Analytical Study of Occurrence of Malignancies of Nose and Para-Nasal Sinuses

ABID RASHID, SALMAN AFTAB AHMED, AZHAR HAMEED

ABSTRACT

Objective: The objective of the study was to detect and analyze rate of occurrence of different types of tumors of nose and para-nasal sinuses in males and females. To detect the most common site in malignancy of nose and para-nasal sinuses. To observe the most common variety of malignancy in nose and para-nasal sinuses.
Study Design: Analytical study
Materials and Methods: A total of 30 cases of tumors of nose and para-nasal sinuses with different age groups were admitted at E.N.T. Unit-1, Mayo Hospital, Lahore. Each patient had essentially the work up according to the specific Proforma.
Results: Tumors of nose and para-nasal sinuses were more common in the male (66 %) than in the female (34%). In our study patients comprised of wider age groups ranging from 2nd to 6th decade with peak incidence in 4th decade (40%). The most common site involved in malignancies of nose and para-nasal sinuses was maxillary sinus (80%). It is revealed that majority of cases were diagnosed with squamous cell carcinoma (80%) on histopathology.
Conclusion: Tumors of nose and para-nasal sinuses were more common in males than in the females. The peak incidence of malignancies of nose and para-nasal sinuses was in the 4th decade of life. Maxillary sinus is the commonest site of involvement of malignancies. Squamous cell carcinoma is most common histological type of tumor found in nose and para-nasal sinuses..

Key words: Nose, Para-nasal sinuses, Squamous cell carcinoma

INTRODUCTION

The location of the nasal cavity and the paranasal sinuses make them extremely close to vital structures. Sinonasal malignancies (SNM) can grow to considerable size before presentation, and aggressive therapy may be needed in areas close to the skull base, orbits, cranial nerves, and vital blood vessels

Sinonasal malignancies (SNM) are rare. They are more common in Asia and Africa than in the United States, where about 2000 Americans develop these malignancies each year. In parts of Asia, sinonasal malignancies (SNM) are the second most common head and neck cancer behind nasopharyngeal carcinoma. Men are affected 1.5 times more often than women, and 80% of these tumors occur in people aged 45-85 years[1].

Approximately 60-70% of sinonasal malignancies (SNM) occur in the maxillary sinus and 20-30% occur in the nasal cavity itself. An estimated 10-15% occur in the ethmoid air cells (sinuses), with the remaining minority of neoplasms found in the frontal and sphenoid sinuses[2,3,4].

Department of E.N.T and Head and neck surgery, King Edward Medical University Mayo Hospital, Lahore,
Correspondence to Dr. Salman Aftab Ahmed, Registrar ENT-I, Mayo Hospital, Lahore
Email: drsalmanaftab@gmail.com

Risk factors for sinonasal malignancies (SNM) have been extensively investigated. They are complicated, multifactorial, and somewhat controversial. The idea that squamous cell carcinoma (SCCA) and adenocarcinoma in this area are associated with exposure to nickel dust, mustard gas, thorotrast, isopropyl oil, chromium, or dichlorodiethyl sulfide is well established. Wood dust exposure, in particular, is found to increase the risk of SCCA 21 times and the risk of adenocarcinoma 874 times[5]. Many of these products are found in the furniture-making industry, the leather industry, and the textile industry. A careful social and employment history should be asked of all patients presenting with symptoms concerning for sinonasal malignancies (SNM)[6,7].

Viral infections and their relationship to malignancy is an interesting area that has not received sufficient investigation. Preliminary studies show that epidermal growth factor receptor (EGFR) and transforming growth factor-alpha (TGF-alpha) in elevated levels of expression may be associated with early events in inverting papilloma (IP) carcinogenesis. Human papillomavirus (HPV) and Epstein-Barr virus (EBV) infection may also be an early event in a multistep process of malignant transformation of inverting papilloma (IP)[8,9,10] .

Squamous cell carcinoma (SCCA) constitutes over 80% of all malignancies that arise in the nasal cavity and paranasal sinuses. Approximately 70% occurs in the maxillary sinus, 12% in the nasal cavity, and the remainder in the nasal vestibule and remaining sinuses.[11]

Several variants of carcinoma are often considered variants of squamous cell carcinoma of the nasal cavity and paranasal sinuses. These include verrucous carcinoma, basaloid squamous cell carcinoma, spindle cell carcinoma, and transitional or cylindrical cell carcinoma. The unqualified term squamous cell carcinoma is used to indicate malignancies that have the standard features widely understood to represent that entity.[12]

AIMS AND OBJECTIVE

1. To detect and analyze rate of occurrence of different types of tumors of nose and para-nasal sinuses in males and females.
2. To detect the most common site in malignancy of nose and para-nasal sinuses.
3. To observe the most common variety of malignancy in nose and para-nasal sinuses

MATERIALS AND METHODS

A total of 30 cases of tumors of nose and para-nasal sinuses with different age groups were admitted at E.N.T. Unit-1, Mayo Hospital, Lahore. Each patient had essentially the work up according to the specific Proforma.

