Medical Science Journal for Advance Research

Vol. 3 , No. 4 , December 2022
e-ISSN: 2774-4892

MRI Findings In Patients With Headache And Vertigo

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ABSTRACT

BACKGROUND:*A headache is a condition of pain in the head. In Medical nomenclature, it is known as cephalgia.Primary and secondary headaches are the two forms of headaches. The first type of headache is primary headache, which includes migraine, cluster headaches, and tension headaches. They are non-aggressive in nature. Primary headaches are usually chronic in character and are caused by no underlying functional illness. The second type of headache is secondary headache, which is always brought on by major organic disorders. It can range from benign cranial conditions like sinusitis or mastoiditis to life-threatening intracranial pathologies like subarachnoid haemorrhage or brain tumours. Vertigo is a perception of motion or spinning that is often represented as dizziness. Vertigo is not the same as being featherbrained. People with vertigo tone as though they are actually handicraft or moving, or that the world is spinning around them. Vertigo is frequently caused by issues with certain regions of the brain. Vertigo can be caused by a variety of factors, including benign paroxysmal positional vertigo (BPPV), which occurs when certain head motions cause vertigo. Migraines are a type of severe headache. Mostly the patients with vertigo and headache normally do not require a brain MRI. For Secondary reason of headache,some patients need an brain MRI. MRI is best Diagnostic modality for the diagnosis and management of secondary headache and vertigo.* ***CONCLUSION:*** *Magnetic resonance imaging (MRI) is a finest diagnostic modality that creates detailed images of the organs and tissues in your body using a magnetic field and computer-generated radio waves. It is considered as the best diagnostic method for the diagnosis and therapy of secondary headache and vertigo. A modest percentage of medical institution fundamental positive findings in neuroimaging are seen in MRI of patients with headache. In these patients, the cost-effectiveness of MRI as a screening tool is of limited benefit.*

KEY WORDS: Headache, Primary Headache, Secondary Headache, Vertigo, MRI.

Article Information
Received: Octoper 18, 2022; Revised: November 25 , 2022; Online: December, 2022

INTRODUCTION

In day-to-day medical practise, headache is one of the most common active disease. Acute or persistent headache is a common problem among patients in the outpatient department or emergency treatment of any hospital[1]. Primary and secondary headaches are the two main forms of headaches. The first type of headache is primary headache, which comprises migraine, cluster headaches, and tension headaches. There is a primary headache which

https://doi.org/10.46966/msjar.v3i4.96

persists. Primary headaches are usually long-lasting and do not have any underlying organic disease. The second type of headache is secondary headache, which is always brought on by major organic disorders. It can range from benign cranial conditions like sinusitis or mastoiditis to life-threatening intracranial abnormalities like subarachnoid haemorrhage or brain tumours[2].Most individuals presenting to a headache clinic or medical specialist in the developed world have had a variety of imaging techniques, including one or more MRI brain scans, which are often indicative of the severity of the headache[3]Patients with vertigo endure dizziness when they travel to a new location.[4]The majority of people with headaches and vertigo do not require a brain MRI. An MRI may be required in some cases to rule out a secondary cause of headache[3].Only around 10% of people with rec urrent headaches have a secondary aetiology[5]. The best imaging tool for diagnosing and treati ng secondary headache and vertigo is an MRI[6].

MATERIAL AND METHADOLOGY:

This descriptive cross-sectional study was accompanied at Radiological Department of Gondal Medical Complex Gujranwala from October to December 2021 in 60 patients.The ethical approval was attained from the ethical committee. For the Radiological assessment of patients with headache and vertigo,Non-Contrast MRI Scans were obtained. Simple Random Sampling Technique was used, Data was acquired with the assistance of Radiologist. Patients of both genders with headache and vertigo, Age from 8 to 75 years were enclosed in this study. Those Patients were not included who had undergone any prior surgical process,traumatic brain injuries and brain abnormalities. All the data was participate into a pre-design Performa SPSS version 22 was used to enter and assess the data.

RESULT:

