

# The epilepsy case of childhood in a patient admitted because of headache to the primary care

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## Abstract

### ABSTRACT

Benign partial epilepsy of childhood is well-developed, idiopathic syndromes which are occurring in normal children with psychomotor development. No pathological findings are found in laboratory and neuroimaging studies. These syndromes are related to age and attacks tend to end spontaneously around adolescence. In EEG, special morphology localized spikes and spike waves with an increase in sleep are observed. The most typical and widely known form is benign childhood epilepsy with centrotemporal spikes (BCECTS). Panayiotopoulos syndrome and idiopathic childhood paroxysms occipital epilepsy of Gastaut are also included in this group. In this case, a 3-year-old patient who applied with a complaint of headache, had no pathological findings in her laboratory and investigations, had pathology in his EEG (the sharp slow wave complexes in the fronto-temporal region of the right hemisphere were noteworthy during the entire trache) was taken and a decreased in complaints with carbamazepine treatment was described. Childhood epilepsy should be kept in mind in patients who applied with childhood migraine-like headaches and do not benefit from classic headache treatments.

**Key words:** epilepsy, partial epilepsy, migraine

## БАСТАПҚЫ МЕДИЦИНАЛЫҚ КӨМЕККЕ БАС АУРУЫМЕН ТҮСКЕН НАУҚАС БАЛАЛАРДЫҢ ЭПИЛЕПСИЯСЫ

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### ТҰЖЫРЫМДАМА

Қатерсіз балалық шақтан жартылай эпилепсия - бұл қалыпты психомоторлы дамуы бар балаларда кездесетін жақсы дамыған идиопатиялық синдромдар. Зертханалық және нейровизуализациялық зерттеулерде патологиялық өзгерістер табылған жоқ. Бұл синдромдар баланың жасына байланысты және құрысу әдетте жасөспірім кезінен-ақ өздігінен аяқталады. ЭЭГ-де локализацияланған шыңдар мен шыңдар толқындарының арнайы морфологиясы байқалады. Ең көп таралған және кең таралған түрі - орталық уақытша шыңдары бар балалық шақ эпилепсиясы. Бұл топқа Панайопулос синдромы және идиопатиялық Гасто пароксизмалы белсенділігі бар балалық шақ эпилепсиясы кіреді. Біздің жағдайда, бас ауруына шағымданған үш жастағы науқаста зертханалық зерттеулерде патологиялық ауытқулар байқалмады, бірақ ЭЭГ-да ауытқулар болды (оң жарты шардың фронтотеморальды уақытша аймағында жедел-баяу толқындар кешені) және карбамазепинмен емдеуден кейін шағымдардың төмендеуі байқалды. Бала кезіндегі мигрень тәрізді бас ауруы бар және бас ауруына классикалық емдеу көмектеспеген науқастарда балалар эпилепсиясын қарастырған жөн.

**Негізгі сөздер:** эпилепсия, жартылай эпилепсия, мигрень

## СЛУЧАЙ ДЕТСКОЙ ЭПИЛЕПСИИ У ПАЦИЕНТОВ, ПОСТУПИВШИХ НА ПЕРВИЧНУЮ МЕДИЦИНСКУЮ ПОМОЩЬ С ГОЛОВНОЙ БОЛЬЮ

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### РЕЗЮМЕ

Доброчастивная детская парциальная эпилепсия – это хорошо развитые идиопатические синдромы, возникающие у детей с нормальным психомоторным развитием. Патологических изменений в лабораторных и нейровизуализационных исследованиях не обнаружено. Эти синдромы связаны с возрастом, и приступы, как правило, заканчиваются самостоятельно в подростковом возрасте. На ЭЭГ наблюдается особая морфология локализованных пиков и пик-волн с увеличением во время сна. Наиболее распространенной и широко известной формой является доброточастивная детская эпилепсия с центрально-височными пиками. Синдром Панайотопулоса и идиопатическая детская эпилепсия Гасто с пароксизмальной активностью в затылочной области также включены в эту группу. В нашем случае, у трехлетнего пациента, который обратился с жалобой на головную боль, не обнаружено патологических отклонений в лабораторных исследованиях, но наблюдались отклонения на ЭЭГ (комплексы острая-медленная волна в лобно-височном отделе правого полушария), и уменьшение жалоб после лечения карбамазепином. Детскую эпилепсию следует учитывать пациентам, которые обращались с детской мигреноподобной головной болью и который не помогало классическое лечение головной боли.

**Ключевые слова:** эпилепсия, парциальная эпилепсия, мигрень

## Introduction

Headaches are common in children. The most common causes of headache during this period are migraine, tension type headache, sinusitis and epilepsy [1].

Idiopathic partial epilepsies (IPE) seen in childhood are benign course epileptic syndromes which are thought to have genetic features and are characterized by seizures of focal epilepsy. IPEs account for about 20% of epilepsies starting at 2-13 years of age and 50% of all partial epilepsies. Epileptiform activities clarified by sleep are observed in EEG. Anatomical lesion is not revealed at cranial imaging and other auxiliary researches, and seizures often end spontaneously after a certain age.