It includes history including history of present illness, past history, family history and socio-economic status history, examination and investigations of ear, nose and throat

The most important route in the diagnosis and management of the disease was the nasal endoscopy, which gave a great deal of information as to nature and extent of the disease. An important aid was made by radiography. Computerized tomography scan was done to locate the site and extent of the lesion. The material for histopathology was obtained by biopsy under local anaesthesia to confirm the diagnosis and disease pathology. Other routine investigations like blood complete examination, urine complete examination, blood sugar, blood urea, Serum electrolytes, serum creatinine, electrocardiography and X-ray chest were also done for fitness of patients for anaesthesia.

The data comprised of 30 patients with certain descriptions about various parameters e.g. duration of disease, presenting features, complications, pre-operative pathological findings, radiographic findings etc. The investigation was based upon descriptive statistics involving frequency distribution graphs and calculation of percentages in order to have easier understanding about the relative occurrence of those parameters

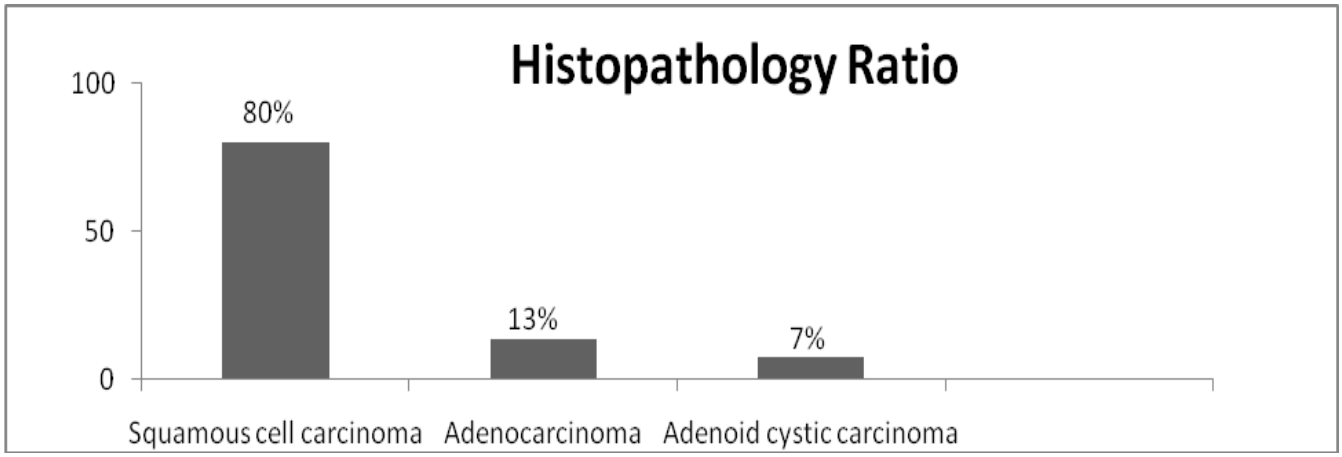
RESULTS

Tumors of nose and para-nasal sinuses were more common in the male (66%) than in the female (34%).

No. of Patients	Males	Females
30	66%	34%

In our study patients comprised of wider age groups ranging from 2nd to 6th decade with peak incidence in 4th decade (40%). The most common site involved in malignancies of nose and para-nasal sinuses was maxillary sinus (80 %).

It is revealed that majority of cases were diagnosed with squamous cell carcinoma 24 out of 30 cases (80 %) on histopathology. 4 out of 30 cases were diagnosed as adeno carcinoma and 2 out of 15 cases were diagnosed as adenoid cystic carcinoma.



DISCUSSION

Tumors of nose and para-nasal sinuses were more common in the male (66%) than in the female (34%). Our findings regarding the male female ratio correlates with that of another study by Hopkin et al showing that the majority of patients of tumors of nose and para-nasal sinuses were males[13]. Our study contradict with another study of 18 patients showing female preponderance[14].

In our study patients comprised of wider age groups ranging from 2nd to 6th decade with peak incidence in 4th decade (40 %). Almost same no. of cases were seen in 5th decade of life in Hopkin's study[15].

The most common site involved in malignancies of nose and para-nasal sinuses was maxillary sinus (80%).

It is revealed that majority of cases were diagnosed with squamous cell carcinoma 24 out of 30 cases (80%) on histopathology. 4 out of 30 cases were diagnosed as adeno carcinoma and 2 out of 30 cases were diagnosed as adenoid cystic carcinoma. This pattern of occurrence is consistent with various published studies such as Krouse has reported that 80% of tumors of nose and para-nasal sinuses are squamous cell carcinoma[16].

CONCLUSION

Tumors of nose and para-nasal sinuses were more common in males than in the females. The peak incidence of malignancies of nose and para-nasal sinuses was in the 4th decade of life. Maxillary sinus is the commonest site of involvement of malignancies. Squamous cell carcinoma is most common histological type of tumor found in nose and para-nasal sinuses.

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