



COEXISTENCE OF ALLERGIC NASAL POLYPS AND FUNGAL INFECTION WITH EOSINOPHILIA AND WITH HISTORY OF OCCUPATIONAL EXPOSURE

Pathology

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ABSTRACT

ALLERGIC NASAL POLYPS ARE USUALLY ASSOCIATED WITH FUNGAL INFECTION. various presentations of fungal infections present with ordinary rhinitis to obstructive nasal polyps and also associated with elevated eosinophil levels in complete haemogram. Type I hypersensitivity reactions usually accompany this type of nasal polyps, two types of presentations such as invasive forms and non invasive forms. history of using polluted waters in some cases and history of fungal polyps and fungal oral ulcers in washer persons due to repeated occupational exposure to untreated waters.

KEYWORDS

allergic rhinitis, nasal polyps, nasal obstruction, sinusitis.

MATERIALS AND METHOD;

Between January 2017 to December 2018 60 patients were got admitted in Melmaruvathur Adhiparasakthi Institute of Medical Science with the diagnosis of unilateral or bilateral nasal polyps for functional endoscopic sinus surgery. The following data were collected; age, sex, CT scan findings, IgE level, operative details, final diagnosis based on histopathological findings of the removed tissue specimens and mucins when present, recurrence in patients that were followed up for one year.

CT SCAN staging of nasal polyps according to the fixed landmark was based on the staging of Lidholdt et al.

Grade 1; small polyps that extend just below the free edge of the middle turbinate.

Grade 2; medium size polyps reaching between the upper and lower edges of the inferior turbinate.

Grade 3; large polyps reaching below the lower edge of the inferior turbinate.

Histopathological findings; increased eosinophil and plasma cell infiltration with presence of non specific granulomatous reaction and mucinous glandular hyperplasia. Mucinous pools are present with presence of eosinophilic mucin-containing hyphae.

Differential count shows elevated eosinophil count with increased allergic history especially dust allergy.

Incidence of Recurrence rate is increased with history of frequent occupational exposure to untreated waters for washing the cloths.

CONCLUSION

allergic fungal sinusitis (AFS) is a type I hypersensitivity reaction to fungal antigens in which patients usually present with unilateral or bilateral nasal polyps.¹ It is important to be aware of the prevalence of AFS in patients with nasal polyps. Ferguson stated that the simplest and most straight-forward requirement for defining patients as having AFS is the presence of eosinophilic mucin with hyphae. Asthma associated with AFS is estimated to range from 20% to 40% with history of occupational exposure to fungal infected untreated water

RESULTS;

Analysing the history and medical records age of patients were ranging from 10 years to 65 years. males are comparatively increased in number than females. There were 20 females and 40 males. CT scan findings available upto 20 cases only. histopathological diagnosis available in all cases.. Based on histopathological reports, allergic fungal sinusitis is present in 20 cases remaining 40 cases shows

histopathological features of non specific granulomatous reaction with mucinous pools and chronic hyperplastic rhinosinusitis

Increased eosinophil count present in 30 cases and history of occupational exposure present 20 cases.

Incidence of recurrence rate increased in cases with history of occupational exposure with untreated waters.

Table I

Patient	Non specific granulomatous reaction	Chronic hyperplastic rhinosinusitis	Allergic fungal hyphae	recurrence
all	20	25	15	20
Non fungal polyposis	10	10	0	5
Occupational exposure	2	3	15	10
Dust allergy, asthma and increased eosinophil count	5	10	5	5

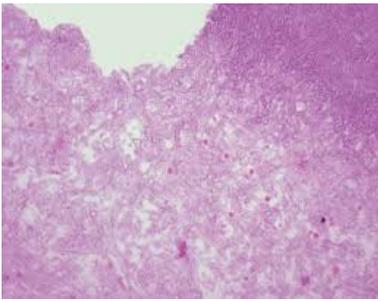
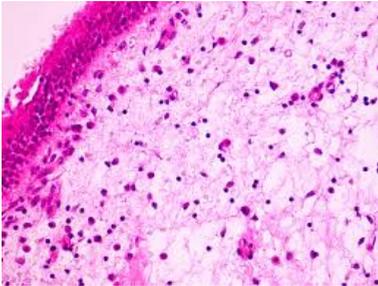
DISCUSSION

Allergic fungal sinusitis (AFS) is a noninvasive form of highly recurrent chronic allergic hypertrophic rhinosinusitis that can be distinguished clinically, histopathologically and prognostically from the other forms of chronic fungal rhinosinusitis. There are three invasive (acute necrotising, chronic invasive and granulomatous invasive) and two noninvasive (fungal ball and allergic fungal) forms of fungal rhinosinusitis.

Histopathology shows the presence of eosinophilic-lymphocytic sinus mucosal inflammation, extramucosal allergic mucin and scattered silver stain positive fungal hyphae within the allergic mucin but not in the mucosa.

Presence of fungal hyphae and also spore forming candida infections.

Asthma was found to be associated with nasal polyps in 20 patients and only in 5 patients with AFS suggesting that asthma is not an important associated pathology in allergic fungal sinusitis. In most of the literature, the rate of associated asthma in cases of AFS ranges from 30% to 40%. AFS, an allergic response to fungi, may occur unilaterally or bilaterally depending on the antigenic stimulation. EMRS also has a significantly higher association with asthma, an increased incidence of aspirin sensitivity, and an increased incidence of IgG1 deficiency.

Fungal hyphae in H&E stain**PAS staining of fungal hyphae****REFERENCES**

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