



PREVALENCE AND DIAGNOSIS OF MIGRAINE SYMPTOMS IN OTOLARYNGOLOGY CLINIC PATIENTS: A DESCRIPTIVE STUDY

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ABSTRACT

The purpose of this study is to identify the most prevalent migraine symptoms in patients presenting to an otolaryngology clinic, including typical (headache and dizziness) and atypical (ear fullness, pressure, pain, tinnitus, facial fullness, and nasal congestion). An otolaryngology practice has prospectively collected data for the purpose of this descriptive study. The most common presentations of migraine headache and migrainous vertigo were diagnosed according to the international headache society (IHS) criteria for migraine headache and Neuhauser's criteria for migrainous vertigo, respectively. An individualized approach was used to diagnose atypical otological and rhinologic migraine symptoms. From the time of the first presentation, charts were reviewed every six months. There were 11% of patients with "migrainous chief complaint" out of 2004 consecutive patients. All of the migrainous chief complaint patients had a history of headache, although they did not all present with headache symptoms at presentation. By applying a t-test, the age distributions of migraine and nonmigraine groups differed significantly. In the migraine group, the corrected female to male ratio was three to one. 86% of patients with atypical complaints also had a history of concomitant typical symptoms. Despite the diversity of migraine presentations, the actual diagnostic criteria do not meet these needs. Most atypical migraine presentations can be diagnosed by examining the history of the migraine. It seems that any practitioner of otolaryngology should have a thorough understanding of migraine.

Key words:- Ear, Treatment, Outpatient, Otolaryngology, non-migraine.

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INTRODUCTION

Primary headache disorders such as migraine are very common. Physicians frequently consult with patients about headaches due to this condition [1]. Most migraine patients remain undiagnosed for half of the time. Its variability in clinical presentation may contribute to this [2]. Clinical criteria define migraine headaches and dizziness as the only manifestations of migraine that occur in the

head and neck area (IHS for migraine headaches, and Neuhauser's for migrainous vertigo) [3, 4]. It is common knowledge today that migraine sufferers may also present with a variety of other symptoms related to the head and neck. These symptoms may occur outside of a headache attack, but they are believed to stem from the same pathophysiologic mechanisms as migraine headaches. It is primarily the nose and ear that are involved in these atypical presentations of migraine in the head and neck. Nasal congestion and less frequently runny nose are the most common non-headache rhinologic symptoms [5, 6].

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Tinnitus and ear fullness are some of the most common nondizziness ear symptoms [7, 8]. Generally, patients with these symptoms present to an otolaryngologist, who may miss the diagnosis or attribute their symptoms to a primary sinus or ear condition if he or she is not experienced with migraine symptoms.

Among the patients who present or are referred to otolaryngology clinics for migraine treatment, the study examines how frequently they suffer from typical migraine symptoms (headache, dizziness, and headache) as well as atypical migraine symptoms (ear fullness, pressure, pain, tinnitus, facial fullness, and nasal congestion).

METHODS

Statistical analysis of prospectively collected data from a private otolaryngology practice has been carried out in this study.

Recruitment criteria for patients

The study included 2004 consecutive patients with ENT chief complaints who presented or were referred to the otolaryngology clinic over a six-month period. Excluded were patients who specifically presented for migraine treatment or were referred for migraine treatment.

Diagnostic Tools

According to the known migraine criteria, the following symptoms were identified as typical migraine symptoms.

According to the international headache society's (IHS) 1.1 criteria, migraine headaches with aura are classified as migraine headaches, migraine headaches without aura are classified as migraine headaches, and probable migraine is classified as migraine headaches [9]. Patients who met the Neuhauser criteria for definite migrainous vertigo (DMV) were diagnosed as having migrainous dizziness, whereas patients who met the criteria for probable migrainous vertigo were considered migrainous only if they responded to migraine treatment [10, 11].

