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Sinonazal Kitlelerde On Yıllık Retrospektif Histopatolojik Sonuçlarımız

ABSTRACT

Objective

We aimed to examine retrospectively the age, gender or whether the mass was single-sided or bilateral in patients who were operated on or biopsied for a sinonasal mass and also to compare and discuss our results with current literature.

Material and Methods

The histopathological results of 362 patients who were biopsied or operated due to an intranasal mass between January 2014 and December 2023 were analyzed retrospectively. Pathological results were grouped as benign, non-neoplastic, and malignant. Distribution rates, age and gender, and involvement whether unilateral or bilateral were evaluated.

Results

The mean age of the cases was 45.5 years (range: 10-91) Of the patients included in the study, 214 (59%) were male and 148 (4%) were female. Nasal polyp cases prevail among all histopathological lesions with a case number of 235 and a percentage of 65%. 298 out of 362 patients (82.5%) had a non-neoplastic lesion, benign lesions constitute 61 (16.7%) of all histopathological results, and 3 (0.8%) account for a malignant tumor. 53.6% of all patients had bilateral involvement.

Conclusion

We obtained approximately the same results with similarly conducted studies in the literature in terms of the distribution of the sinonasal masses. The most frequent histopathological diagnosis was nasal polyp. Most sinonasal masses are recorded to be benign or nonneoplastic however malignancy should also be kept in mind.

Key Words

Nasal polyposis, Histopathology, Intranasal mass, Antrochoanal polyp, Inverted papilloma

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ÖZ

Amaç

Sinonazal kitle nedeniyle biyopsi alınan veya opere edilen hastaların patoloji sonuçlarını retrospektif olarak yaş, cinsiyet dağılımı ve kitlenin tek taraflı mı yoksa iki taraflı mı olduğunu incelemeyi ve bulgularımızı güncel literatür ile karşılaştırmayı ve tartışmayı hedefledik.

Gereç ve Yöntemler

Ocak 2014 ile Aralık 2023 tarihleri arasında 362 hastanın histopatolojik sonuçları retrospektif olarak incelendi. Tüm histopatolojik tanılar benign, malign ve neoplastik olmayan olarak 3 gruba ayrıldı. Tek taraflı tutulumlu olgular ile çift taraflı tutulumlu olguların dağılım oranları, yaş ve cinsiyetleri değerlendirildi.

Bulgular

Olguların ortalama yaşı (10-91) 45,5 idi. Çalışmaya dahil edilen hastaların 214'ü (%59) erkek, 148'i (%4) kadındı. En sık görülen histopatolojik tanı 235 vaka ve %65 oranla nazal polipti. Histopataolojik tanılar 298 hastada %82,5 nonneoplastik, 61 (%16,7) hastada benign, ve 3 (%0,8) hastada malign olarak dağılmaktaydı. Tüm hastaların %53,6'sında iki taraflı tutulum vardı.

Sonuç

Sinonazal kitlelerin dağılımı açısından literatürde benzer planlanmış çalışmalarla yakın sonuçlar elde ettik. En sık görülen histopatolojik tanı nazal polipti. Çoğu sinonazal kitle benign veya nonneoplastik olarak belirlense de malign kitleler de akılda tutulmalıdır.

Anahtar Sözcükler

Nazal polipozis, Histopatoloji, İntranazal kitle, Antrokoanal polip, İnverted papillom

INTRODUCTION

Sinonasal masses are frequently encountered entities in the Ear Nose and Throat departments. Sinonasal masses consist of a wide range of lesions classified as benign, malignant, and also non-neoplastic. Nasal polyps are the most common non-neoplastic lesions. The most common malignant tumor is squamous cell carcinoma and the papillomas are the most common benign tumors (1). Anthrocoanal polyps, inverted papilloma, and other sinonasal malignancies are seen less frequently compared to nasal polyps (2).

Sinonasal polyps are often inflammatory and develop on the basis of chronic rhinosinusitis. They are classically caused by a combination of both allergy and infection. The nasal polyp prevalence rate is about 2% (3, 4).

Malignant neoplasms involving the paranasal sinuses and nasal cavity are rare when compared to sinonasal inflammatory diseases but benign neoplastic lesions are relatively common. Unilateral sinonasal polypoid masses should always be considered as neoplastic until proven otherwise (5).

Sinonasal cancers account for 3% of all head and neck cancers and less than 1% of all malignancies (6). Sinonasal tumors can remain asymptomatic for months to years until a concomitant infection can cause clinical symptoms to appear, and this causes further delays to make a diagnosis. Symptoms of sinonasal masses include complaints of congestion, postnasal drip, epistaxis, headache, and facial swelling at the anterior forefront. Although the mass can often be detected by an anterior rhinoscopy, it is important to determine its origin and extent.

