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Body Temperature Increase and Resulting From Febrival Convulsions

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ABSTRACT

Febrile seizures, commonly in children between the ages of 3 months to 5 years, are a neurological abnormality characterized by neuronal hyper-excitability, that occur as a result of an increased core body temperature during a fever, which was caused by an underlying systemic infection. Such infections cause the immune system to elicit an inflammatory response resulting in the release of cytokines from macrophages. This article provides information about febrile convulsions caused by an increase in body temperature.

A febrile seizure is a convulsion in a child that's caused by a fever. The fever is often from an infection. Febrile seizures occur in young, healthy children who have normal development and haven't had any neurological symptoms before.It can be frightening when your child has a febrile seizure. Fortunately, febrile seizures are usually harmless, only last a few minutes, and typically don't indicate a serious health problem.You can help by keeping your child safe during a febrile seizure and by offering comfort afterward. Call your doctor to have your child evaluated as soon as possible after a febrile seizure. Fever is a constant sign of almost all acute infectious diseases and chronic diseases during exacerbation, and in these cases, the pathogen is often present in the blood (bacteremia) and even increases (sepsis, septicemia). Therefore, fever can be etiologically determined by isolating the causative agent from blood (hemoculture), just as it is isolated from a primary localization focus. In diseases caused by conditionally pathogenic microbes, especially when the main location of the pathogen is "hidden", it is more difficult to determine the etiology of fever. In such cases, along with a broad-spectrum analysis of blood pathogens, mucus from the nose, larynx, nasal sinuses, urine, bronchial water, sputum, bile, contents of the cervix, etc. are analyzed. At the same time, cases of fever of non-infectious origin are also frequent (tumor diseases, hemolytic anemia...)

An increase in body temperature does not always determine the severity of the disease, and additional symptoms should also be taken into account.For example, an increase in body temperature in the subfebrile index can be observed in tuberculosis, viral hepatitis, pyelonephritis and other serious diseases.In some cases, the dangerous aspect of the disease is constant body temperature at 37-37.5 °C. This indicates pathologies of the endocrine system and malignant tumors. An increase in body temperature occurs in different forms in adults and

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children.

There are two types of febrile seizures: Pink (red) fever.As the name suggests, the symptoms appear - the skin is reddish in color, especially on the neck and face.This type of fever is common. The body excretes heat, that is, external blood vessels expand (blood cools in this way), sweating increases (lowers skin temperature).The patient's condition is stable, there is no change in his general condition. White fever.A dangerous manifestation of a febrile attack. Serious disturbances of thermoregulatory processes are observed in the body.In this case, the skin is pale, cold (especially the palms and soles), and the readings are high when measuring the rectal or oral body temperature.The patient has malaria, his general condition worsens, fainting occurs.White fever is observed in cases of impaired expansion of blood vessels, as a result of which the blood vessels in the skin cannot expand, the body cannot cool itself.

When a set point is reached, the temperature is maintained at a certain level, and this can last for a short time (hours, days) or long (weeks). At the same time, heat production and heat transfer come to a balance, and the temperature does not increase, thermoregulation continues to function according to the normal mechanisms. Skin vessels dilate, pale and warm to the touch, shivering and fever disappear. The patient begins to feel warm. Diurnal temperature changes are preserved, but their amplitude exceeds the normal level. Many endogenous pyrogens are of leukocyte origin, for example, interleukins 1 and 6, tumor necrosis factors, interferons, macrophage inflammatory 1a. -protein, many of which have a number of other important effects besides pyrogenic (due to the ability to induce prostaglandin synthesis). The source of endogenous pyrogen is mainly cells of the immune system (monocytes, macrophages, T- and B-lymphocytes) and granulocytes.

A febrile seizure is a neurological abnormality that occurs as a result of a peripheral infection, to which the immune system reacts by producing an inflammatory response thereby, inducing a fever and subsequently increasing the core temperature of the body. The increase in temperature leads to increased neuronal excitability resulting in convulsions. Febrile seizures are categorized according to the duration and the number of times the convulsions occur. Simple febrile seizures have a life span of approximately 15 minutes and are caused by a distinct infection such as a gastrointestinal or respiratory infection. Complex febrile seizures have a life span of 15 to 30 minutes with more than 1 seizure occurring per episode of fever. Status epilepticus lasts longer than 30 minutes and occurs randomly as well as repeatedly in the brain during an infection. Simple febrile seizures are benign whilst complex febrile seizure and status epilepticus are more likely to develop into more critical conditions such as temporal lobe epilepsy or long term later in life. Currently, febrile seizures affect 3% to 5% of the world's population of children aged between 3 months and 5 years. Febrile Infection Related Epilepsy Syndrome (FIRES) is a similar condition to febrile seizures which affects children between the aged between 3 years to 15 years. The seizures, however, are similar to complex febrile seizures in that they last between 15 to 30 minutes or status epilepticus lasting longer than 30 minutes in some cases. Although both febrile seizures and FIRES can occur during common childhood infections, the increased incidence of febrile seizures specifically in Africa can be attributed to limited medical resources, poor access to medical attention, as well as insufficient knowledge of the pathophysiology of febrile seizures.

The body's thermoregulation process is controlled by the endocrine system, which activates cooling or heating mechanisms at the right time.Of course, hormonal disorders or the normal functioning of the endocrine glands lead to a violation of thermoregulation. The main substance that causes an increase in body temperature is pyrogens. These substances are released by the immune system. Pyrogenic substances are produced to help the body fight against pathogens that pose a threat to health.

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Pediatricians are frequently taught that a rapid rise in temperature is responsible for causing a febrile seizure; yet there are no clinical data to support this hypothesis. The few experimental data are based on hyperthermia-induced seizures in animals and are of no clear relevance to naturally occurring fevers and accompanying seizures. Further, the experimental findings are not consistent across studies. By contrast, there is substantial evidence indicating that the height of temperature plays a role in eliciting a febrile seizure. Although febrile seizures are now recognized as benign and, in general, a disorder that should not be treated with chronic anticonvulsant therapy, an understanding of how fevers lead to febrile seizures may be useful for evaluating the appropriateness and efficacy of treatments that involve intermittent therapy given at the time of fever.

Body temperature and other symptoms.Taking into account that the change in body temperature is caused by pathologies in the body, it should be studied in combination with other symptoms of the disease.It is possible to learn about the nature of the disease and its level with general symptoms. Fever and pain.Abdominal pain and an increase in body temperature above 37.5 °C indicate serious problems in the gastrointestinal system. Often this condition is observed in intestinal cramps.In addition, acute appendicitis also causes the above situation. Therefore, if the patient has loss of appetite and cold sweat, it is necessary to immediately seek emergency medical help. Such situations are considered dangerous for human life, and self-medication should not be taken.If such a situation is observed, especially in children, it is necessary to contact a hospital or an ambulance.The combination of fever and diarrhea causes a lot of fluid loss in a short period of time.To eliminate this, the body needs to take in more fluids, if there is resistance to drinking water (vomiting or diarrhea is strong), solutions are injected into the vein. In other cases, death may occur due to dehy

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