



**ORIGINAL RESEARCH PAPER**

**Neurology**

**CLINICAL PROFILE OF SECONDARY HEADACHES**

**KEY WORDS:** Secondary headache

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**ABSTRACT**

Headache is one of the most common symptom experienced by the patients worldwide. Out of all such headaches, a significant proportion is shared by secondary headaches which include some of the more dangerous and life threatening entities as compared to primary headaches which are non fatal and treated with a variety of pharmacotherapy. This study was done to show the clinical profile of some of the commonly encountered secondary forms of headache.

**INTRODUCTION :**

A minority of headache patients have a secondary headache disorder. There are various clinical symptoms and signs which hint towards patient having secondary headache. These are : (1) systemic symptoms including fever; (2) neoplasm history; (3) neurologic deficit (including decreased consciousness); (4) sudden or abrupt onset; (5) older age (onset after 65 years); (6) pattern change or recent onset of new headache; (7) positional headache; (8) precipitated by sneezing, coughing, or exercise; (9) papilledema; (10) progressive headache and atypical presentations; (11) pregnancy or puerperium; (12) painful eye with autonomic features; (13) posttraumatic onset of headache; (14) pathology of the immune system such as HIV; (15) painkiller overuse or new drug at onset of headache. These headaches need to be very carefully identified for their proper management as majority of them can be life threatening<sup>1</sup>.

**AIMS AND OBJECTIVES:**

To study about the clinical profile of secondary headaches from central India.

**MATERIAL AND METHODS :**

This was a retrospective observational study done on the patients admitted at a tertiary care teaching hospital from Central India. All patients who were more than 20 years of age and confirmed as having secondary headaches after history, examination and appropriate investigations and fulfilling International Classification of Headache Disorders criterion (ICHD 3)<sup>2</sup> were studied for their clinical profile.

**RESULTS :**

77 patients who were diagnosed to have secondary headache were included in the study. 36 were males while 41 were females. Most common age of presentation was those above 60 years of age (Table 1). Most common associated clinical features were seizures, fever, neck stiffness, focal weakness, altered sensorium, scalp tenderness, vomiting, papilloe dema, neck pain and blurring of vision. Detailed clinical examination and thorough available investigations including CT scan, MRI brain, CT or MR angiography, MR venography, CSF analysis, EEG and temporal artery Doppler study were carried out in all these 77 patients accordingly and various causes of secondary headache were identified. Most common cause of secondary headache was Cerebral Venous Thrombosis (CVT) seen in 18 patients followed by viral meningitis in 14 patients, space occupying lesion in 12 patients. Sub Arachnoid Haemorrhage (SAH) was seen in 9 patients, followed by tubercular meningitis in 8 patients, bacterial meningitis in 5 patients, Acute Disseminated Encephalomyelitis (ADEM) in 4 patients. Carotid artery dissection was seen in 3 patients while 2 patients each were of intracranial haemorrhage, fungal meningitis and giant cell arteritis (Table 2).

others were discharged with either residual deficits or complete relief in their clinical features.

**Table 1 : Age of presentation**

Age of the patient	Total patients
21-30	18(23.37%)
31-40	17(22.07%)
41-50	13(16.88%)
51-60	10(12.98%)
>60	19(24.67%)

**Table 2 : Causes of headache**

Cause of headache	Number of patients
Cerebral Venous Thrombosis	18 (23.37%)
Viral meningitis	14 (18.18%)
Space occupying lesion	12 (15.58%)
Sub Arachnoid Haemorrhage	7 (9.09%)
Tubercular meningitis	8 (10.38%)
Bacterial meningitis	5 (6.49%)
Acute Disseminated Encephalomyelitis	4 (5.19%)
Carotid artery dissection	3 (3.89%)
Intra cranial haemorrhage	2 (3.89%)
Fungal meningitis	2 (2.59%)
Giant cell arteritis	2 (2.59%)

**DISCUSSION :**

Headache is one of the most common causes of presentation to Emergency Departments . Primary headaches and headaches secondary to benign conditions (e.g headache attributed to acute sinusitis) represent majority of cases while secondary life-threatening headaches are less frequent. The primary objective in the emergency setting is to ascertain whether the headache is primary or secondary and recognize serious life-threatening conditions presenting with headache and requiring early medical diagnosis and care, such as subarachnoid hemorrhage (SAH), intracerebral hemorrhage, cerebral venous sinus thrombosis (CVT), cervical artery dissection, brain space occupying lesion, pituitary apoplexy, spontaneous intracranial hypotension, or intracranial infections amongst others. Careful history taking and physical examination remain the most important part in the assessment of the headache patient<sup>3</sup>. A thorough history should investigate the onset of headache, location, quality, and irradiation of pain, associated symptoms experienced before and during the headache, associated medical conditions, medication use, recent trauma or interventions. Examination should then target areas identified as abnormal during the headache history; fundus examination should be performed when symptoms suggest an increased intracranial pressure; in addition, a complete neurological assessment including level of consciousness, pupillary responses, cranial nerve testing, motor strength and sensorial testing,

10(12.98%) patients expired during their hospital stay while

and signs of meningeal irritation is mandatory<sup>4</sup>. Based on historical and physical findings “red flags” for secondary headache disorders are sudden onset, onset after 50 years of age, increased frequency, severity or significant change in the usual headache pattern, new onset with an underlying medical condition (such as cancer or immunodepression), concomitant signs of systemic illness (such as fever, neck stiffness, rash), focal neurologic signs or symptoms, papilledema, and head trauma<sup>4</sup>. In headache patients with one or more “red flags” a diagnostic workup is indicated including blood tests, neuroimaging studies, and cerebrospinal fluid (CSF) examinations, which are selected depending on the patient's history and findings. Blood testing and inflammation markers (erythrocyte sedimentation rate, C-reactive protein) should be performed in all headache patients especially when an inflammatory or infective condition is suspected. In the emergency, non-contrast computed tomography (CT) is the preferred imaging study and is used to rule out hemorrhage while most patients should perform a magnetic resonance imaging (MRI) brain scan followed by CT/MRI angiography if brain vessel disease is suspected (such as dissection, aneurysms, and CVT). Lumbar puncture with CSF analysis may help to diagnose infection, SAH, tumour and disorders related to CSF hypertension or hypotension<sup>5,6</sup>. Treatment and prognosis depend on the etiology of the headache. Prompt recognition and early treatment of secondary headache are essential to avoid some preventable complications<sup>7</sup>.

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