Original Research Paper Pathology

# STUDY OF POLYPOIDAL NASAL MASSES IN TERTIARY CARE HOSPITAL (RIMS), RANCHI, JHARKHAND


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## ABSTRACT

**Introduction:** Nasopharyngeal mass resembles a confounding problem in adults because of the increased fear of malignancy with age advancement.[21]

**Method:** the retrospective study of all cases who underwent surgery or biopsy in 3 years period from January 2014 to December 2016.

**Result:** A total of 62 cases (34 males and 18 females) were reported. Most commonly detected pathological lesion was inflammatory polyp(48.4%) followed by Rhinosporidiosis(30.6%), angiofibroma (9.8%) ,Malignant lesion constituted 6.3% and others(4.9%).

**Conclusion:** Benign lesion are most common and histopathology examination of nasal mass is necessary to rule out malignancy.


**KEYWORDS :** Inflamatory polyp; Rhinosporidiosis; Angiofibroma; Histopathology

## INTRODUCTION:

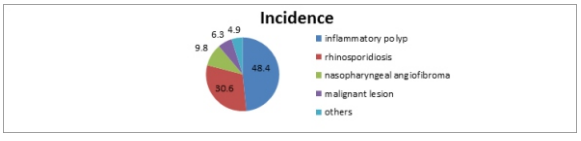
A nasal mass is a common finding in clinical practice. The aim of this study was to study the histopathological spectrum of polypoidal lesions of nasal cavity.

## MATERIALS AND METHOD:

The purpose of the study is to present the various differential diagnosis of nasal masses with their histopathologiacal correlation. All tissues after fixation in 10% buffered formalin, processed and then stained with haematoxylin and eosin to study various histopathological patterns. The retrospective study of all cases who underwent surgery or biopsy in 3 years period from January 2014 to December 2016.

## RESULTS AND ANALYSIS:

It is found that out of total of 62 cases (34 males and 18 females) were reported. Most commonly detected pathological lesion was inflammatory polyp(48.4%) followed by Rhinosporidiosis(30.6%), Nasopharyngeal angiofibroma (9.8%) ,Malignant lesion constituted 6.3% and others(4.9%).The peak incidence of nasopharyngeal masses is seen in 11-20 years age group. The incidence in males is 54.8% and females is 45.2%. Others(6.4%) included capillary hemangioma, fibroepithelial polyp, squamous papilloma. Malignant lesion(6.3%) included two cases of nasopharyngeal carcinoma(undifferentiated type) and one case of olfactory neuroblastoma and one case of squamous cell carcinoma.




## AGE INCIDENCE:

| Age Groups in years | Inflammatory polyp | Rhinosporidiosis | Nasopharyngeal Angiofibroma | Malignant |
|---|---|---|---|---|
| 0 - 10 | 7 | 5 | 2 | - |
| 11 - 20 | 9 | 8 | 2 | - |
| 21 - 30 | 7 | 7 | 1 | - |
| 31 - 40 | 4 | 2 | - | 1 |
| 41 - 50 | 2 | - | 1 | 1 |
| 51 - 60 | 2 | 1 | - | 1 |
| >60 | - | - | - | 1 |

## DISCUSSION:

Nasal polyps are not true neoplasms. Their formation is associated with inflammation, allergy or mucoviscidosis.[1] Clinically, they appear as soft exophytic masses that extend laterally from the mucosa into anterior part of middle meatus.[2] Bilaterality is the the rule. A morphologically similar type of polyp arise from paranasal sinuses called as choanal polyp subdivided according to its specific location into antrochoanal(most common), sphenochoanal, and ethmoidochoanal. Microscopically the polyps are composed of a loose myxoid or hyaline stroma surrounding mucous glands and are covered by respiratory epithelium which often exhibits foci of squamous metaplasia. They are infiltrated by lymphocytes, plasma cells, mast cells, neutrophils, and eosinophils.