When nasal anatomical abnormalities such as septal deviations, turbinate hypertrophy, and concha bullosa were present and their laterality explained the laterality of the symptoms, migraine etiology for nasal congestion was excluded. However, these anatomical findings were not considered sources of headache [12].

DATA COLLECTION

Patients in the migraine and nonmigraine groups were asked to provide information regarding their chief complaint, its duration, and their age and gender. The history of headaches was asked of all migraine patients with chief complaint of migraine.

The medical charts of patients in the migraine group were reviewed six months after the patient's first visit to

determine whether the diagnosis had changed, and how long each patient had been following up during this time period [13]. When the migraine diagnosis was required as a criterion, the response to migraine treatment was reassessed at a 6-month interval following the first presentation. We removed suspected migraine patients from the migraine group when they failed to respond to treatment due to a lack of follow-up.

DATA ANALYSIS

After first diagnosis and following up for 6 months, we classified these chief complaints as migraineous. Finally, we calculated the percentage of migraine chief complaints and subcategories. A comparison of migraine chief complaint groups with non-migraine chief complaint groups was conducted based on gender, age, and duration of symptoms. The age distribution of migraine patients compared with those without migraines was analyzed using the Student t-test. It was calculated the percentage of patients with typical and atypical migraine presentations, as well as the percentage of migraine symptoms patients who had a history of headaches.

RESULTS

A total of 2004 patients presented concurrently with an ENT chief complaint over a period of six months. There were 216 patients with a "migraineous chief complaint," while 894 patients had a "nonmigraineous chief complaint," which included those with a suspected but unconfirmed migraine diagnosis.

In general, females outnumbered males in the entire group. The group with "migrainous chief complaint" consisted of 76 females and 32 males. Based on applying the following formula, a female to male ratio of 3 to 1 was obtained when the female to male ratio was adjusted to the female to male ratio in the entire group. There was a history of headache for all of our patients with migrainous chief complaint, but not all of them presented with a headache on presentation. As a result of this study, 16 patients reported tension-type headaches and 200 patients reported migraine headaches, 68% of whom reported migraine without aura, 30% reported migraine with aura, and 5% reported probable migraine headaches.

There were 116 patients with a typical migraine presentation, which is shown in the table below. The typical patients included 70 patients who suffered from migrainous vertigo and 46 patients who suffered from migraine headaches. One hundred patients presented for an atypical chief complaint, 35 percent of which were ear symptoms (primarily ear pain and fullness), 15% had nasal symptoms, and 3% also presented with ear and nose symptoms.

In our atypical migraine patients (concomitant with a DMV, IHS migraine headache, or response to migraine treatment), diagnostic criterion A was analyzed; 14

patients (15%) were diagnosed based on their response to migraine treatment; 54% had an IHS migraine headache concomitantly, 30% had a DMV concomitantly, and 7% had a DMV concomitantly.

In 30 patients, the duration of symptoms could not be clearly determined due to the chronic nature of the complaint. An extensive range of symptoms were reported, ranging from a few days to a lifetime. The majority of the patients reported symptoms lasting less than one month, while only 34 patients reported symptoms lasting longer than 34 months.

DISCUSSION

Although the disease has been known for a long time, no diagnostic test has been developed for it, and only clinical criteria can be used as a diagnostic tool. The International Headache Society has established criteria for the diagnosis of migraine, whereas the Neuhauser criteria are the most widely accepted criteria for migrainous vertigo diagnosis [14]. Regardless of the field, it is necessary to exclude other etiologies.

In addition to headaches, dizziness and headaches in the sinus region are otolaryngic manifestations of migraine. In order to objectively diagnose both headaches and dizziness, internationally accepted criteria should be used (IHS criteria for headaches and Neuhauser criteria for dizziness). In addition to atypical otological and rhinologic symptoms, migraines can also manifest as headaches. It was determined that two conditions are essential criteria for defining any atypical chief complaint as a migraine in order to have a consistent diagnostic method for atypical migraine cases.

