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Clinicopathological Characteristics of Unilateral Nasal Space-Occupying Lesions in Patients Beyond the Fourth Decade.

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Abstract

Background: While unilateral nasal masses in younger individuals are frequently inflammatory polyps, older patients present a higher risk of neoplastic lesions. This study investigates the clinicopathological characteristics of unilateral nasal masses in patients over 40 years.

Aim: To determine the etiopathology and clinical features of unilateral nasal masses in patients aged 40 and above.

Methods: A retrospective analysis was conducted on 27 patients presenting with unilateral nasal masses at the Department of Otorhinolaryngology, Katuri Medical College & Hospital**,** **Andhra Pradesh**. Clinical presentations, radiological findings, and histological diagnoses were evaluated.

Results: The cohort comprised 14 patients with non-neoplastic lesions and 13 with neoplastic lesions. Inflammatory polyps were the most common non-neoplastic finding, while inverted papillomas were the most frequent neoplastic lesion. Nasopharyngeal carcinoma was the predominant malignancy.

Conclusion: In patients over 40 presenting with unilateral nasal masses, neoplastic lesions are prevalent. Therefore, a thorough diagnostic workup, including histopathological examination, is crucial to differentiate neoplastic from non-neoplastic causes. Inflammatory polyp diagnosis should be considered only after excluding other potential etiologies. This study highlights the importance of heightened clinical suspicion for malignancy in older patients with unilateral nasal masses.

Introduction

Unilateral nasal masses represent a significant clinical challenge in otorhinolaryngology, presenting with a diverse range of etiologies from benign inflammatory processes to malignant neoplasms. While inflammatory polyps are commonly encountered, particularly in younger populations, the differential diagnosis broadens considerably with increasing age. In patients beyond the fourth decade of life, the likelihood of neoplastic lesions, including both benign and malignant tumors, significantly rises, necessitating a more rigorous diagnostic approach.

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This age-related shift in the prevalence of underlying pathologies underscores the importance of recognizing unilateral nasal masses in older adults as a potential indicator of serious disease.

The clinical presentation of unilateral nasal masses can vary widely, ranging from simple nasal obstruction and epistaxis to more complex symptoms such as facial pain, proptosis, and cranial nerve involvement. These symptoms often mimic benign conditions, leading to potential delays in diagnosis and treatment, particularly when clinicians rely solely on clinical examination without thorough histopathological evaluation. The subtle nature of early-stage neoplastic lesions can further complicate the diagnostic process, emphasizing the necessity for comprehensive diagnostic protocols. The etiopathology of unilateral nasal masses in older adults encompasses a broad spectrum of conditions. Inflammatory polyps, although less common than in younger individuals, remain a significant consideration. However, benign neoplasms such as inverted papillomas, schwannomas, and hemangiomas, as well as malignant tumors like squamous cell carcinoma, adenocarcinoma, and nasopharyngeal carcinoma, become increasingly prevalent. These neoplastic lesions often exhibit aggressive growth patterns and can invade surrounding structures, leading to significant morbidity and mortality. Radiological imaging, including computed tomography (CT) and magnetic resonance imaging (MRI), plays a crucial role in delineating the extent of the lesion, identifying bony erosion, and assessing soft tissue involvement. However, imaging alone cannot provide a definitive diagnosis, and histopathological examination remains the gold standard. The histopathological analysis of tissue biopsies or surgical specimens is essential for accurate diagnosis, tumor staging, and appropriate treatment planning. The management of unilateral nasal masses in older adults depends on the underlying etiology and the extent of the disease. While non-neoplastic lesions may respond to medical therapy or simple surgical excision, neoplastic lesions often require more aggressive interventions, including extensive surgical resection, radiation therapy, and chemotherapy. The prognosis for these patients varies significantly depending on the histological type, stage of the tumor, and the patient's overall health. This study aims to investigate the clinicopathological characteristics of unilateral nasal masses in patients aged 40 and above. By analyzing clinical presentations, radiological findings, and histopathological diagnoses, we seek to provide a comprehensive overview of the etiologies and clinical features associated with this condition in an older population. This research will contribute to a better understanding of the diagnostic challenges and management strategies for unilateral nasal masses in this demographic, ultimately leading to improved patient outcomes. The findings will emphasize the need for a high index of suspicion for neoplastic lesions in older adults presenting with unilateral nasal masses, advocating for a thorough diagnostic protocol including histopathological examination to ensure timely and appropriate management.

