DOI: 10.14744/DAJPNS.2024.00265
Dusunen Adam J Psychiatr Neurol Sci
2024;37:216-218

LETTER TO THE EDITOR

Childhood-onset cluster headache-like disorder: A case report

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Dear Editor,

Cluster headache (CH) is the most common trigeminal autonomic cephalalgia. It is characterized by severe, repetitive headaches lasting 15–180 minutes, accompanied by ipsilateral autonomic symptoms, including rhinorrhoea, nasal congestion, lacrimation, eyelid edema, forehead and facial sweating, miosis, ptosis, and conjunctival injection in the unilateral orbital, supraorbital, and temporal regions (1–3). The diagnosis is based on specific criteria outlined in the International Classification of Headache Disorders, 3rd Edition Beta (4). The most common ages of onset for cluster headache are during the third and fourth decades of life (5, 6). Trigeminal autonomic cephalalgias are rarely reported in the paediatric population (5), and the number of cases with onset before 10 years of age is low (7, 8). We present the case of a female patient with a cluster headache-like syndrome that began in childhood.

A 19-year-old female patient was referred to the Neurology Department at the Ankara Training and Research Hospital with complaints of headache. She reported numerous episodes of severe, episodic, throbbing headache unassociated with autonomic features. The pain was unilateral, occurring in the right orbital, supraorbital, and temporal areas. The episodes occurred five times daily, with each attack lasting between 60 and 270 minutes. These episodes clustered for periods of 30 to 45 days annually, occurring in the spring since the age of six. During the cluster headache attacks, the patient experienced nausea but denied vomiting, photophobia, or phonophobia. She reported restlessness during the episodes. No family history of migraine or cluster headaches was reported. Blood tests revealed normal results. Cranial magnetic resonance imaging revealed a millimetric hyperintense signal suggestive of gliosis in the right centrum semiovale. Her neurological examination was normal. The patient was initially started on verapamil (80 mg daily) and methylprednisolone (40 mg daily). Verapamil was discontinued due to tachycardia, a side effect. Subsequently, the patient was started on flunarizine (5 mg daily), and methylprednisolone was discontinued after 20 days. Flunarizine was increased to 10 mg daily for approximately five weeks, resulting in the cessation of her headaches. Approximately four months later, the patient experienced headaches lasting 15 minutes once daily for one week. The episodes resolved without treatment. About one year later, similar throbbing headaches recurred in the right orbital, supraorbital, and temporal regions, beginning 20 days after the patient gave birth. The episodes occurred three times daily, with each attack lasting 15 to 20 minutes. During these cluster headache attacks, the patient experienced nausea and restlessness but did not report vomiting, photophobia, phonophobia, or autonomic features. Methylprednisolone (64 mg daily) was prescribed

How to cite this article: Mehel Metin K, Inan LE. Childhood-onset cluster headache-like disorder: A case report. Dusunen Adam J Psychiatr Neurol Sci 2024;37:37:216-218.

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Received: August 04, 2024; **Revised:** November 20, 2024; **Accepted:** November 25, 2024

and discontinued after 20 days. However, the pain recurred with each attempt to taper the prednisolone. Topiramate (25 mg daily) was initiated to facilitate breastfeeding, and it successfully relieved the headaches after one week. One year later, the patient experienced a recurrence of severe throbbing pain in the right orbital, supraorbital, and temporal regions. The attacks occurred four to six times daily, lasting between one and eight hours. Each attack was accompanied by nausea, abdominal pain, diarrhea, and restlessness. Vomiting occurred during some short and long-lasting attacks, while photophobia, phonophobia, and autonomic features were absent. Topiramate (75 mg daily) was recommended, and the cluster episodes resolved within two months.

Cluster headache is often misdiagnosed, especially in pediatric patients, where it must be differentiated from migraine (1). Cluster headache can be difficult to distinguish from migraine because migraine attacks may include cranial autonomic symptoms, while cluster headache attacks can involve photophobia, phonophobia, nausea, and vomiting (1, 3). Cluster headache typically has a relatively short duration, even considering the shorter duration of migraine attacks in children (1–72 hours) compared to adults (4–72 hours). Cluster headache is characterized by rapid onset and cessation, along with circadian periodicity. Unlike migraines, which have widespread attacks, cluster headache presents in distinct clusters of attacks with periods of remission. Pain intensity in cluster headache is generally strong or very strong, whereas migraine pain is moderate to severe. Children with cluster headaches often exhibit specific behavioral markers, such as agitation during attacks and an inability to sleep. Cranial autonomic symptoms, a hallmark of cluster headaches, and typically absent in migraines. Additionally, while migraine pain in children is often bilateral, CH pain is always unilateral (1, 5).

The clinical features of pediatric-onset cluster headache closely resemble those of adult-onset cluster headache. However, attacks in children may be less frequent and shorter in duration (9). The frequency of cluster periods appears to be lower in childhood (5, 9), and the duration of a single cluster period is shorter as well (5). Cranial autonomic features may also be less pronounced in children than in adults (5, 9). Restlessness may be less prominent in children than in adults. In adults, the prognosis of cluster headache tends to show a gradual increase in the frequency and duration of symptoms over time. Childhood cluster headache has been reported to mimic migraine symptoms, including nausea, vomiting, photophobia, and phonophobia. The majority of pediatric-onset CH cases involve one or fewer attacks per day. Circadian rhythmicity has also been observed in pediatric CH patients (5).

McNabb and Whitehouse reported four cases of cluster headache-like disorder in children, with onset ages ranging from 6 to 15 years (10).

In our case, the pain during childhood resembled cluster headache due to the clustering of headaches, associated restlessness, and daily recurrence. However, in our case, the duration of some attacks exceeded the typical range for cluster headache, and the absence of autonomic symptoms did not align with the cluster headache profile. During the most recent cluster period, the prolongation of certain attacks to up to eight hours, vomiting during both short and long-lasting attacks, and the presence of nausea, abdominal pain, and diarrhea with each attack were more consistent with migraine headache features. At the same time, the clustering nature of the pain, its daily recurrence, its extreme severity, and the accompanying restlessness in every attack aligned with cluster headache features. Nausea can occur in pediatric cluster headache, and cranial autonomic features are often less pronounced in children compared to adults. However, in our case, the absence of autonomic features and the prolonged duration of some attacks suggest a cluster headache-like syndrome.

Distinguishing between cluster and migraine headaches in childhood can be challenging. A detailed evaluation of the patients' headache characteristics is essential for accurate diagnosis. Cluster headache, though rare in children, should be considered when the pain exhibits clustering characteristics, is brief in duration, recurs throughout the day, is localized and unilateral, and is accompanied by restlessness. Failure to provide effective treatment for a patient experiencing severe headache attacks since childhood may lead to a deterioration in their quality of life.

Conflict of Interest: The authors declare that they have no conflict of interest.

Informed Consent: Informed consent was obtained from the patient.

Use of AI for Writing Assistance: Not declared.

Financial Disclosure: The authors declare that they have no financial support.

Peer-review: Externally peer-reviewed.

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