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EVALUATION OF NASAL POLYPOSIS AND ITS CORRELATION WITH ALLERGIC DISEASES

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ABSTRACT

Objective: The objective of this retrospective cross-sectional study was to obtain epidemiological data from the charts of 133 patients with nasal polyposis who reviewed AlMouwasat University Hospital and to determine the frequency of the presenting symptoms of nasal polyps. Moreover, this research aimed to study the correlation between asthma with both allergic rhinitis and aspirin sensitivity. **Materials and Methods:** This study was a retrospective study of the files of the patients who reviewed AlMouwasat University Hospital and were diagnosed with nasal polyposis. This study included all cases from January 2016 to November 2019. Statistical analysis was done using SPSS 25.0. **Results:** The most common age of presentation was 41–50 years old. Nasal polyposis was more common in females 57.1% compared to 42.9% males. Asthma was found in 33% of all patients with nasal polyposis. 40.6% of patients with nasal polyposis had allergic rhinitis. 20.3% had unilateral nasal polyposis. The most common complaint was nasal obstruction in 87% followed by anterior rhinorrhea in 79%. **Conclusion:** This study highlights the need for large-scale epidemiologic research showing the prevalence and incidence of nasal polyposis in Syria.

KEYWORDS: Nasal Polyposis, Allergic Diseases, AlMouwasat University Hospital, Syrian Population.

INTRODUCTION

Nasal polyps are mucosal lesions of the nasal or paranasal sinuses that can result from a response to inflammatory or infectious stimuli. They appear as smooth, round, semi-translucent masses that are most commonly found in the middle meatus and ethmoid sinuses and affect 1% to 4% of the population. Males are affected more than females and adults more than children. If it happens in childhood, mucociliary and immunodeficiency diseases must be ruled out, for example, patients with cystic fibrosis have a prevalence of nasal polyposis between 6% and 48%.[1] Patients with nasal polyposis may present clinically with complaints of nasal obstruction, congestion, hyposmia, rhinorrhea, epistaxis, postnasal drip, headaches, and snoring. Nasal polyps more commonly appear bilaterally. In unilateral nasal masses, benign or malignant pathologies must be considered and distinguished by nasal endoscopy, CT scan, and biopsy.[1]

The etiology of nasal polyps has been the subject of research for many years. Elevated levels of histamine and IgE found around polyps, and mast cells and eosinophilia found within polyps provide evidence suggesting that inflammation is a major factor in polyp formation.[2] Previous studies have also revealed a relationship between nasal polyposis, aspirin intolerance, and allergic rhinitis and asthma.[4,5] The prevalence of nasal polyposis is higher in subjects with asthma than in non-asthmatics and 16.5% of asthmatic patients over 40 years of age have been shown to have nasal polyps.[3]

The management of nasal polyposis can be both medical and surgical. Topical corticosteroids are drug of choice as they reduce the size of the polyp and improve nasal breathing and prevent recurrence. In patients who do not response to medical therapy or have large-sized polyps, functional endoscopic sinus surgery (FESS) is used to perform a polypectomy.[4,5] The objective of this study was to obtain clinical data from patients with nasal polyposis.

MATERIALS AND METHODS

This study was a retrospective study of the files of the patients who reviewed AlMouwasat University Hospital and were diagnosed with nasal polyposis. We collected data regarding the age, gender, allergic rhinitis, aspirin sensitivity, asthma, unilateral /bilateral polyps and symptoms of the patients. This study included all cases from January 2016 to November 2019. To ensure the privacy, only the authors collected all the data and all the names and personal information were blinded. Statistical analysis was done using SPSS 25.0.

RESULTS

Table 1: Variables of our study.

		N	%
Age	0 – 10	6	4.5
	11 – 20	15	11.5
	21 – 30	18	13.5
	31 – 40	28	21
	41 – 50	30	22.5
	51 – 60	16	12
	61 – 70	14	10.5
	71 – 80	6	4.5
Gender	Male	57	42.9
	Female	76	57.1
Aspirin sensitivity	Yes	35	26.3
	No	98	73.7
Allergic rhinitis	Yes	54	40.6
	No	79	59.4
Asthma	Yes	44	33
	No	89	67
Cystic Fibrosis	Yes	3	2.2
	No	130	97.8
Unilateral		27	20.3%
Bilateral		106	79.7%

The most common age of presentation was 41 – 50 years old. Nasal polyposis was more common in females 57.1% compared to 42.9% males. 20.3% had unilateral nasal polyposis. Asthma was found in 33% of all patients with nasal polyposis. 40.6% of patients with nasal polyposis had allergic rhinitis.

