

**Research Article**

**Clinical Presentation of Extra Nasal Fungal Sinusitis in Children of ENT  
Department of Two Tertiary Care Hospitals in Bahawalpur**

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**ABSTRACT**

**Objective:** To represent additional nasal fungal sinusitis features of southern Punjab children in Pakistan.

**Study Design:** It is a descriptive retrospective study.

**Place and Duration:** The study was performed at two tertiary care hospitals of Bahawalpur including Bahawal Victoria Hospital, Bahawalpur and C.M.H Bahawalpur for period of one year from April 2015 to April 2016.

**Methodology:** Thirty children between 6 and 13 years who met the diagnostic criteria for fungal sinusitis treated within one year were diagnosed retrospectively. Total of 19 patients were obtained from pediatric and ophthalmology units from two different hospitals in the region of Bahawalpur for otorhinolaryngological examination. 11 patients referred to the department of otorhinolaryngology directly with symptoms of nasal sinusitis. Radiological, Clinical presentation, surgical and laboratory findings were detailed studied.

**RESULTS:** The specified average age was 10.2. Men were more influential than women and most disadvantaged groups. The most common additional nasal features were epifora, proptosis, telecanthus and headache.

**CONCLUSION:** Sinusitis cause by Fungus is considered poor in children. In the minimal nasal symptoms or absence of symptoms result in delayed diagnosis, which leads to a terrible outcome disease with an unreliable prognosis.

**KEYWORDS:** extra nasal manifestations, fungal sinusitis, sinusitis in children.

**INTRODUCTION**

Fungal sinusitis is no longer a mystery with modern recognition methods. Increase in the last two decades The technical progress in imaging of mycologic breasts, at the same time with the increasing number of antibiotics and individuals, the topical nasal steroids have been overdosed in the secondary to the overturned plant, which is only attributed to the immunological system [1, 2, 3]. The main classes of internationally classified and published fungal sinusitis are fungal rhinosinusitis non-invasive (extramucosal) and invasive. Chronic and invasive fulminant occurs in three types of non-invasive mushroom nasal sinusitis: nasosinusfungoides, mushroom ball, and

allergic fungus sinusitis on the surface, while the two types of fungus rhinosinusitis that do not spread acutely. From all of them, fungal sinusitis allergic is more common. In children Fungal sinusitis is not uncommon, but the literature lacks full definition, except for fungal allergic sinusitis, where reasonable reports are described. Fungal rhinosinusitis acute (fulminant) also disturbs both adults and children with rhinosinus or rhinoserebral-mucormomycosis and almost lethal immunosuppression [4, 5, 6].

Chronic invasive ball, fungal ball and superficial synovial disease are less common in the pediatric age group. In order to diagnose allergic type

fungal sinusitis in particular, different criteria have been defined by different criteria depending on the clinical, radiological and laboratory findings. Chronic invasive type can only be determined by histopathologic examination, so the incidence remains unclear. fungal hyphae presence does not have to be marked as fungal sinusitis because they may be missed and also rare [7, 8].

Same way the condition from being marked as fungal sinusitis even with absence of symptoms . It is hard to make conclusion whether invasion by fungal is a allergic sinusitis pre-existing or secondary whether it has existed from the beginning, which makes it quite uncanny to give the "fungal sinusitis" title [9]. Fungal sinusitis manifestations in children are quite diverse and varied in comparison to adults. The clinical appearance according to McClay and allergic fungal sinusitis course in children is distinct from that of adults. Pediatric allergic fungal sinusitis appears more aggressive, so early diagnosis, rapid treatment and periodic post-operative follow-up are necessary [10].

