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OUR HISTOPATHOLOGY RESULTS OF SIX YEARS IN SINONASAL MASSES

SİNONAZAL KİTLELERDE ALTI YILLIK HİSTOPATOLOJİ SONUÇLARIMIZ

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ABSTRACT

AIM: In this study, it was aimed to compare patients with bilateral sinonasal mass and those who have unilateral sinonasal mass in terms of age, gender and histopathological diagnoses.

MATERIAL AND METHOD: The histopathological results of 549 patients who underwent incisional / excisional biopsy or sinonasal surgery in our clinic between January 2012 and December 2017 were examined. All histopathological diagnoses were divided into 3 groups as benign, malign and non-neoplastic. Distribution rates of cases with unilateral involvement and cases with bilateral involvement were evaluated by age, gender and years.

RESULTS: The average age of 549 patients was 40.12 ± 14.31. The most common histopathological diagnosis was nasal polyp (71%). It was observed that 10.6% of histopathological diagnoses were benign, 0.9% malign and 88.5% non-neoplastic. Right sided involvement was observed in 15.7% of the patients, left sided involvement was observed at 17.7 %, and bilateral involvement was observed at 66.7% of the patients. The group which includes patients with non-neoplastic mass was found to have significantly more bilateral involvement than other groups (p = 0.001).

CONCLUSION: The most common histopathological diagnosis of sinonasal masses is nasal polyps. Nasal polyps are often bilateral but they can also be unilateral. Unilateral sinonasal masses can be malign, therefore differential diagnosis should be made by biopsy.

Keywords: *nasal polyp; inverted papilloma; histopathology; malignancy*

ÖZET

AMAÇ: Bu çalışmada klinikte bilateral tutulumla karşımıza çıkan sinonazal kitleli olgular ile tek taraflı tutulumu olan olguların yaş, cinsiyet ve histopatolojik tanılar açısından karşılaştırılması amaçlanmıştır.

MATERIAL VE METHOD: Ocak 2012 ile Aralık 2017 tarihleri arasında sinonazal kitle nedeniyle insizy onel veya eksizyonel biyopsi yapılan 506 hastanın patoloji sonuçları incelendi. Vakaların yaş, cinsiyet ve yıllara göre dağılım oranları ile tek taraflı veya bilateral tutulum oranları değerlendirildi.

BULGULAR: Toplam 549 hastanın yaş ortalaması 40.12 ± 14.31 idi. En sık görülen patolojik tanının nazal polip olduğu görüldü (%71). Histopatolojik tanıların %10,6'sı benign, %0,9' u malign ve %88,5'i neoplastik olmayan grupta olacak şekilde dağıldığı görüldü. Sağ taraf tutulumu %15,7, sol taraf tutulumu %17,7, bilateral tutulum %66,7 idi. Neoplastik olmayan kitle grubundaki hastalarda diğer tanı gruplarına göre anlamlı derecede daha fazla bilateral tutulum olduğu görüldü (p = 0.001).

SONUÇ: Sinonasal kitleler arasında en sık görülen histopatolojik tanı nazal poliplerdir. Nazal polipler sıklıkla bilateral olmakla birlikte tek taraflı olarak da görülebilir. Tek taraflı sinonasal kitlelerde malignite olabileceğinden biyopsi ile ayırıcı tanı ortaya konmalıdır.

Anahtar Kelimeler: *nazal polip, inverted papillom, histopatoloji, maligniteler*

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January 2012 and December 2017 in the Training and Research Hospital. Approval for the study was granted by the Local Ethics Committee (protocol no: 15.06.2016-5427).

INTRODUCTION

Intranasal masses consist of malign, benign and non-neoplastic lesions. The most common non-neoplastic masses are nasal polyps. The most common malign tumor is squamous cell carcinoma and the most common benign tumor is papilloma (1). The most common among all sinonasal masses are inflammatory nasal polyps that develop on the background of chronic rhinosinusitis. Although sinonasal polyps are usually seen bilaterally, a polypoid mass may present unilaterally (2).

Inverted papilloma, anthrocoanal polyp, and sinonasal malignancies are less common than nasal polyps. In addition, these diagnoses often cause unilateral nasal mass, as nasal polyp can be unilateral, these diagnoses must be considered in the differential diagnosis (3). Intranasal masses can be seen in localized diseases of the nose as well as they can be part of a systemic diseases. In both situations, tissue biopsies are preferred as both diagnostic and treatment methods (1).