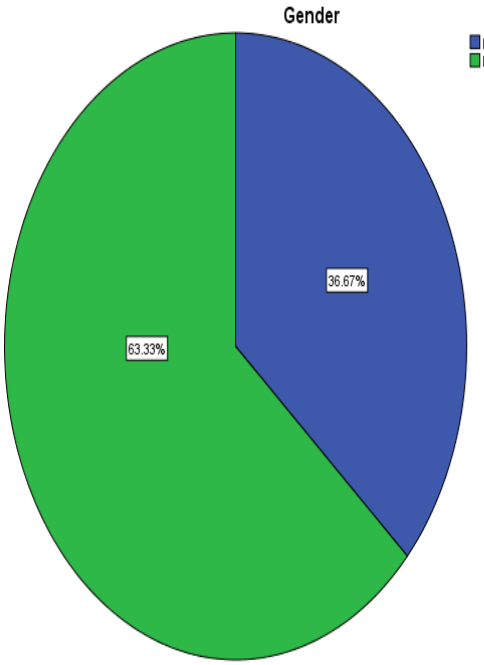
Total 60 cases with range 8 to 75 were registered in this study. The average value of age was found to be 40.38±15.6 with minimum age of 8 years and 75years as maximum value.Among these 60 patients there were 22 males (36.7%) and 38 females (63.3%). Mass was present in 5 (8.3%) patients. Fluid collection is present in 3(5.0%) patients. There were 55(91.7%%) patients who have normal ventricle. There were 09(15.0%) patients who have mucosal thickening. White matter edema was present in 08(13.3%) patients. Infarct was present in 02(3.3%) patients. Hippocampus was normal in 59 (98.3%) patients. 14(23.3%) patients have sinus inflammation. Grey matter edema was normal in 59(98.3%) patients. White matter edema was normal in 53(88.3%) patients. Cerebellar hemisphere was normal in 58(96.7%) patients . Para nasal sinus was remarkable in 03(5.0%) patients. Signal flow void was present in 24(40.0%) patients . Acute hemorrhage was present in 02(3.3%) patients. Bilateral orbits were remarkable in 03(5.0%) patients. Corpus Collasum was present in 58(96.7%) (Table 02).

Table 01: ------Gender------

		Frequency	Percent
Valid	Male	22	36.7
	Female	38	63.3
	Total	60	100.0

TABLE 02: -----MRI Findings------

MRI Findings	***Frequency (%)***
Mass	5 (8.3)
Fluid Collection	3 (5.0)
Ventricle	55 (91.7)
Mucosal Thickening	9 (15.0)
White Matter Edema	8 (13.3)
Infarct	2 (3.3)
Hippocampus	59 (98.3)
Sinus Inflammation	14 (23.3)
Grey Matter Distribution	59 (98.3)
White Matter Distribution	53 (88.3)
Cerebellar Hemisphere	58 (96.7)
Para Nasal Sinus	3 (5.0)
Signal Flow Void	24 (40.0)
Acute Hemorrhage	2 (3.3)
Bilateral Orbits	3 (5.0)
Corpus Collasum	58 (96.7)



DISCUSSION:

The goal of this study was to look at MRI findings in patients who had headaches and vertigo. The best diagnostic tool for identifying and treating secondary headache and vertigo is magnetic resonance imaging (MRI).Headaches are divided into two categories by the International Headache Society: primary and secondary.The first headache has no underlying cause, whereas the secondary headache has a known cause.Migraine, tension headache, and cluster headache are examples of primary headaches.Only clinical investigations are required for the diagnosis of primary headaches, and no neuroimaging is considered necessary[7].Females are 2 to 3 times more likely than males to have a headache.The best imaging modality for the diagnosis and treatment follow
up of secondary headache and vertigo is magnetic resonance imaging (MRI). Women suffer from primary headaches, particularly migraine, 2 to 3 times more than men, according to our research.It'spossible that this is related to a hormonal factor.There is a wellknown link between migraine and female sex hormone.Menstrual cycle, pregnancy, OCP, menopause, and HRT are all associated to migraine[8].

In our research, we found that people who live in a particular geographical area, whether male or female, are more prone to primary headache. The reasons for it could include a relatively stressful city life, noise and air pollution, long hours of driving or installation, excessive use of electronic devices such as a mobile phone, television, or computer, and a lack of healthy physical activity, all of which can lead to cervical spondylosis and referred headache.Positive detection rate is fairly high in urban population due to higher availability of medical treatment and diagnostics facilities in cities and awareness for basic therapy, whereas rural population sought management for headache in later stages due to socioeconomic causes[7].For the examination of patients with chronic or recurring headache and normal neurological symptoms, MR imaging is not a first-line imaging tool.[9]

To evaluate the effectiveness of MRI in the identification of an abnormality in patients who conferred with chronic or repeated headache without any neurological deficit, Out of a total of 60 patients, 59 patients have headache, while 16 patients have vertigo. It means that 15 patients have headache and vertigo. The total 60 cases of age group 8 to 75 were registered in this study. The mean value of age was found to be 40.38±15.669 with minimum age of 8 years and 7 5yearsof age as maximum range in this study.

CONCLUSION:

Magnetic resonance imaging (MRI) is a medical imaging technology that creates detailed images of your organs and tissues using a magnetic field and computer-generated radio waves. It is considered as the best diagnostic modality for identifying and monitoring vertigo and secondary headache. The percentage of clinically relevant positive findings in neuroimaging of patients with headache is minimal. In these patients, the cost-effectiveness of MRI as a screening modality is of limited utility.

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