Paranasal sinus tomography should be routinely performed preoperatively in all cases (7). It should be taken into consideration that the risk of neoplastic disease is high in unilateral sinonasal masses. Preoperative histopathological biopsy sampling must be performed to rule out malignancy in unilateral sinonasal masses (5).

In this retrospective study, we aimed to examine the cases with sinonasal masses in terms of age, and gender and to be unilateral or bilateral and histopathological diagnoses and to make a brief review by comparing with the current literature.

MATERIAL and METHODS

Our current study included 362 patients who underwent an incisional biopsy or an operation for a sinonasal mass between January 2014 and December 2023 in the Training and Research Hospital and whose medical records, histopathological findings, and computed tomography records were fully accessible. The Local Ethics Committee approved the study (protocol no: 01-2024/16). The study was planned and conducted in accordance with the ethical principles specified in the Helsinki Declaration.

Patients who underwent a biopsy sampling or operation for any sinonasal mass were evaluated retrospectively according to their histopathological features and compared according to their age, gender and whether the mass was single-sided or bilateral. The histopathological results were grouped as benign, non-neoplastic, and malignant.

Statistical Analysis

Microsoft Excel program was used for the analysis and presentation of descriptive values of the sample. In the descriptive statistics related to continuous data, average minimum and maximum values and percentage values were given in discrete data.

RESULTS

A sum of 362 patients who were biopsied or operated for a nasal pathology was included in the study. Patients' ages ranged between 10 and 91 and the mean age was 45.5. Of the patients included in the study, 214 (59%) were male and 148 (4%) were female.

As pathological diagnoses were examined, nasal polyps rank first with 235 out of 362 patients 65%. Benign lesions constitute 61 (16.7%) of all histopathological results 3 (0.8%) account for a malignant tumor and 298 (82.5%) of the patients had a non-neoplastic lesion. One hundred ninety four out of 53.6% of all patients had bilateral involvement (Table I).

Inverted papilloma was the most frequent pathological diagnosis (26 patients, 7.1%) in the benign neoplastic group. The most common non-neoplastic diagnosis was nasal polyps 235 (65%).

Only 3 patients (0.8%) were ranked in the malignancy group. Bilateral involvement was higher in terms of percentage in the non-neoplastic group in comparison with other diagnostic groups (Table I).

DISCUSSION

In our study, we found out that nasal polyp is the first rank pathological diagnosis in patients who underwent surgery for a sinonasal mass with a 65 % and 81% of the cases were bilateral within nasal polyp cases. According to current literature nasal polyps are the most common pathology causing a sinonasal mass and occur in approximately 4% of the general population. Most commonly, nasal polyps present as bilateral inflammatory lesions originating from ethmoid cells and extending into the nasal airway underneath the middle turbinate (4, 8).

Secondly, the most common histopathological diagnosis was antrochoanal polyp with a percentage of 9.4 in our study. Antrochoanal polyps are rarely seen as benign masses and they constitute 3-6% of nasal polyps in adults and 28% in children with an incidence rate of 1-2/10000 (9). Antrochoanal polyp was reported to be seen in the age

Table I. Incidence of sinonasal histopathology results

	Bilateral(n, %)	Unilateral(n, %)	Total(n, %)
Nonneoplastic lesions			
Nasal Polyp	190(52.5)	45(12.5)	235(65)
Antrochoanal Polyp	-	34(9.4)	34(9.4)
Maxillary retansiyon cyst	-	16(4.5)	16(4.5)
Rhinolithiasis	-	5(1.4)	5(1.4)
Chronic sinusitis + Mukosel	-	4(1.1)	4(1.1)
Chronic sinusitis + Fungus	-	4(1.1)	4(1.1)
Benign Tumors			
Inverted Papilloma	2(0.5)	24(6.6)	26(7.1)
Hemangioma	-	12(3.3)	12(3.3)
Squamous Papilloma	1(0.3)	8(2.2)	9(2.5)
Pyogenic Granuloma	-	5(1.4)	5(1.4)
Oncocytic Sinonasal Papilloma	-	3(0.8)	3(0.8)
Osteoma	-	3(0.8)	3(0.8)
Angioofibroma	-	2(0.5)	2(0.5)
Benign Mesenchymal tumor	-	1(0.3)	1(0.3)
Malignant tumors			
Squamous cell carcinma	1(0.3)	2(0.5)	3(0.8)
Total	194(53.6)	168(46.4)	362(100)

range of 11-20 years with a rate of 35.86% in a study conducted by Gupta et al., (10). All of the cases operated for anthropoidal polyps were unilateral in our clinic during the 10-year time interval. Antrochoanal polyps mostly present as a single-sided intranasal mass. Bilateral involvement has been reported in a limited number of studies in the literature (11-13).