In our retrospective study, we aimed to compare the cases with intranasal masses with bilateral involvement and those with unilateral involvement in terms of age, gender and histopathological diagnoses.

MATERIAL AND METHOD

This study was made of the records of 549 patients who underwent incisional or excisional biopsy for sinonasal mass between January 2012 and December 2017 in the Training and Research Hospital. Approval for the study was granted by the Local Ethics Committee (protocol no: 15.06.2016-5427). Informed consent was obtained from all the study participants. The pathology results were re-evaluated and all histopathological results were divided into 3 groups as benign, malign and non-neoplastic. The demographic data of all cases were evaluated according to years. Patients with unilateral and bilateral lesions were compared in terms of pathological diagnoses.

Statistical Analysis

In the descriptive statistics related to continuous data, Average Standard Deviation, Median, Minimum, Maximum values were given, and percentage values were given in discrete data. Kruskal Wallis Variance Analysis was used to examine the difference of patient ages by years and diagnostic groups. T test was used to analyze the difference of ages by gender. Chi-Square and Fisher's Exact test were used in group comparisons (cross tables) of nominal variables. IBM SPSS Statistics 20 program was used in the evaluations and $p < 0.05$ was accepted as the statistical significance limit.

RESULTS

The study included 549 patients who were operated for nasal pathology. The ages of the patients were between 7 and 82 and the mean age was 40.12 ± 14.31. 31.9% of the patients were female and 68.1% were male. 0.4% of the patients were younger than 10 years old, 8.4% were between 10-19 years old, 15.8% were between 20-29 years old, 26.8% were between 30-39 years old, 20.9% were between 40-49 years old, 18.9% were between 50-59 years old and 8.7% were 60 years old or older. As the distribution of pathological diagnoses by years is examined; 15.3% of patients were diagnosed in 2012, 15.3% were in 2013, 16.6% were in 2014, 17.9% were in 2015, 19.9% were in 2016, 15.1 were diagnosed in 2017 **(Table-1).**

As the distribution of pathological diagnoses were examined, the most common pathological diagnosis was evaluated as nasal polyp (71%). 10.6% of all patients had benign mass, 0.9% of them had malign mass and 88.5% of them had non-neoplastic mass. Right-sided involvement was observed in 15.7% of patients, 17.7% had left-sided involvement and 66.7% had bilateral involvement **(Table 2).**

Inverted papilloma was the most common clinical diagnosis (53.4%) in the benign diagnosis group. We found that the average age of incidence of inverted papilloma was 49 years old, and the incidence was 5.2 times higher in men than in women. There were only 5 patients in the malignancy group. The most common non-neoplastic diagnosis was nasal polyps (80.2%) **(Table 3).**

There was a difference between the diagnostic groups in terms of sides ($p < 0.001$). Bilateral involvement was significantly higher in patients in the non-neoplastic group than in other diagnostic groups ($p = 0.001$) **(Table 4).**

Table 1: Distribution of patients by age, gender and years

	n	%
Gender		
Female	175	31.9
Male	374	68.1
Age		
Under 10 years	2	0.4
10-19 years	46	8.4
20-29 years	87	15.8
30-39 years	147	26.8
40-49 years	115	20.9
50-59 years	104	18.9
Over 60 years	48	8.7
Year		
2012	84	15.3
2013	84	15.3
2014	91	16.6
2015	98	17.9
2016	109	19.9
2017	83	15.1

Table 2: Incidence of sinonasal histopathology results

	n	%
Nasal Polyp	390	71
Chronic sinusitis + Mucocele	9	1.6
Antrochoanal Polyp	30	5.5
İnverted Papilloma	31	5.6
Maxillary Cyst	6	1.1
Hemangioma	11	2
Rhinolith	14	2.6
Squamous Papilloma	9	1.6
Chronic sinusitis + Fungus	18	3.3
Bilateral polyp + Maxillary cyst	19	3.5
Pyogenic Granuloma	5	0.9
Primitive Neuroectodermal tumor	1	0.2
Small Round Cell Malignant Tumor	1	0.2
Ossified Fibroma	2	0.4
Olfactor Neuroblastoma	1	0.2
Sinonasal Adenocarcinoma	1	0.2
Basosquamous Cell Carcinoma	1	0.2
Diagnostic groups		
Benign	58	10.6
Malignant	5	0.9
Non-neoplastic	486	88.5
Side		
Right	86	15.7
Left	97	17.7
Bilateral	366	66.7

