 http://doi.org/10.18231/j.ijashnb.2019.021

Comparison of nasal fungal growth in polyposis and Chronic rhinosinusitis

Vijay Kumar Meena[1*], Shamendra Kumar[2], Lokendra[3]

[1]Professor, [2,3]Medical Officer, [1]Government Medical College, Kota, Rajasthan, [2]M.B.S. Hospital, Kota, Rajasthan, [3]D.H. Chitorgarh, Rajasthan, India

***Corresponding Author: Vijay Kumar Meena**
Email: shamendra.meena82@gmail.com

Abstract
Fungal Growth is common in polyposis and rhino Sinusitis it is Advance disease and difficult to treat with medical curretage and biopsy send than start treatment

Keywords: AFRS, TEC, DIC.

Introduction
The word polyp comes from Greek literature although subsequently latinised i.e. "polyposis" which means many footed.[1] Nasal polypi is a disease of antiquity. Hippocrates believed that they were caused by carrying heavy weight on head. Others thought that they were evil humours issuing from the brain. Since then the aetiology remains controversial.[2]Several theories have been postulated to explain the pathogenesis of nasal polyps, although none seem to account fully, for all the known facts. Based on a review of the literature and several intricate studies of the bioelectric properties of polyps, Bernstein derived a convincing theory on the pathogenesis of nasal polyps.[3]

Fungal diseases of the sinuses have been recognised since 1971, but until recently they were thought to be relatively rare. Fungi can be pathogenic to the nose and paranasal sinuses and can cause diseases ranging from such entities as allergic rhinitis to fungal antigen, to invasive or fulminant disease.[4]

It was in 1983 that Katzenstein described allergic aspergillus sinusitis as a new form of sinusitis. The term Allergic Fungal Rhinosinusitis was coined by Robson et al in 1989, to describe a constellation of unusual finding in a group of patients suffering from chronic sinusitis.[5]

Fungi belonging to the dematiaceous family are the most common agents implicated in AFRS worldwide; especially Bipolaris spicifera was the most common fungi isolated. But in India there is universal isolation of Aspergillus flavus as noted by Dhiwakar et al, which is probably attributed to hot and dry climatic condition here.[6]

Pain is an uncommon finding and when present suggests concomitant bacterial rhinosinusitis.[7]

Nasal polypi may be ethmoidal or antro-choanal. Ethmoidal polypi are generally bilateral, multiple, commonly seen in middle meatus. The antro-choanal polyp arise inmaxillary antrum, are single usually unilateral and prolapse through the ostium of sinus in middle meatus or if larger into the posterior choana.[8]

Modalities both medical and surgical have been proposed for treatment of polypi and to prevent recurrence, but none universally accepted. In present investigation we aim to study the clinical and histopathological aspect of nasal polypi as contributing factors to aetiopathogenesis.[9]

In the original Mayo study, Ponikayu et al. showed that fungal growth was found in washing from the sinuses in 96% of patients with chronic sinusitis.[11]

Review of Literature
Anatomical Consideration Nose
The skeleton of the nose consists of the nasal bones, the ascending process of maxillae, the upper lateral cartilages, the lower lateral cartilages and septal cartilage. The nasal cavity as a whole is divided by the nasal septum into a right & left, each half, hence may be spoken as a cavity of the nose. Each nasal cavity consists of a Vestibule, Atrium, Olfactory region and a Respiratory region. The nasal septum forms the medial

wall of each nasal cavity. The skeleton of the nasal septum consists of the quadrilateral cartilage, the perpendicular plate of the ethmoid bone, the vomer bone, the palatine process of maxillae and the horizontal plate of the palatine bone. Each cavity is about 2 inches in height and 2-3 inches in length but is narrow from side to side measuring half of an inch or less at the floor and only 1-2 mm at roof. Its width is further reduced by the chonchea, which project into the cavity from the lateral wall. Each nasal cavity is composed of a medial wall, lateral wall, a roof, a floor, and an anterior and posterior aperture.

Hematoxylin and eosin staining accentuate the mucin and cellular components of allergic fungal mucin. Using this stain, background mucin often take on a chondroid appearance, while eosinophils and Charcot-Lyden crystals are heavily stained. Fungi fail to stain with H&E, however and may be implicated only by their resulting negative image against an otherwise stained background. Fungi elements are recognised by their unique ability to absorb silver, which is the basis for various silver stains, such as Grocotts and Gomoris methamine silver stain. They turn fungi black or dark brown.

Observations

The present study was conducted in the department of E.N.T, G.M.C. Medical College & associated group of hospital Kota. 50 case of nasal polyps were taken at random from OPD and male and female E.N.T. wards from Nov-14 to Oct15. Observation were analysed as under:-

1. Types of polyps
2. Age distribution of patient of nasal poypi
3. Sex distribution of cases
4. Etiological factors of nasal polypi
5. Initial symptoms noticed by patients of nasal polypi
6. Association of asthma with nasal polypi
7. Signs observed in case of nasal polypi
8. Percentage of eosinophils(DLC) in case of nasal polypi
9. Total eosinophil count in case of nasal polypi
10. Radiological finding in case of nasal polypi
11. Surgical treatment in case of nasal polypi
12. Histopathological finding of nasal polypi
13. Histopathological study of fungal hyphea with nasal polypi
14. Microbiological study of fungal hyphea with nasal polypi
15. Recurrence in case of nasal polypi

References

1. Drake lee, A.B. Swanston D. & Grace A. (1984) Clinical profile and recurrence of nasal polyps. Journal of Laryngology and otology, 1984;98;783-93.
2. Hippo Crate (460-370 B.C.) – Nasal Polyposis cited by vancil. Laryngoscope 79:435-45.
3. Bernstein JM, Gorfien J, Noble B. ROLE of allergy in nasal polyposis: a review. *Otolaryngol Head Neck Surg* 1995;113(6):724-32.
4. Plaignaud M. Observation un fungus du sinus maxillare. *J Chir* 1971;1:111-6.
5. Katzenstein A A. Sale SR, Greenberger PA. Allergic Aspergillus sinusitis, A newly recognised from of sinusitis. *J Allergy Clin Immunol* 1983;72:89-93.
6. Dhiwakar M, Thakkar A, Bahadur S. Preoperative dignosis of Allergic Fungal sinusitis. Laryngoscope 2003;113:668–94.
7. Manning SC, Vuitch F, Weinberg A. Allergic Aspergilosis: a new recognisedform of sinusitis in the paediatric population. Laryngoscope 1989;99:681 5.
8. Celsus (42BC- 37AD) – Nasal polyposis cited by vancil. *Laryngoscope* 79;435-45.
9. Ferguson BJ. Definition of fungal rhinosinusitis. *Otolaryngol Clin North Am*.
10. W.S. Tichenor. M D 642 Parkavenue (fungal sinusitis) article. 1999;3:227–35.

How to cite this article: Meena VK, Kumar S, Lokendra. Comparison of nasal fungal growth in polyposis and Chronic rhinosinusitis. *Indian J Anat Surg Head Neck Brain* 2019;5(3):80-1.