



Original

Recommendations for the management of headaches during the COVID-19 pandemic

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Abstract

Background

During the novel coronavirus - COVID-19 pandemic, health care systems are facing one of its greatest challenges.

Results

Secondary headaches may need urgent care at an emergency department. Primary headaches exacerbations may require intravenous infusion. Treatment optimization is key for a better outpatient management.

Conclusion

We give recommendations on when a headache patient should go to the hospital despite the current limited resources, and primary headache management aspects during the outbreak.



Introduction

Healthcare worldwide is facing one of its greatest crises in history¹. With the fast spread of the novel coronavirus, healthcare systems are collapsing in some countries, with depletion of resources and crowding of emergency rooms, wards and intensive care units².

Since the World Health Organization's declaration that a pandemic exists, interruption of non-urgent healthcare has been generating insecurity and helplessness for people with other health problems, including headache disorders. We need strength and compassion to face up to and overcome this crisis and its imposed difficulties. One important step is to seek reliable information, and to prevent the spread of false news that generate confusion and panic. Here, we provide guidelines for the management of headaches during the COVID-19 pandemic.

Recommendations for the emergency care of headache disorders during the covid-19 pandemic

With the emergency department (ED) as a potential source of COVID-19 infection, patients experiencing headaches need advice on when to seek emergency care.

Patients should avoid ED visits for treatment of their regular headache, but if they experience a headache with red flags, urgent care may be needed. Delay in treatment may increase morbidity and mortality, telemedicine is one key tool for the management of headaches during the pandemic.

When should headache patients go to the emergency department?

COVID-19 and its symptoms are an independent determinant of ED care especially with breathing difficulties. Headache is reported in patients with COVID-19 from 8 to 34%.^{3,4} However, headache and mild symptoms alone that patients may think might be a symptom of COVID-19 should not be considered as not an indication. The list below shows conditions that accompany headache and may indicate that it is a lifethreatening disorder requiring special management⁵:

1. Headache and Fever A new-onset acute headache that differs from those that were previously experienced, in association with a documented increase in temperature (>37.8 °C or >100 °F) is a sign of ongoing infection. This may be managed by telemedicine if another symptom such as painful urination suggests the site of infection (urinary, pulmonary, sinus, common cold). Evaluation and treatment can be given by telemedicine with possible referral to the ED (change in mental status, diplopia, weakness, stiff neck, etc.) and patient monitoring for clinical worsening. If the patient's condition worsens over time, or mental status is declining, this must

be urgently reevaluated by the healthcare provider.

2. Headache and stiff neck Headaches associated with stiff neck may be due to meningitis or subarachnoid hemorrhage (SAH). Meningitis evolves over a few days, generally associated with fever. In SAH, headache usually presents with sudden onset, as an abrupt and very severe headache, i.e. thunderclap headache.

3. Headache and change in mental status Headaches associated with mental confusion, change in behavior, excessive sleepiness or disorientation may originate from a central nervous system (CNS) disorder, stroke, neoplasia or infection. Adequate care should be given, otherwise the primary condition may worsen without treatment.

4. Eye pain, redness and/or vision loss. Headaches occurring in one or both eyes, associated with redness are more likely to be due to conjunctivitis. Glaucoma can present with eye pain or redness, but is usually accompanied by peripheral loss of vision. Vision loss may also occur in migraine auras. If a patient has experienced a headache associated with vision loss for the first time, medical attention is needed. Acute headaches that are unilateral or periorbital and occur in association with vision loss in the elderly should give rise to suspicion of temporal arteritis.

5. Headaches associated with physical exertion or fainting Physical activity can exacerbate migraine pain and is part of the diagnostic criteria for this condition. However, headaches occurring only after or during physical exertion or sexual activity may be a sign of a secondary headache due to aneurysm, arteriovenous malformation, cerebral venous thrombosis or reversible cerebral vasoconstriction syndrome (RCVS). Headache associated with fainting or seizure can be secondary to brain tumors, infections or stroke.

6. Vomiting Headaches associated with vomiting only need ED attention if oral fluid intake is not possible. Antiemetics should be considered in the early phase of a migraine attack with nausea. Vomiting is an associated feature of migraine, but may also be a symptom of intracranial hypertension.

7. New-onset headaches starting after 50 years of age If this is an ongoing problem, telemedicine is appropriate for initial evaluation. A visit to the ER should be made if an early onset acute headache is present.

8. Sudden-onset, abrupt headaches (Thunderclap Headache) Sudden-onset severe headaches that reach their peak in seconds demand immediate evaluation. They can be due to a SAH, cerebral venous thrombosis, carotid or vertebral dissection, meningitis, pituitary apoplexy, or RCVS. Recurrent thunderclap headache is a



hallmark of RCVS until proven otherwise.

9. Headaches in chronic non-communicable disorders or immunodeficiency A new-onset headache in patients with ongoing infection, HIV or cancer, or in those taking immunosuppressants, needs urgent attention. If headaches started gradually but are worsening, medical attention is also needed.

Management of primary headaches during the covid-19 pandemic

Primary headache patients will need special attention during the COVID-19 pandemic, particularly if social isolation measures have been imposed by health authorities.

Mental health management

Mental health can be severely impaired, leading to anxiety, panic or depression. Suicide rates increased in China during confinement⁶. Primary headache patients may be more susceptible to mental health issues and/or may have more attacks under these conditions. Lifestyle measures should be reinforced, since food intake, mood and physical activity may be affected during the pandemic. Self help tools are often available on the internet.

Acute headache management

Primary headaches may be exacerbated during the pandemic. Headaches typically account for 1-3% of ER visits⁷. In order to avoid delays in the ED, over taxing urgent care, hospitalization, acute treatment may need optimization. This may include addition of non-parenteral options such as subcutaneous injections [(i.e. sumatriptan or dihydroergotamine (DHE)] or nasal spray formulations (sumatriptan or zolmitriptan). Patients are suggested to increase acute treatment toolbox to better self-manage their headache attacks. This includes the use of prochlorperazine suppositories. Patients may be at risk of worsening of their headache in isolation, consider new preventive methods to mitigate the risk.

Avoiding corticosteroids

Cluster headache and other primary headaches are commonly treated with corticosteroids. If possible, this should be avoided, because immunosuppression is considered to be a risk factor for negative health outcomes among individuals infected with COVID-19.

Conclusion

Headache patients will need special management during the COVID-19 pandemic. New-onset acute headaches will still need medical care. Delays in treating other life-threatening conditions caused by diversion of resources to treat cases of the novel coronavirus may lead to additional morbidity burdens, or mortality. Primary headache patients may be at risk of worsening headache control due to the limited healthcare resources available and because of changes to lifestyle due to social-distancing confinement.

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