Table 3: Distribution of histopathological diagnoses by groups

	n	%
Benign		
Inverted papilloma	31	53.4
Hemangioma	11	19
Squamous papilloma	9	15.5
Pyogenic granuloma	5	8.6
Ossified fibroma	2	3.4
Malignant		
Primitive neuroectodermal tumor	1	20
Small round cell malignant tumor	1	20
Olfactor neuroblastoma	1	20
Sinonasal adenocarcinoma	1	20
Basosquamous cell carcinoma	1	20
Non-neoplastic		
Nasal polyp	390	80.2
Chronic sinusitis + mucocele	9	1.9
Antrochoanal polyp	30	6.2
Maxillary cyst	6	1.2
Rhinolith	14	2.9
Chronic sinusitis + fungus	18	3.7
Bilateral polyp + maxillary cyst	19	3.9

Table 4: Comparison of right, left and bilateral incidence rates among diagnostic groups

	Right		Left		Bilateral		Test Statistics	p
	n	%	n	%	n	%		
Benign	26	44.8	31	53.4	1	1.7	χ^2 =141.20	0.001
Malignant	3	60	2	40	0	0		
Non-neoplastic	57	11.7	64	13.8	365	75.1		

DISCUSSION

Nasal polyps, which are frequently encountered among non-neoplastic masses, occur in approximately 4% of the general population (1). It has been reported in the literature that nasal polyps are the most common pathology causing sinonasal mass (4). In this study, we found that nasal polyp is the most common pathological diagnosis among patients operated for sinonasal mass. Histopathological diagnosis was nasal polyp in 71% of patients operated for sinonasal mass. Nasal polyps were bilateral in 93.8% of cases. There was no difference between right or left sided unilateral nasal polyps. In previous studies, it has been reported that nasal polyps are seen 3 times more common in men than in women (1,5,6). Similarly, the results of our study show that nasal polyps are 2.3 times more common in males than females.

The typical clinical presentation of inverted papilloma, which constitutes 0.5-4% of nasal cavity tumors, is unilateral nasal polyps. It has been reported in previous clinical studies that 3-4% of all nasal polyps are diagnosed with inverted papilloma (4,7). Inverted papilloma is rarely known to undergo malign transformation (8). However, inverted papilloma can recur in approximately 25% of cases and is associated with squamous cell carcinoma at the rate of 5-10% (9). Therefore, it is important to make differential diagnosis of inverted papilloma especially from nasal polyps and to plan treatment accordingly. The second most common pathological diagnosis in this study was inverted papilloma (5.6%), and it was determined at a significantly higher rate in males than females. With the exception of one case, all these cases were unilateral.

Antrochoanal polyps are rare benign nasal masses, with a reported incidence rate of 1-2/10000 and they constitute 3-6% of nasal polyps in adults and 28% in children (10). Gupta et al. reported that antrochoanal polyp was seen in the age range of 11-20 years with a rate of 35.86% (11). Antrochoanal polyps frequently present as a unilateral nasal mass. Very few articles in the literature have reported bilateral involvement (12,13,14).

It was observed that all cases operated in our clinic between the years 2012 and 2016 due to anthrocoanal polyp were unilateral. It has been reported that an anthrocoanal polyp is more common in men and under 20 years of age (10,12). The results of our study show that anthrochoanal polyp is seen 2 times more common in men. However, we found the rate of anthrocoanal

polyps to be 40% under the age of 20. There was no significant change in incidence between 2011-2017.

It was previously reported that sinonasal malignancies constitute 0.2-0.8% of all malignancies and approximately 3% of head and neck tumors (8). In this study, it was observed that sinonasal malignancies constitute 0.9% of all nasal masses. All patients diagnosed with sinonasal malignancy were male and all of these malignancies were unilateral. Therefore, if unilateral nasal mass is encountered, malignancy should also be considered in differential diagnosis. It is known that squamous cell carcinoma is the most common among malign tumors. However, in a study conducted in 2011, it was reported that the most common malign tumor was adenoid cystic carcinoma (1). In our study, no comparison was made due to the low number of patients in the malignancy group. Therefore, more studies are needed with a greater number of patients.

CONCLUSION

The most common pathological diagnosis among all intranasal masses is nasal polyp. Although the nasal polyp is often seen bilaterally, it can also be seen unilaterally. However, besides bening tumors, malign tumors may appear as a unilateral nasal mass. Therefore, differential diagnosis should be considered in patients with a unilateral nasal mass.

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