**METHODOLOGY:**

These 30 cases were taken from April 2016 to April 2015 in two secondary tertiary hospitals of Otolaryngology in Bahawalpur including Bahawal Victoria Hospital, Bahawalpur including CMH, is a retrospective descriptive study of fungal sinusitis in working children. Patients with simple etmoidal polyps, antrochoanal polyps and deviated nasal septum were excluded from the study. Additional nasal indications lead to children coming out to the eye or outdoors, because they obtained nineteen other chapters, and the Ten KBA Department was directly informed of them. Selected children ages 5-12 years. Gender and socioeconomic status were given.

The diagnosis of fungal sinusitis is as follows:

- 1 Clinical symptoms.
- 2 History in detail
3. Nasal& paranasal (coronal view and axial) C.T. Scan .
4. Level of eosinophilia and IgE levels in serum.

5. Examination of nasal and paranasal sinus microscopically in KOH wet preparation.

**RESULTS**

The range of age is 6 to 13 years. 10.2 mean age standard deviation? (Table I). total male patients were 25 (82.9%) and female patients were 5 in number (17.0%). The males to females ratio was five to one. 2 patients were affected by invasive acute type (immunodeficiency due to uncontrolled leukemia and diabetes) and the 28 remaining were diagnosed with allergic fungal sinusitis. The majority of the patients belonged to 73.3% of the socioeconomically oppressed population (Table-I).

Group	No	%
<b>Age</b>		
5-8 years	05	16.66
9-12 years	25	83.33
Mean age	10.2	
<b>Gender</b>		
Male	25	83.33
Female	05	16.66
<b>Socioeconomic status</b>		
Higher*	00	
Middle**	08	26.66
Lower***	22	73.33
Higher* Rs 35000 per family/month		
Middle** Rs.12000-35000 per family/month		
Lower*** Rs. 12000 per family/month		

The most common extra nasal presentation was an epiphora (76.6%). Proptosis was 66.6% and telecanthus was 50%. 23.3% of the patients recognized facial pain and headache (Table II).

a. Nasal Manifestations (n=30)		
Features	No of patients	Percentage
Nasal obstruction	10	33.33
Nasal discharge/Post nasal drip	15	50
Nasal crust	5	16.66
Nasal polypi	14	46.66
b. Extra Nasal Manifestations (n=30)		
Features	No of patients	Percentage
Epiphora	23	76.66
Proptosis	20	66.66
Telecanthus	15	50
Facial pain/ Headache	7	23.33

The nasal dominant symptoms were secretion, cough and posterior nasal drip (50%), whereas obstruction of nasal was 34% reported (Table II). 46% of cases were detected with nasal polyps and

shells in nasal were present in 17% (Table II). Computed tomography showed bilateral nasal involvement and paranasal sinuses in 67.0% of cases and in 33.3% of cases with bilateral disease (Table III).

CT scan findings	No. of Patients	%
Unilateral involvement of nose and sinuses	20	66.7
Bilateral involvement of nose and sinuses	10	33.3
Double density sign	23	76.7
Erosion of orbital wall and skull base	5	16.7
Laboratory findings		
Serum IgE levels	15	50%
Eosinophilia	9	30%
Fungal hyphae identification in wet mount KOH preparation	14	46.6%
Operative findings		
Allergic mucin	25	83.33
Black eschar	2	6.66
Bone erosion	7	23.4

#### DISCUSSION:

Fungal sinusitis is not uncommon in children, but simple chronic nasal problems, which are quite complicated and lead to a dangerous moment in childhood, are least designed in the long run. Presentation in pediatric patients with fungal sinusitis is quite different from adults. Children, because such anomalies may not be otolaryngologist necks from a variety of additional forms of nose discrimination, such as skeletal skeletal and trajectory symptoms. Interesting and at the same time a controversial point is that if the mushrooms are single or present allergic or sedentary present or invade sinusitis. Since the most common and universally accepted contributing factor is the hot and humid climate, southern Punjab is over-crowded and monetary worries are particularly suitable for the tendency of people to have this disease in children.