Based on these criteria, 11% of patients who presented with an ENT complaint were diagnosed with migraines; this is lower than the overall prevalence of migraines in the general population. It is estimated that 12% of people suffer from migraines within a year [15]. The present study is not a prevalence study, but only counts migraine symptoms in an ENT clinic as chief complaints. It is our opinion that a greater percentage of patients in our ENT clinic were suffering from migraine, but were presenting for a non-migrainous condition. Any ENT practice should consider migraine as an integral part of its practice due to the high percentage of chief complaints related to migraines.

Although all of the migrainous chief complaints were associated with a history of headaches, only 20% presented with headaches as their chief complaint, while 34% reported migrainous vertigo, and around 45% reported nonheadache, non-dizziness complaints. Most patients do not consider the ENT clinic to be a headache clinic, which can explain this. We typically receive patients who believe that their symptoms are caused by a primary ear or nose pathology and their headaches are secondary to this problem, whereas in fact many of these

symptoms are caused by a headache mechanism rather than the other way around.

The present study demonstrated that 79% of migraine chief complaints in ENT were for reasons other than headache; this should serve to remind us as otolaryngologists of the importance of being aware of nonheadache and atypical migraine presentations. According to our research, migraine underdiagnosis is in part related to the variability in presentation, and we believe including migraine in our differential diagnosis may help to reduce migraine underdiagnosis.

Due to our criteria for atypical presentation in this study, we were restricted to the most evident migraine cases as the majority of patients were excluded from the migraine group due to non-attendance on follow-up visits. As a result, the response to treatment could not be documented appropriately and other causes could not be ruled out due to the inability to complete investigations. Due to the loose nature of its criteria, probable migrainous vertigo was excluded from our statistical analysis when there was no response to treatment documented. Diagnosis of this type is by definition likely to overlap with other diagnoses of dizziness. We are therefore of the opinion that migraine can account for a larger percentage of ENT visits than the percentage calculated in this study.

Eustachian tube dysfunction is primarily symptomatic when you are at low altitudes, such as when you descend on a plane, which might help distinguish between the two. In clinical practice, however, this difference may not be very apparent, as migraine is triggered when you are at high altitudes. In addition to superior canal dehiscence and conductive hearing loss, other ear conditions can cause ear fullness. Differentiating migraine from other ear disorders requires audiometry and appropriate imaging in conjunction with a careful headache history.

As with rhinology, migraine is frequently underdiagnosed in this field as well. Most physicians and patients refer to sinus headaches as sinus headaches, and automatically attribute them to sinonasal origins. There are a variety of nasal anatomical problems that are frequently associated with headache, including turbinate hypertrophy, concha bullosa, and a deviated nasal septum, especially when accompanied by a contact mucosal point. There is also a common association between sinusitis and headaches. According to the 2013 beta version of IHS classification, it was included as a potential cause of headaches, but with strict criteria proving causation. Anatomical problems of the nasal cavity such as septal deviations and turbinate hypertrophy are not considered valid causes of headache in the classification. Mucosal contact point headache is also considered "limited evidence."

Despite the fact that a consensus on the rhinogenic cause of headache has been reached between otolaryngologists, allergists, and neurologists, otolaryngologists have failed

to provide sufficient evidence in their publications to support this association. As previously reported in several publications, sinus headaches are often the result of migraines. Migraine is often exacerbated by sinus disease as indicated by the new IHS classification, and should therefore not be considered to be a headache caused solely by sinusitis.

It can be difficult to determine the etiology of symptoms, whether sinusoidal or migraineous, because several factors can contribute to confusion, including the fact that migraine may be triggered by weather change, that migraines can be triggered by nasal allergy, and that migraine attacks tend to include cranial autonomic symptoms such as nasal congestion, conjunctival injection, and rhinorrhea.

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