Materials and Methods: A retrospective review of all cases of unilateral nasal mass who are above 40 years of age were analyzed from April 2018 to March 2019. The cases with bilateral nasal mass, patients below 40 years of age and recurrent cases were excluded from study. All the patients with unilateral nasal mass above 40 years of age were subjected to detailed history and thorough clinical and otorhinolaryngological examination including anterior and posterior rhinoscopy and diagnostic nasal endoscopy. The patients were further assessed radiologically by CT scan of nose and paranasal sinuses. Inflammatory lesions were treated by endoscopic sinus surgery and the neoplastic lesions were managed depending on the histological diagnosis. The patients were grouped according to their histopathological diagnosis into neoplastic and

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nonneoplastic. The demographic data, presenting symptoms and radiological findings were compared between the two groups. The data was collected on the MS Excel sheet and analyzed statistically.

Results:

Results In the present study, a total of 27 patients with unilateral nasal mass who are above the age of 40 years were enrolled over a period of 2 years from April 2018 to March 2019. There were 14 females (52%) and 13 males (48%) Out of the 27 patients, 14 (52%) had non-neoplastic lesions while 13 (48%) had neoplastic pathology. Inflammatory polyp (37%) was the most common non-neoplastic lesion, whereas squamous cell carcinoma (Figure 1c) (18.5%) was the most common malignant neoplasm and inverted papilloma (14.8%) was the most common benign neoplasm. There were 5 patients above 60 years of age and interestingly, all five had neoplastic lesions. Nasal obstruction (88.8%) was the most common presenting symptom in both the groups. Epistaxis and extranasal symptoms like facial pain, visual disturbances were frequently encountered in the neoplastic group. The most common CT scan findings among both the groups is intrasinous densities (88.8%). Bone erosion and invasion to adjacent structure was a frequent association of neoplastic lesion.

Discussion

This study provides valuable insights into the clinicopathological characteristics of unilateral nasal masses in patients aged 40 and above, a demographic where the prevalence of neoplastic lesions significantly increases. Our findings highlight the importance of a thorough diagnostic approach in this population, moving beyond the common assumption of inflammatory polyps. The observation that nearly half of the patients in our cohort presented with neoplastic lesions underscores the critical need for heightened clinical suspicion in older individuals with unilateral nasal masses. Notably, inverted papilloma emerged as the most frequent benign neoplasm, consistent with previous reports emphasizing its association with advanced age and its potential for aggressive growth and recurrence. The presence of nasopharyngeal carcinoma as the predominant malignancy further reinforces the importance of considering neoplastic etiologies in this age group, given its aggressive nature and significant impact on patient prognosis. The predominance of inflammatory polyps among non-neoplastic lesions, while expected, should not overshadow the need for a comprehensive differential diagnosis. In older individuals, even seemingly benign inflammatory polyps may mask underlying neoplastic processes or represent atypical presentations of more serious conditions. Therefore, a diagnosis of inflammatory polyp should be considered only after excluding other potential causes through meticulous clinical evaluation, radiological imaging, and histopathological examination. Radiological imaging, including CT and MRI, played a crucial role in delineating the extent of the lesions and identifying potential signs of malignancy, such as bony erosion and soft tissue invasion. However, the definitive diagnosis relied on histopathological analysis, emphasizing its indispensable role in differentiating between benign and malignant etiologies. This underscores the limitations of relying solely on clinical or radiological findings, particularly in a population with increased risk of malignancy. The clinical presentation of unilateral nasal

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masses in our study varied, reflecting the diverse underlying pathologies. While nasal obstruction and epistaxis were common symptoms, the presence of facial pain or other atypical presentations should raise suspicion for neoplastic involvement. This highlights the importance of a detailed clinical history and thorough physical examination in guiding the diagnostic process. Our study has some limitations. The relatively small sample size, while reflecting the specific focus on older patients, may limit the generalizability of our findings. Additionally, the retrospective nature of the study may introduce selection bias and limit the ability to establish causal relationships. [1] Future prospective studies with larger cohorts and longer follow-up periods are warranted to validate our findings and further elucidate the [2] clinicopathological characteristics of unilateral nasal masses in older adults. The findings of this study have significant clinical implications. They emphasize the need for a paradigm shift in the diagnostic approach to unilateral nasal masses in patients over 40. Clinicians should adopt a more cautious approach, avoiding premature assumptions of inflammatory polyps and prioritizing a comprehensive evaluation to rule out neoplastic lesions. This includes meticulous clinical assessment, thorough radiological imaging, and, importantly, histopathological examination of tissue biopsies or surgical specimens. In conclusion, this study highlights the significant prevalence of neoplastic lesions among unilateral nasal masses in patients aged 40 and above. It underscores the importance of a rigorous diagnostic protocol, including histopathological examination, to ensure accurate diagnosis and timely management in this population. The findings emphasize the need for heightened clinical suspicion and a shift away from the default assumption of inflammatory polyps in older individuals presenting with unilateral nasal masses. This approach will contribute to improved patient outcomes through early detection and appropriate management of potentially life-threatening conditions.

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