as well as routine radiograph of nose and paranasal sinuses.

Results: The age of the patients ranged from 15 years to 40 years with a mean of 26.13 ± 2.5 years. Majority (n=27, 33.75%) of the patients were aged between 26-30 years. There were 49 (61.25%) male and 31 (38.75%) female patients in the study group giving a male to female ratio of 1.6:1. All these patients had bilateral disease. Asthma was seen in 12 (15%) patients, drug hypersensitivity was found in 10 (12.5%) patients while 7 (8.75%) patients had aspirin hypersensitivity. Cervical lymphadenopathy was seen in 8 (10.0%) subjects. Bilateral nasal obstruction was the most frequent presenting symptom seen in all the subjects (100%) followed by postnasal drip (92.5%), excessive sneezing (72.0%), rhino rhea (67.5%) and loss of sense of smell (63.7%). Upon clinical examination bilateral nasal polypi were confirmed in all the subjects. Nasal discharge was seen in 63 (78.75%) patients. It was mucoids in 32 (40.0%) and purulent in 31 (38.75%) patients. Inferior turbinate hypertrophy was seen in 46 (57.5%) patients. It was bilateral in 38 (47.5%) and unilateral in 8 (10.0%) subjects; 4 (5.0%) on each side. Deflected nasal septum was seen in 49 (61.25%) patients. It was on the left in majority of the patients (36.25%). Hypertellurism was seen in 18 (22.5%) patients.

Conclusion: With a male predominance of 1.6:1 nasal polypi were seen in adults with a mean age of 29.2 ± 15.93 years. These were bilateral in all the patients and the most common presenting symptoms were nasal obstruction (100%), postnasal drip (92.5%), excessive sneezing (72.0%), rhinorrhea (67.5%) and loss of sense of smell (63.7%) in decreasing order of frequency. Asthma was seen in 12 (15%) patients, drug hypersensitivity was found in 10 (12.5%) patients while 7 (8.75%) patients had aspirin hypersensitivity. Upon clinical examination nasal discharge (78.75%), inferior turbinate hypertrophy (57.5%), deflected nasal septum (61.25%) and Hypertellurism (22.5%) were frequent findings.

Keywords: Clinical examination, Epidemiology, Nasal Polyp, Signs, Symptoms.

INTRODUCTION

Nasal polyps (NP), benign lesions arising either from the mucosa of nasal cavity itself or one of its sinusesare a diagnostic and therapeutic challenge due to their unknown etiology and tendency forrecurrence[1]. Historically, allergy has been implicated in the pathogenesis of NP as the symptoms of allergy; nasal drip and mucosal edema were seen in patients of nasal polyposis as well[2,3]. However, a positive skin prick test has been found only in 1-2% of patients with NP[4]. Patient almost always presents with nasal obstruction, the extent of which varies with the site and size of the polyp along with nasal and post nasal drip. Alteration in the sense of smell and taste can also be present[1-3,5]. The diagnosis can be made on anterior and posterior rhinoscopy which reveal nasal polyp as a pale or greyish polypoidal mass projecting into the nasal cavity most commonly from the middle meatus[1,2].

Correspondence: Dr Zaheer Ul Hassan, Classified ENT Specialist, Combined Military Hospital Peshawar Pakistan
Email:zaheerent@yahoo.com
Received: 04 May 2018; revised received: 12 Aug 2018; accepted: 13 Aug 2018

However, the diagnosis requires high index of suspicion which involves careful history and patient's examination before moving on to more advanced and invasive procedures. This is evident from the fact that the reported prevalence of NP in general population is 4%[6] while in cadaveric studies it is as high as 40%[7]. The present study is an analysis of 80 patients who were diagnosed with nasal polypi at combined military hospital, Peshawar to determine the demographic distribution, associated symptoms and clinical findings in such patients which could help in raising suspicion in future patients increasing the likelihood of diagnosis and appropriate management.

Table-I: Demographic features of study participants.

Characteristic	Study Participant n=80
Age(years)	26.13 ± 2.5
Age Groups	
15-20 years	20 (25.00)
21-25 years	14 (17.50)
26-30 years	27 (33.75)
31-35 years	10 (12.50)
36-40 years	9 (11.25)
Gender	
Male	49 (61.25)
Female	31 (38.75)
Side	
Bilateral	80 (100.00)

Table-II: Diseases Associated with Nasal Polypi.