Rhinosporidiosis is an inflammatory disease endemic in India, but it has also been reported in other parts of the world.[3] It is characterized by hyperplastic polypoid lesion of nasal cavity and rarely other mucous membrane. The diagnosis is readily made by the identification of numerous globular cysts measuring up to 200nm in diameter. Each of this cysts represents a thick walled sporangium containing numerous spores. The precise nature of this organism remains enigmatic. Molecular studies indicate that Rhinosporidium seeberi clusters with novel group of fish parasites

referred as to as DRIP lade(Dermocystidium, rosette agent, Ichthyophonus, and Psorospermium), near the animal-fungal divergence.[4] Rhinosporiodosis has been known for 100 years since its first description in Argentina. It is a rare chronic granulomatous disease endemic in some areas of Asia such as India and Sri Lanka, but infections have been reported to have occurred the Americas, Europe and Africa. It is more commonly found in Tropical region.[5]

Nasopharyngeal angiofibroma almost exclusively in males between 10 and 25 years of age however, well documented cases in older patients and in females are on record.[19] The great predilection for young males strongly suggests that this lesion is androgen dependent, a theory confirmed by the fact that stromal and endothelial nuclear immunostaining for androgen receptors is found in 75% of cases; by contrast, very few positive for progesterone receptors and none for estrogen receptors.[20] This neoplasm arises from a distinctive erectile-like fibrovascular stroma located in the posterolateral wall of the roof of the nose, where sphenoidal process of the palatine bone meets the horizontal ala of the vomer and the roof of pterygoid process of the sphenoid bone. Microscopically, nasopharyngeal angiofibroma is composed of an intricate mixture of blood vessels and fibrous stroma. The latter varies from loose and edematous, with stellate fibroblasts and numerous mast cells, to a dense, acellular, and highly collagenized tissue. The latter is particularly striking and diagnostic.

It is important to distinguish angiofibromas from lobular capillary hemangiomas because of the different natural history of these lesions. In general, hemangiomas are accompanied by a lesser amount of fibrous tissue, show some degree of lobulation, and their vessels do not have the 'erectile tissue' appearance so characteristic of nasopharyngeal angiofibroma Nasopharyngeal carcinoma is a leading cause of death for large populations in South East Asia, to lesser degree, in northern Africa.[6,7,8] The age-incidence curve is bimodal, with a peak occurring between 15 and 25 years and another between 60 and 69 years.[9,10,11] The accumulated evidence strongly suggests that this tumor results from the combined action of genetic predisposition, environmental factors, and the Epstein-Barr virus. It should be noted that the association with EBV is much stronger in endemic areas(such as South East Asia) than in other parts of the world. Microscopically, Squamous cell carcinoma s(keratinizing), donot show as high an association with EBV as others and occur in old age group.[12,13] The non-keratinizing carcinomas are in large majority, subdivided into differentiated and undifferentiated.[14,15] The differentiated carcinomas have a stratified or pavimented arrangement and well-defined cell margins, whereas the undifferentiated carcinomas exhibit a syncytial appearance and indistinct cell margins.

Olfactory neuroblastoma(esthesioneuroblastoma) is a specific type of malignant neuroectodermal tumor thought to arise from neuroepithelial elements in the olfactory mucosa.[16,17] Olfactory neuroblastoma shows a wide range of age distribution(3-79 years), the median age being about 50 years.[18] Microscopially, composed of uniform small cells with round nuclei, scanty cytoplasm indistinct nuclear membrane, and a prominent fibrillary or reticular background.

**CONCLUSION:**

Benign lesion are most common in nasal cavity and most common cause is due to inflammation or allergy. People who attended ENT department in RIMS, Ranchi are mostly villagers who are farmers exposed to pollen grains. There are ponds in village which are commonly used by both humans and animals and Jharkhand state of India is in tropical region hence climate is very hot and dry during summer. This socioeconomic and environmental factors cannot be neglected as they are contributing to peak incidence of inflam matory diseases in tropical region. Histopathological examination is a must for the differential diagnosis of nasal masses and to rule out malignancy.

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