



SINONASAL POLYPOSIS; FREQUENCY OF FINDING FUNGUS IN HIDDEN AREAS OF SPHENOID SINUS UNDERWENT FESS FOR SINONASAL POLYPOSIS:A RETROSPECTIVE OBSERVATIONALSTUDY.

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Article received on:
18/12/2018
Accepted for publication:
15/01/2019
Received after proof reading:
31/01/2019

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ABSTRACT... Objectives:Practice to see the sphenoid sinuses for the presence of fungus to get the objective of complete removal of sinonasal polypi and its recurrence. **Study Design:** Retrospective observational study. **Place and Duration:** Department of ENT and Head and Neck surgery Al-Tibri Medical College Hospital, Isra University Karachi Campus from June 2016 to December 2017. **Method:** 60 cases of sinonasal polyposis with no co-morbidity like hypertension, diabetes etc, underwent FESS, 32 were male, 28 were female, age range from 18 year to 60 year. In 24 patients we found fungus in sphenoid sinus after removing polyps from other areas. **Result:** We found in 40% of cases in sphenoid sinuses with pure sionasal polypi. **Conclusion:** There is always possibility of finding fungus in hidden areas of sphenoid sinus when we are dealing sinonasal undergoing FESS.

Key words: Sinunasal Polypi, FESS, Fungus, Hidden Areas of Sphenoid Sinus.

Article Citation: Memon MJ, Rana AH, Qureshi SAM. Sinonasal polyposis;frequency of finding fungus in hidden areas of sphenoid sinus underwent fess for sinonasal polyposis: a retrospective observational study. Professional Med J 2019; 26(2):360-363. DOI: 10.29309/TPMJ/2019.26.02.2633

INTRODUCTION

Nasal polypi is recognized condition since the time of ancient Egyptians. Prevalence of this condition is estimated between 1% and 4%, but some studies showing up to 32%.¹

Multiple polyposis are non-neoplastic masses of sinus and nasal mucosa.² These polyps can descend between the middle turbinate and the lateral nasal wall of the nasal cavity.³

Nasal polyps sometimes seen in clinical conditions like chronic rhinosinusitis, asthma, cystic fibrosis and malignancy.⁴

Nasal polyp is a multifactorial disease with different etiological factors, chronic persistent inflammation (viral, bacterial and fungal) and genetic factor.⁵ The prevalence of rhino sinusitis is approximately 14%.³

Colonization of fungus in nose and paranasal sinuses is a common finding both in diseased and healthy individuals. Aspergillus species is common but other fungi like mucor mycosis,

schizophyllum commune, alternaria, curvularia and bipolaris are also seen.⁶

There are four methods to diagnose fungal infection. These include microscopy, culture, DNA probing and serology. Fungi are frequently cultured on Sabouraud's agar media.

Fungal sinusitis is categorized as invasive and noninvasive. Invasive fungal sinusitis is defined by the presence of fungal hyphae within the mucosa, submucosa, bone, or blood vessels of the paranasal sinuses. It is subdivided into acute invasive fungal sinusitis, chronic invasive fungal sinusitis and chronic granulomatous invasive fungal sinusitis.⁵

Noninvasive fungal sinusitis is defined by the absence of hyphae within the mucosal and other tissues of the paranasal sinuses. It is subdivided into allergic fungal sinusitis and fungus ball (fungal mycetoma).⁶

The main presenting symptom of nasal polyp is nasal obstruction which is constant but can vary

depending on the site and size of the polyps. Patients may complain of watery rhinorrhea, postnasal drip, headache, hyposmia and alteration in taste.⁷

During management along with history and examination special investigations are necessary to oblige as high resolution computed tomography (CT). Preoperative and postoperative rigid Endoscopy plays vital role in management.⁸

In cases of marked mechanical obstruction of the airways or chronic disease surgical intervention is the treatment of choice. As high as 75% recurrence in eight-year follow-up is recorded. Considerable changes have taken place over the last two decades in the surgical approach to nasal polyposis the advent of the endoscope enables earlier detection and more precise surgical treatment of polyposis called Functional Endoscopic Sinus Surgery (FESS).⁹