Diseases Associated with Nasal Polypi	n (%)
Asthma	12 (15.0)
Drug Hypersensitivity	10 (12.5)
Cervical Lymphadenitis	8 (10.0)
Aspirin Hypersensitivity	7 (8.75)
Penicillin Hypersensitivity	5 (6.25)

PATIENTS AND METHODS

This was a cross sectional study conducted at the Department of ENT, Combined Military Hospital, Peshawar over 2 years period from January 2000 through December 2002. During this period, 80 patients were diagnosed of nasal polyps. Record was maintained for each patient including full history; presenting complaints, past history, personal and family history as well as the details of findings on clinical examination including ENT and systemic examination. Patients were thoroughly investigated including hematological and biochemical tests as well as routine radiograph of nose and paranasal sinuses. CT scan was reserved for patients with extensive polypoidal disease. Patients suffering from immotile cilia syndrome, cystic fibrosis and youngs syndrome were excluded. A written informed consent was obtained from every patient.

RESULTS

The age of the patients ranged from 15 years to 40 years with a mean of 26.13 ± 2.5 years. Majority (n=27, 33.75%) of the patients were aged between 26-30 years. There were 49 (61.25%) male and 31 (38.75%) female patients in the study group giving a male to female ratio of 1.6:1. All these patients had bilateral disease (table-I). Asthma was seen in 12 (15%) patients, drug hypersensitivity was found in 10 (12.5%) patients while 7 (8.75%) patients had aspirin hyper-

sensitivity. Cervical lymphadenopathy was seen in 8 (10.0%) subjects as shown in table-II. Bilateral nasal obstruction was the most frequent presenting symptom seen in all the subjects (100%) followed by postnasal drip (92.5%), excessive sneezing (72.0%), rhinorrhea (67.5%) and loss of sense of smell (63.7%) as shown in table-III. Upon clinical examination bilateral nasal polypi were confirmed in all the subjects.

Table-III: Signs and Symptoms at Presentation.

Signs and Symptoms at Presentation	n(%)
Nasal Obstruction (Bilateral)	80 (100.0)
Exophthalmos	-
Bilateral	-
Right Side	2 (2.5)
Left Side	4 (5.0)
Bleeding from Nose	
Bilateral	14 (17.5)
Right side	2 (2.5)
Left Side	3 (3.75)
Loss of Vision	
Bilateral	1 (1.25)
Right side	2 (2.5)
Left Side	-
Postnasal Drip	74 (92.5)
Headache	64 (80.0)
Excessive Sneezing	58 (72.0)
Rhinorrhea	54 (67.5)
Loss of sense of smell	51 (63.7)
Loss of sense of taste	4 (5.0)
Associated throat problem	51 (63.7)
Associated ear problem	55 (68.75)

Nasal discharge was seen in 63 (78.75%) patients. It was mucoids in 32 (40.0%) and purulent in 31 (38.75%) patients. Inferior turbinate hypertrophy was seen in 46 (57.5%) patients. It was bilateral in 38 (47.5%) and unilateral in 8 (10.0%) subjects; 4 (5.0%) on each side. Deflected nasal septum was seen in 49 (61.25%) patients. It was on the left in majority of the patients (36.25%). Hypertellurism was seen in 18 (22.5%) patients (table-IV).

DISCUSSION

Nasal polyps are common yet difficult to diagnose and even harder to treat with notably higher recurrence rate reported in existing literature[1-3]. It has been reported that the prevalence of NP increases with increasing age with a peakincidence in patients aged 50 years and above[8,9]. The mean age of the patients was 26.13 ± 2.5 years in the present study. Jahromi *et al* reported a similar mean age of 29.2 ± 15.93 years in Irani such patients[10]. Ullah *et al* in 2010 (35.5 ± 8.6 years)[11] and Bakari *et al* in 2010 (35.0 ± 13.1 years)[12] reported a similar mean age among Pakistani and Nigerian such patients respectively. Haro *et al*. however, observed a much higher mean age of 40.8 ± 11 years in the Brazilian population[13]. There were 49 (61.25%) male and 31 (38.75%) female patients in the study group giving a male to female ratio of 1.6:1. Shaikh *et al* in another local study observed similar male predominance with a male to female ratio of 1.75:1 among patients presenting with nasal polypi at Liaquat university hospital hyderabad, sindh[14]. Ullah *et al* in Pakistan