The third most common histopathological diagnosis was inverted papilloma seen in 26 cases (7.1%), and almost all cases were unilateral with the exception of one case. The typical clinical presentation of inverted papilloma is a unilateral nasal polyp. Inverted papilloma constitutes 0.5-4% of nasal cavity tumors. As reported in the previous studies inverted papilloma can be the final histopathological result in 3-4% of all nasal polyps (14). Inverted papilloma can reoccur in approximately 25% of all cases and is associated with malignant transformation with a probability rate of 5-10% (15). Hence, to make the surgical treatment properly it is important to make the differential diagnosis of inverted papilloma especially from nasal polyps.

Sinonasal malignancies constitute 3 (0.8%) of all nasal masses in our study. According to the current literature sinonasal malignant tumors constitute approximately 3% of head and neck tumors and 0.2-0.8% of all malignancies (6). It is known that squamous cell carcinoma is the most common pathological diagnosis among the sinonasal malignant tumors.

When we compare our study with similarly constructed studies in the literature, we encountered a recent retrospective study from a tertiary care center in India in which 92 patients' histopathological findings in a 4-year interval were studied and they yielded a maximum percentage of 42.39% belonging to antrochoanal polyp and followed by ethmoidal polyp and angiomatous polyp. 6.52% of the cases had a malignant pathology. They reported very different results from our study. This obvious difference may arise from regional and racial differences (10).

One hundred ten cases diagnosed with sinonasal masses in one-year intervals were included in a recent prospective study. The percentage of non-neoplastic lesions were higher than the neoplastic ones, 60% versus 40% respectively. In the neoplasia group, 19.8% of patients were diagnosed to be benign and 23.76% to be malignant. The nasal polyp was the most frequently seen non-neoplastic lesion at 80.3%. Angiofibroma was the most frequent benign lesion with a percentage of 35 and squamous cell carcinoma was the first rank in the malignant lesion group (16).

In another similarly constructed retrospective study from our country, a total of 549 patients who had been administered an incisional/excisional biopsy or a sinonasal surgery in a tertiary clinic in six years interval were included. Their biodata and histopathological findings were analyzed retrospectively. Similar to our study their histopathological results were grouped as non-neoplastic, benign, and malignant. Nasal polyp was the most frequent diagnosis at 71%, benign pathology accounts for 10.6% while 0.9% of all cases were pathologically diagnosed to be malignant and 88.5% non-neoplastic. Bilateral involvement has been seen to be significantly more common in non-neoplastic group patients compared to others. We yielded approximately the same distributional results with this study (17).

Limitations

In our study, we could not make the comparison for the malignancy group due to the low number of patients. On the other hand we did not analyze the site of involvement we just focused on the uni or bilaterality. We also do not have the data about the follow up periods of the patients. For instance, we do not know if there is a difference in the final pathologies due to the lack of this follow-up process in only biopsied patients.

CONCLUSION

We obtained similar results to the current literature in terms of the distribution of the sinonasal masses. Among all of our histopathological diagnoses, the nasal polyp ranks first. Although nasal polyps often appear bilaterally, unilateral appearance can also be encountered. Most sinonasal masses are recorded to be benign or nonneoplastic but malignancies should also be kept in mind.

Ethics Committee Approval

This research complies with all the relevant national regulations, institutional policies and is in accordance the tenets of the Helsinki Declaration, and has been approved by the Karamanoglu Mehmetbey University Medical Faculty Ethical Committee, Karamanoglu Mehmetbey University (approval number: 2024/16-01).

Informed Consent

Since our study was conducted retrospectively, we could not obtain informed consent from the patients. The study complies with the Declaration of Helsinki.

Author Contributions

Concept – F.Y. ; Design - F.Y., A.S. ; Supervision - F.Y., A.S.; Resources - F.Y., A.S.; Materials - F.Y., A.S.; Data Collection and/or Processing - F.Y., A.S.; Analysis and/ or Interpretation - F.Y., A.S.; Literature Search - A.S.; Writing Manuscript - F.Y., A.S.; Critical Review - F.Y., A.S.

Conflict of Interest

The authors have no conflict of interest to declare.

Financial Disclosure

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