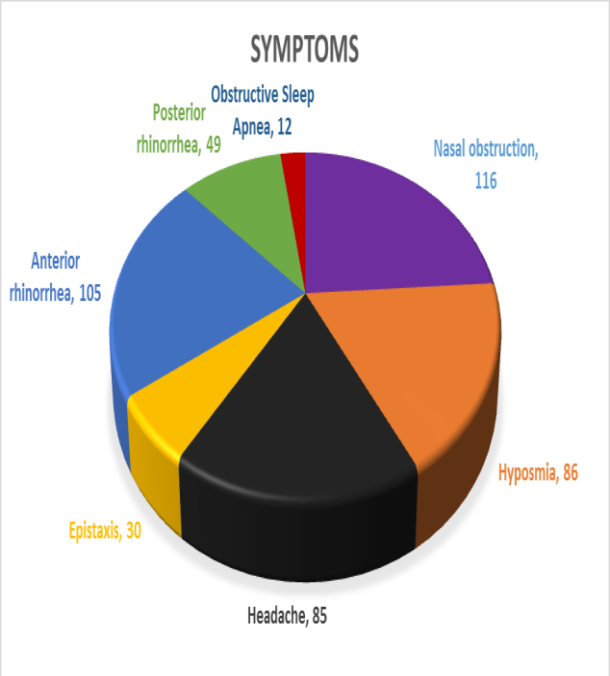

Figure 1: Frequency of symptoms of nasal polyps in the patients.

The most common complaint was nasal obstruction in 87% followed by anterior rhinorrhea in 79%, while posterior rhinorrhea was found in 37%. Hyposmia and headache were common in 65% and 64%, respectively. Epistaxis was found in 23%. Furthermore, obstructive sleep apnea was found in 9%.

Table 2: Correlation between asthma and Aspirin Sensitivity, Allergic Rhinitis.

			Asthma		
			Yes	**No**	**Total**
Aspirin Sensitivity	Yes	Count	17	12	29
		% within Asthma	58.6%	41.4%	100%
Allergic Rhinitis	Yes	Count	15	19	34
		% within Allergic Rhinitis	44.1%	55.9%	100%

Aspirin intolerance is around 5 to 6%. Up to 20% of asthmatic people are sensitive to aspirin.[15] In our study, it was much higher 58.6% of patients with asthma had aspirin sensitivity. In our study, 44.1% of patients with allergic rhinitis had associated asthma.

DISCUSSION

Nasal polyposis is a condition that more commonly affects middle-aged men.[6] In a similar study[7], the peak age of presentation was in the second decade of life. In a Nigerian district hospital, Chukuezi reported that the maximum presentation rate was between 31 and 40 years old.[8] In France, the estimated incidence of nasal polyposis increased with age, reaching a peak in the 50 to 59 year age group.[9] In another study in France, the mean age of patients was 49.4.[10] In our study, the most common age of presentation was 41 – 50 years old.

In a similar study, sex distribution of the patients with polyposis was 60% male and 40% female.[11] Another study,[7] the prevalence was female (39.7%) and male (60.3%). in our study, nasal polyposis was more common in females 57.1% compared to 42.9% males.

In a similar study[7], 45.8% had unilateral nasal polyposis and it was more common in comparison with other studies[1] which was 15.3%. In our study, 20.3% had unilateral nasal polyposis.

Patients with nasal polyposis often present with associated asthma. Asthmatic patients older than 40 years have a four times greater risk of suffering nasal polyposis than those under 40 years of age.[3] In addition, Slavin and colleagues reported that patients with nasal polyposis present with more severe asthma than those without polyps.[12] In a similar study, asthma was found in 10.4% of patients with nasal polyposis, in France it was (45%) and Spain (36.6%).[13,14] In our study, asthma was found in 33% of all patients with nasal polyposis

In contrast to the association with asthma, it is rare for patients with allergic rhinitis to present with nasal polyposis (7). A similar study found that only 1.5% of patients with allergic rhinitis had nasal polyposis.[4] Another study showed that the incidence of allergic rhinitis among patients with nasal polyposis was 18.2% in contrast to 47.9% in in a study in Spain.[14] In our study, 40.6% of patients with nasal polyposis had allergic rhinitis.

The most common complaint of patients with nasal polyposis is nasal obstruction. In a similar study[7], the most frequent symptoms were nasal obstruction (81.1%) and rhinorrhea (37.7%), followed by mouth breathing and snoring. Hyposmia, headache and facial pain were less common. Furthermore, 11.1% of patients had a history of epistaxis although it had the lowest incidence among other symptoms but it was still high when comparing other studies. Previous studies often did not mention this symptom, probably because of low incidence.[14] In our study, the most common complaint was the same with nasal obstruction in 87% followed by anterior rhinorrhea in 79%, while posterior rhinorrhea was found in 37%. In contrast to similar studies[7], Hyposmia and headache were common in 65% and 64%, respectively. Regarding epistaxis, our results were similar to other studies[7] with epistaxis being the least common 23%. Furthermore, obstructive sleep apnea was found in 9%.

Aspirin intolerance is around 5 to 6%. Up to 20% of asthmatic people are sensitive to aspirin.[15] In our study, it was much higher 58.6% of patients with asthma had aspirin sensitivity. In our study, 44.1% of patients with allergic rhinitis had associated asthma.

Nasal polyposis in children increases the suspect of cystic fibrosis.[16] We had three patients with Cystic Fibrosis (2% of all sample) and these patients all were under 10 years old.

CONCLUSION

An overview of the currently available literature illustrates the paucity of accurate information on the epidemiology of nasal polyposis especially in Syria, and highlights the need for large-scale epidemiologic research exploring the prevalence and incidence of nasal polyposis and the associated factors (Asthma, Allergic Rhinitis, and Aspirin Sensitivity).

Compliance with Ethical Standards

Funding: This study was not funded by any institution.
Ethical approval: The names and personal details of the participants were blinded to ensure privacy.

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