The most common forms respectively are benign childhood epilepsy with centro-temporal spikes, Panayiotopoulos syndrome (PS) and idiopathic childhood paroxysms occipital epilepsy of Gastaut (ICPOE-G) [2].

Although headache cases are common in neurology settings, these cases are often evaluated in primary care. These cases are often delayed to be evaluated in the upper level by administering NSAID. Therefore, we have prepared this case report because it is remarkable and educational.

Our case was a child who was admitted to our clinic with headache and was diagnosed with idiopathic partial epilepsy.

## Case report

A 3 year old girl patient was applied to Bursa Uludağ University General Pediatric Outpatient Clinic with the complaint of occasional headache, which had been present for approximately 1.5 years. The patient described increased pain with movement, usually lasting 1-2 minutes in the frontal region. When her anamnesis was deepened, it was learned that she had pain in the frontal area after running, jumping and fast movements. It was said by her family that the pain was persistent after the use of analgesics. Previously, the pain of patients applied with complaints of headache to the epicentre was thought to be caused by vision defects. These patients were diagnosed as myopia after being evaluated in Ophthalmology clinic and followed up. When the patient was evaluated for the differential diagnosis of migraine, it was recorded that the pain was not accompanied by nausea, vomiting, and she had no photophobia-phonophobia (her mother described us). In the patient's family history, it was learned that her mother was diagnosed with migraine and had medical treatment. There was no one follow-up with the diagnosis of epilepsy in the family. Her physical and neurological examinations were normal. Her routine examinations revealed no pathological condition. Cranial MRI results of the patient were seen as normal which previously has been taken in epicentre. VEP, BERA and EEG request were made to the patient. The patient was normal VEP and BERA, but there was an epileptiform anomaly originating from the frontal region of the right hemisphere in the patient's EEG. Since no discrimination could be made between migraine and epilepsy at the patient, control sleep EEG was requested after 3 weeks. It was reported that the background activity consisted of waves in the delta-theta frequency of the sleep and sharp waves of vertex and sleep shuttles in the sleep EEG. The sharp slow wave complexes in the fronto-temporal region of the right hemisphere were noteworthy during the entire trache. The same findings were still present in fotic stimulation. This EEG shows the presence of epileptiform anomaly that originates from the frontal-temporal region of the right hemisphere. Her

family noticed small throbs of her right body part during EEG recording. Thereupon carbamazepine treatment was started to the patient. Six months later, the patient's symptoms were completely resolved.

## Discussion

Headaches in childhood can be a symptom of a wide range of diseases, from simple viral infections to brain tumors, and therefore it is a worrying situation for the family and physicians [3].

Headache is a common complaint in children. An extensive epidemiological study showed that 75% of children complained of headache at least once until 15 years of age.

Headache in children is often due to benign conditions such as migraine and tension type headache, but may also be related to central nervous system infections, increased intracranial pressure, sinusitis, head trauma and epilepsy. The diagnosis and treatment approach of headaches are based more on detailed history and physical examination. Most headaches are related to benign functional disorders such as migraine and tension type headache, but a small part is based on a serious, organic cause. Migraine has been reported as the most common cause of headache in childhood in different series. Electroencephalography (EEG) is not routinely recommended in the evaluation of the headache child [4]. However, as in this case, EEG may be useful considering the presence of an underlying epilepsy disease in unexplained cases. It was shown that the EEG was useful in distinguishing it from epilepsy when evaluating the patient with headache and 10% of patients admitted to the pediatric neurology clinic due to headache were diagnosed with epilepsy by EEG recordings in the study by Aysun et al. [5]. The head imaging of every child under the age of seven years with a headache is a recommendation that has been accepted in the practice of pediatric neurology but in recent years this limit has been reported to be below 3 years of age [6].

Not all of the criteria required for diagnosis are required to be seen in all patients, but the more a patient has these criteria, the more accurate the diagnosis. BCECTS is the most common form of IPEs. Most of the IPE syndromes attempted to be identified can be considered as subgroups of BCECTS for the time being. Patients and families form an important material for molecular genetic studies based on clinical and EEG examinations As genetic studies progress, the classification of IPEs may vary [7].

It should be kept in mind frequency of seizures, whether behavioral speech disorders and cognitive functions are regressed in the decision of antiepileptic treatment. Carbamazepine is the first choice of treatment. Valproic acid and levetiracetam are effective antiepileptic drugs to provide seizure control [8].

## Conclusion

Although headache cases are common in neurology settings, these cases are often evaluated in primary care. These cases are often delayed to be evaluated in the upper level by administering NSAID.

As a result, especially in cases of pediatric age group who are applied with complaints of headache and whose imaging methods are normal, a diagnosis of epilepsy should be considered.

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