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Migraine-like headache induced by isolated frontal allergic fungal sinusitis: Case eport

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Migraine is commonly misdiagnosed as sinus headache, which is associated with forehead and facial pressure over the sinuses, nasal congestion, and runny nose.

Despite the existence of strict criteria to differentiate between different etiologies of headache provided in the International Classification of Headache Disorders (ICHD) as devised by the International Headache Society (IHS), Migraine in some cases could be misdiagnosed in patients with sinus headache and, rarely, isolated allergic fungal sinusitis.

Keywords: migraine, isolated allergic fungal sinusitis, headache

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Introduction

Allergic fungal sinusitis is a type of non-invasive fungal sinusitis characterized by presence of fungi, caused by Aspergillus when one sinus is involved commonly affecting the maxillary sinus [1,2] rarely involving the sphenoid. [3]

Isolated frontal sinus has not been reported in the literature and up to our knowledge this is the first reported case of isolated frontal sinus diagnosed incidentally by CT scan during the investigation for headache in the absence of nasal symptoms.

Case report

A 42 years old lady, a known case of migraine, presented to the ORL Head and Neck Surgery outpatient clinic at Prince Sultan Military Medical City with persistent frontal headache characterized by deep-seated throbbing pain and was not relieved by over-the-counter analgesia and diagnosed early as migraine. The patient reports no history of aura, nausea, or photophobia. On examination of the nasal cavity, no intranasal abnormalities apart from moderate hypertrophy of both inferior turbinate. A full neurological exam was conducted and was normal. A CT scan revealed a heterogeneous opacity with micro-calcification involving Left frontal sinus with intact anatomical boundaries **(Fig. 1)**. A diagnosis of isolated frontal fungal sinusitis was made and the patient underwent endoscopic sinus surgery. Frontal sinus was cleared endoscopically through frontal sinusotomy with washout of sinus content containing mucinous tenacious secretions and fungal material with preservation of the hypertrophied mucosa. Fungal culture and histo-pathological examination was suggestive of aspergillus with no invasion of the mucosa. The patient's symptoms were completely resolved on following up the patient for two years. Immunological tests were performed showing a blood total IgE of 240, specific IgE test were positive for Weed mix and fungal mix, and a skin prick test (SPT) positive for Dust mite, Rough Pigweed, Russian thistle, and Aspergillus mix.

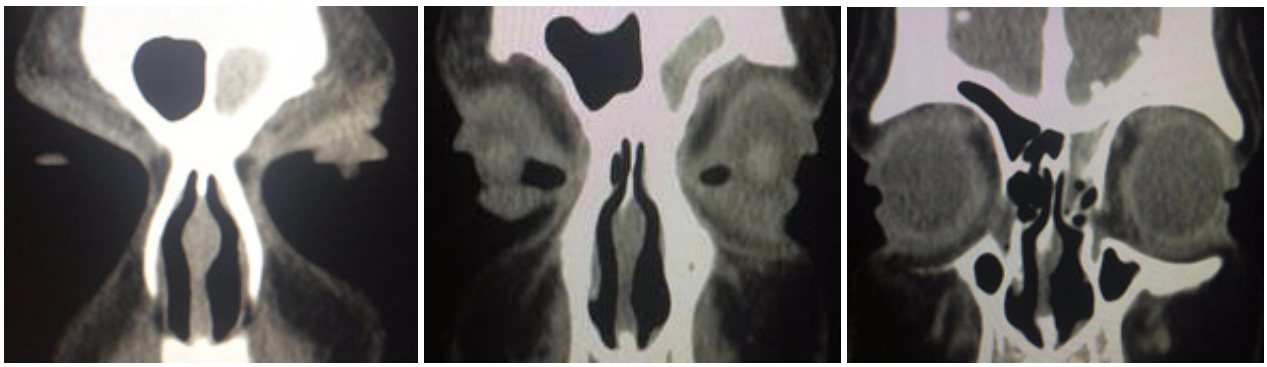

Fig1 Coronal views of Computed tomographic scans of the paranasal sinuses showing heterogeneous opacity with microcalcification involving Left frontal sinus

Discussion

Tremendous efforts were made in the International Classification of Headache Disorders (ICHD) as devised by the International Headache Society (IHS) to classify types of headache and to highlight diagnostic criteria of all types. [4] More efforts were made by the French Society for the Study of Migraine Headache in 2014 to revise guidelines for the diagnosis and therapeutic management of migraine in adults and children. [2] In spite of the existence of the guideline, there is much debate in the literature related to the issue of whether headaches are caused by Sino nasal pathologies. [6]

Most ear, nose, throat specialists refers to a good reference by the international headache society (IHS) has established criteria for "sinusitis- related Headache society classification (2004). [7]

In our case, the patient was diagnosed clinically as a case of migraine headache that is persistent with treatment. Sinus disease was not suspected because of the absence of nasal symptoms.

Chronic sinusitis is not validated as a cause of headache or facial pain unless it relapses into an acute stage, which was not the case in our patient. [7]

Unless chronic sinusitis relapses into an acute stage, which was not the case in our patient, chronic sinusitis is not validated as a cause of headache or facial pain. Diagnostic criteria in the guideline states clearly that headache disappears after treatment of acute sinusitis (if present). There was no evidence of acute sinusitis clinically in our patient who had persistent severe headache. In our case of isolated frontal allergic fungal sinusitis as suggested by a CT scan and proved by fungal culture, allergy testing, and histopathology; there was a complete resolution of the persisting headache following surgery. [4]

In our review of the literature, we have found a similar case with isolated sphenoid fungal ball mycetoma that presented purely with headache in the absence of nasal symptoms. [6]

Conclusion

The diagnosis and treatment of Sino nasal pathology are straight forward based on symptomatology and radiologically.

Facing isolated sinus disease in the absence of nasal symptoms presented with headache as the only symptom will be presented to the neurologist or neurosurgeons. This necessitates increasing the awareness of physicians of such clinical entity and broadening of the HIS criteria to tackle such cases revising presence of headache in similar cases.

Conflict of Interest: Non

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