This is less invasive and requires no skin incisions or removal of intervening bone to assess and remove the disease. It facilitates restoration of ventilation, drainage of the sinuses, preserving the sinonasal mucosa and its function.¹⁰ Complications of FESS are usually classified into major and minor. Major are CSF leak and orbital complications (ecchymosis, diplopia, reduction or loss of vision), significant intra-operative or immediate post-operative haemorrhage. Minor ones are adhesions, infection and post-operative pain.¹¹

Very few studies are conducted across the world to assess the recurrence of fungus. Therefore, the aim of this study is to find out the frequency of fungus in multiple polyp to avoid recurrence and fatal morbidity.

MATERIAL AND METHODS

This is a medical record of 60 cases of multiple sinonasal polypi who underwent FESS at Altibri Medical college Hospital, Isra University Campus Karachi and Sindh Government Qatar Hospital Karachi, from January 2016 to July 2017. A retrospective review was conducted to evaluate the presence of fungus in hidden areas of

sphenoid sinus in patients who underwent FESS for multiple polyposis. Out of 60, 32 were male, 28 were female, age was ranging between 18 to 60 years with no co-morbidity like hypertension, diabetes. In 24 patients we found fungus in hidden areas of sphenoid sinus after removing polypi from nasal cavity and sinuses.

Inclusion Criteria

All patients with Nasal polypi were diagnosed on history, clinical examination, and radiological assessment especially CT scan Osteomeatal Complex (OMC) coronal view.

Exclusion Criteria

Patients unfit for general anesthesia and polyps with malignancy.

RESULT

In our study, 60 patients were treated by FESS. In 24 (40%) patients, fungus was we found especially in hidden areas of sphenoid sinuses along with sinonasal polyposis.

DISCUSSION

The sinonasal polypi are infective, allergic or mixed in origin. The super-added fungal infection is mostly seen in the patients who approached late or surgical procedure is delayed due to co-morbidity or unnecessarily treated with antibiotics and cortisone. Up to 75% recurrence is the mostly a complication of conventional surgical procedures like polypectomy, ethmoidectomy. With the invention of endoscopic sinus surgery the recurrence rate is minimal but still the recurrence is seen who had fungal infection along with multiple polyposis or incomplete removal of disease. The definite treatment of sinonasal polyposis is the FESS. All patients undergoing FESS are investigated for blood CP, blood sugar, UCE, urine examination, X-ray chest, CT scan of osteomeatal complex (OMC), DNE (diagnostic naso endoscopy) and anesthesia fitness. Informed written consent about surgical procedure, complications and the benefit of the surgery are pre-requisites of FESS. In our cases we removed fungus especially from hidden areas of sphenoid sinus and followed the patients for one and a half year. In follow up we

did DNE regularly and found no recurrence in all cases. This gave an idea that recurrence can be avoided by cleaning all sinuses meticulously and especially the hidden areas of sphenoid sinus even it is looking normal on first appearance. Fungal sinusitis is a lethal condition and it should be cleared with commitment. Postoperative anti-fungal therapy should be given in all cases of sinonasal polypi with fungus.

There is no study held in Pakistan to find out the fungus in hidden areas of sphenoid sinus. However, one case report is recorded.¹²

Very few international studies have been done a like one study, "invasive fungal sinusitis of sphenoid".¹³

CONCLUSION

There is always possibility of finding fungus in hidden areas of sphenoid sinus when we dealing sinonasal with FESS. Sometimes the mucosal covering of the sphenoid sinus gives normal look and we assume that procedure is over but when we are introducing endoscope with different angles, on the top of our surprise we see fungus in hidden areas of sphenoid sinus. These hidden areas are superior and lateral walls.

It will be a good habit if FESS surgeons see these areas of sphenoid sinus even it is giving a normal impression.

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Don't let what you cannot do **interfere**
with what you can do.

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“John Wooden”

AUTHORSHIP AND CONTRIBUTION DECLARATION

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