(1.5:1)[11], Ogunleye *et al* in Nigeria (1.5:1)[15], Jahromi *et al*. in Iran (1.5:1)[10], Haro *et al* in Brazil (1.27:1)[13], Mahmud *et al* in Bangladesh (2:1)[16] reported similar male predominance among patients of nasal polypi. Bettega *et al* (1:1.4) in Brazil[17] and Bakari *et al* (1:1.2) in Nigeria[12] reported a female dominance instead. Asthma was seen in 12 (15%) patients, drug hyper-sensitivity was found in 10 (12.5%) patients while 7 (8.75%) patients had aspirin hyper-sensitivity. Bettega *et al* reported similar frequency of asthma (12.5%) and aspirin hypersensitivity (8.33%) in Brazilian patients[17]. *Hedman et al* in 1999 reported the prevalence of asthma to be 4.4% with aspirin intolerance in 5.7% of such patients[18]. Haro *et al* reported similar frequency of asthma (18%) and aspirin hyper-sensitivity (6%) among Brazilian such patients[13]. Jahromi *et al* reported the frequency of asthma to be 10.4% among Irani patients of nasal polypi[10]. Bilateral nasal obstruction was the most frequent presenting symptom seen in all the subjects (100%) followed by postnasal drip (92.5%), excessive sneezing (72.0%), rhinorrhea (67.5%) and loss of sense of smell (63.7%). Ullah *et al* also reported nasal obstruction to be the most frequent presenting symptom recorded in 100% patients followed by nasal discharge (98%) and postnasal drip (98%)[11]. *Shaikh et al*. also reported similar frequency of nasal obstruction (81.8%), postnasal drip (54.5%), sneezing (58.1%) and rhinorrhea (69.0%)[14]. Haro *et al*. also reported similar frequency of nasal obstruction (100%), postnasal drip (32.0%), sneezing (60.0%) and rhinorrhea (50.0%)in Brazilian such patients[13]. Bettega *et al* reported most common presenting symptom to be anterior and posterior nasal drip accounting for 90% of cases followed by nasal obstruction (80.0%) and sneezing (60.0%)[17]. Mahmud *et al* in Bangladesh reported most frequent presenting symptom to be nasal obstruction (83.3%), followed by rhinorrhea (75.0%), Recurrent URTI (66.6%), Sneezing (62.5%) and Postnasal discharge (58.33%)[16]. Ogunleye *et al*. reported nasal obstruction (95%), nasal discharge (81%) and sneezing (59%) being the common symptoms among Nigerian such patients[15]. Bakari *et al*. observed nasal blockage in 74 (97.4%) and rhinorrhea in 72 (94.7%) such patients in Nigerian population[12]. Lathi *et al*. in India reported nasal obstruction (97.32%), rhinorrhea (49.1%), and hyposmia (31.25%) to be the most frequent presenting symptoms[19]. Jahromi *et al* reported nasal blockage (81.1%) followed by rhinorrhea (37.7%) among Irani patients of nasal polypi[10]. Upon clinical exami-nation bilateral nasal polypi were confirmed in all the subjects. Nasal dis-charge was seen in 63 (78.75%) patients. It was mucoids in 32 (40.0%) and purulent in 31 (38.75%) patients. Inferior turbinate hypertrophy

Table-IV: Findings on Clinical Examination.

Findings on Clinical Examination	n(%)
Nasal Polypi (Bilateral)	80 (100.0)
Discharge in nose	63 (78.75)
Mucoid	32 (40.0)
Purulent	31 (38.75)
Inferior turbinate hypertrophy	46 (57.5)
Bilateral	38 (47.5)
Right side	4 (5.0)
Left Side	4 (5.0)
Deflected nasal septum	49 (61.25)
Right side	20 (25.0)
Left Side	29 (36.25)
Hypertellurism	18 (22.5)

was seen in 46 (57.5%). It was bilateral in 38 (47.5%) and unilateral in 8 (10.0%) subjects. Deflected nasal septum was seen in 49 (61.25%) patients. It was on the left in majority of patients (36.25%). Hypertellurism was seen in 18 (22.5%) patients.

CONCLUSION

The epidemiology of nasal polyps at an Army Hospital in Pakistan was found a male predo-minance of 1.6:1, with 61.25% in males and 38.75% nasal polypi were seen in females' adults with a mean age of 29.2 ± 15.93 years. The most common presenting symptoms were nasal obstruction (100%), postnasal drip (92.5%), excessive sneezing (72.0%), rhinorrhea (67.5%) and loss of sense of smell (63.7%) in decreasing order of frequency. Asthma was seen in 12 (15%) patients, drug hypersensitivity was found in 10 (12.5%) patients while 7 (8.75%) patients had aspirin hypersensitivity.

CONFLICT OF INTEREST

This study has no conflict of interest to declare by any author.

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