Studies of the adult population with fungal sinusitis also show that fungal sinusitis is allergic, which is abundant, but no strain of literature is associated with fungal disease in children. The fungal sinusitis common type seen in children is allergic fungal sinusitis, and same in adults, but the main difference is aggressive nature and presentation. In studies of different mean age was defined as 13.6 and 12.6. In the group we chose

(5-12 years) was 10.2. (83.3%) male predominance was observed to be comparable with other studies. Eight Patients who come to OPD ENT directly had a long nasal obstruction history and nasal discharge, the drop in study was more pronounced (50%), 96, then the nasal discharge.

The relationship between nasal polyposis and fungal disease has yet to be determined since 83.33% of allergic mucin has been detected and 46.6% have polyps. It is difficult to establish a correlation between these two properties. Facial deformity, changes in orbital configuration, epifora; Visual disturbances, headache, facial pain and cough lead them to other parts. Approximately 63% of our patients were sent by ophthalmologist or pediatrician, emphasizing the importance of non-rhinologic features. The findings of proptosis and telecanthus appeared early in children and appeared earlier than adults due to performance reasons. In one study, proptosis was 20% in adults and 66% in our case. In one study, there was a significant change in facial skeleton (proptosis, telecanthus or malaria flatener) during the presentation of 10 of 36 (42%) pediatric patients and 103 (10%) adult patients. Similarly, unilateral and asymmetric sinus disease is a common feature observed in children. Fungal sinusitis consists of a number of common pathological processes that are allergic and followed by acute invasive and fungal ball. There are different methods to diagnose in the modern world. Important laboratory studies include serum total IgE levels, blood eosinophilia, identification of fungal hyphae, and fungal culture. Radiological research is preferably computerized tomography, and knowing the extent of the disease and the involvement of neighboring structures is almost a link. There are only a few in the remote regions of our country and a place that most people will not have access to. For this reason, we limit ourselves to these. Allergic mucin is the most common intraoperative finding (83%) that can not be supported by other means for the diagnosis of allergy. High IgE levels were found in 50% of patients, only eosinophilia was detected in 30% of

patients. Mycotic hippocampus was found to be 46.7% in some reports compared with 46.7% in 12-15. This is not uncommon in the literature, even in histopathological analysis, because it defines a failure rate of 40% for the presence of fungi.

CT findings vary from case to case depending on the type and duration of the disease, but it is almost imperative in all cases suspected of fungal disease. In the early stages, the mucosa may be a simple thickening, but full opacification is seen with intrinsic weakening in prolonged periods. It is the pathology of fungal sinusitis, which simultaneously reflects almost allergic mucin, which can be useful to differentiate between different types of infection, mucicoid. 16,17 double density signal (hyperdense between the opacity of sinus light soft tissues). In a single study, 76.6% of our cases were found to have a 40% rate. 10 The mushroom ball is characterized by a rounded focus area with increased attenuation, centered on one sinus. The acute invasive type is characterized by destructive bone erosion that extends into adjacent soft tissues. The environment of the delicate community is dangerous because of the complexities, the paranasal sinuses, especially the ethmoids, are no exception. Adjacent neighbors, such as the brain and the orbit, can be affected by the path and can be useful in training about the attack of neighbors. Computed tomography findings show bone erosion equal to the level of the disease, but occasionally

It is misleading because the rate of bone erosion detected on our side in CT (16.7%) did not match intraoperatively (23.4%). Neighboring erosion should not be confused with tissue invasion. Non-invasive (extramucosal) disease can lead to an erosive process without invasion of tissues, and therefore, histopathology is usually the ultimate determining factor in determining whether it is invasive fungal rhinosinusitis.

## CONCLUSION

Fungal sinusitis is considered poor in children. In its absence or with minimal nasal symptoms, the diagnosis is delayed and this leads to a terrible

disease with an unreliable outcome. Fungal disease should be considered in the differential diagnosis of all patients with unexplained, recurrent or aggressive disease affecting the nose and sinuses in children.

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