

Aspergillus Causing Nasal Polyps-A Case Report

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Abstract: Aspergillus causing nasal polyposis, Common presentation includes Nasal obstruction and nasal discharge. A 35 year old female patient with complaints of nasal obstruction and foul-smelling discharge on and off for the past one year. Investigated with Plain X-ray and CT scan of paranasal sinus. Nasal polyp involving left maxillary sinus and nasal cavity was found with bony erosion. Patient underwent polypectomy.

Keywords: Aspergillus, nasal polyp, nasal obstruction, Allergic fungal sinusitis.

INTRODUCTION

Aspergillus, there are more than 185 species of which only a small number of species have been associated with human disease. Of these, over 95% of infections are caused by *Aspergillus fumigatus*, *Aspergillus flavus*, *Aspergillus niger*[1]. Prevalence rate of nasal polyp in general population is 1-4% [2] Aspergillus species are known to cause nasal polyps. Among these aspergillus flavus is the most common to cause nasal polyps. Affected individuals present with nasal obstruction and headache. Generally, more than one sinus involved with aspergillus species, most commonly maxillary sinus. Chronic persistent

inflammation is the most common cause leading to nasal polyp. Diagnosis usually established by history, clinical examination, plain x-ray and nasal endoscopy, CT scan of paranasal sinuses. Follow up of these patients is required as recurrence rates of nasal polyp are higher.

CASE REPORT

A 35year-old female patient attended the ENT outpatient department with complaints of nasal obstruction and foul-smelling nasal discharge from the past 1year.She also had history of recurrent upper respiratory tract infection along with sneezing, hyposmia headache and rhinitis on and off. She had no past history of diabetes, asthma, tuberculosis, and was not taking any corticosteroids, or was not on any immunosuppressant drugs. She was investigated by plain X-ray and CT scan of paranasal sinus. X-ray revealed Nasal polyp involving left maxillary sinus and nasal cavity was found with bony erosion. She was taken up for surgery and polyp was resected .Polypectomy Specimen received in the Dept. of Microbiology, at Sree Balaji Medical College and Hospital. Direct gram staining and wet mount with Potassium hydroxide (KOH) mount of the resected polyp showed fungal colony, narrow septate hyaline hyphae with acute angle branching and fruiting heads of Aspergillus .Gram staining revealed no bacterial organism. Specimen was inoculated in SDA and

incubated at 25 degC in BOD incubator .Species identification was done with LPCB mount of colonies. Culture yielded mixed growth of Aspergillus niger and fumigatus. It was confirmed by slide culture. In all these stained slides, fungal colony, septate hyphae with dichotomous branching and fruiting heads of Aspergillus could be made out. Mixed infection by Aspergillus fumigatus, aspergillus niger was reported.

DISCUSSION

Nasal polyp is benign tumor of nasal mucosa. It has got multiple etiological factors. But most common mechanism is due to persistent chronic inflammation which can lead to nasal polyp formation [3]. Fungi are considered as an antigen triggering immunological reactions leading to hypertrophy of nasal turbinate resulting in nasal polyp formation. Fungal infections are more severe especially in immunocompromised state [4]. Prevalence rate of fungal organisms in chronic rhinosinusitis causing nasal polyp is 45% in tamilnadu[5]. Presence of fungal elements was confirmed by slide culture. In all these LPCB mount slides, fungal colony, and septate hyphae with dichotomous branching and fruiting heads of Aspergillus could be made out. Aspergillus species are most commonly involved [6]. Mixed infection by Aspergillus fumigatus and Aspergillus niger nasal polyposis, bony erosion has been reported.

Nasal discharge and nasal obstruction are said to be the commonest presentation. Fungi have been reported as the commonest cause of chronic sinusitis. *Aspergillus niger*, *A. flavus*, *fusarium*, *Rhinosporidium seebri*, *candida*, *Alternaria*, *Penicillium*, are the fungi reported commonly from nasal polyps. Maxillary sinus and ethmoidal sinuses are commonly involved. *Aspergillus flavus* was predominantly isolated from nasal polyps [7]. Total serum IgE monitored during follow-up of patients being treated for Allergic Fungal Sinusitis can help to know about the progression of disease [8]. Even though it is not a life threatening condition but still patients morbidity will be impaired due to this condition.

CONCLUSION

Earlier detection and prompt identification of fungal elements helps in choosing the appropriate antifungal drugs followed by surgery if necessary. Nowadays, because of the advancement in the treatments there is decline in the surgical recurrence rates for this recurrent hypertrophic rhinosinusitis. Medical treatment of Allergic fungal sinusitis includes postoperative systemic corticosteroids, immunotherapy, anti-histamines, aeration, antifungals like itraconazole and surgical debridement. Further pilot studies and research are required to find out exact pathogenesis of fungi in this condition and to allow rationale use of antifungal drugs in this condition as it is associated with a prolonged morbidity among patients.

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