

FIRST AID IN HYPERTHERMIC SYNDROME

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Abstract

This article discusses the basic principles of first aid in hyperthermic syndrome, the importance of prompt action, and practical steps. Hyperthermia occurs when the body temperature rises dangerously, seriously affecting the central nervous system, cardiovascular function, and respiratory processes. In this case, early detection and proper first aid are important factors in saving the patient's life. The article discusses the rules for removing the patient from the risk factor, gradually lowering body temperature, administering fluids, as well as actions to be taken in the event of complications such as fainting, convulsions, or respiratory failure. The need to call for emergency medical help is also emphasized.

Keywords: Hyperthermic syndrome, body temperature increase, first aid, heat stroke, emergency, cooling, fluid balance restoration, complications, emergency care, safety measures.

Introduction

Hyperthermic syndrome is a serious condition characterized by a sharp and uncontrolled increase in body temperature above the normal physiological limit, which occurs when the body's thermoregulation system is disrupted. When body temperature rises above 38.5–40 °C, the metabolic activity of tissues accelerates, energy consumption increases, and the heart and respiratory systems are sharply strained. If proper first aid is not provided in a timely manner, hyperthermic syndrome can lead to fainting, convulsions, brain damage, cardiac arrest, or even death. Therefore, a quick, systematic and correct approach to this situation is very important.

Hyperthermia occurs under the influence of various factors. The most common causes are:

Heatstroke (insulinemia): Prolonged exposure to the sun, especially in young children and the elderly, is a risk factor. Hot weather, high humidity, and poor ventilation also accelerate the development of the syndrome.

Excessive physical exertion: As a result of heavy physical labor or sports in hot conditions, the body temperature rises rapidly. In this case, the cooling mechanism through sweating does not work adequately.

Infectious diseases: Bacterial or viral infections, especially in children and those with weakened immune systems, can lead to high fever.

Central nervous system diseases: Brain damage or pathology of the thermoregulation center can also cause impaired control over body temperature.

Drugs or intoxication: Certain drugs (e.g. atropine, antipsychotics), narcotics, or alcohol can disrupt the body's heat exchange mechanisms.[1]



Symptoms vary depending on the severity of the condition. In the initial stage, the patient experiences:

headache, dizziness;
severe thirst;
increased or, conversely, cessation of sweating;
rapid heartbeat;
general weakness and lethargy.

In the severe stage, the following symptoms occur:

redness or pallor of the skin;
rapid breathing;
involuntary muscle contractions;
agitation or confusion;
convulsions;
fainting.[2]

These symptoms indicate that hyperthermia is life-threatening and require immediate first aid.

The most important task in providing assistance to a patient with developing hyperthermia is to reduce body temperature as quickly as possible, but not abruptly, but gradually. The following are the first aid steps that must be performed:

Immediately remove the patient from the hot environment - it is necessary to take him to the shade, a ventilated room or a cool place. If indoors, open windows or doors to provide ventilation.

The patient's tight, hot, or impermeable clothing is removed. This accelerates heat loss from the body's surface.

The most effective methods are:

Applying cool, wet compresses to the skin.

Cooling areas near blood vessels, such as the shoulders, neck, armpits, and backs of the knees.

Increasing air flow (accelerating cooling) with a fan or natural wind.

Very cold water or ice should not be used directly - this will cause a sharp narrowing of the blood vessels and a further increase in internal temperature.[3]

If the patient is conscious, he should be given warm or room temperature water gradually.

Electrolyte replacement solutions (rehydration drinks) are also useful. However, a large amount of water should not be given at once - this can cause vomiting, and vomiting can worsen the condition.

It is strictly forbidden to give fluids by mouth to an unconscious patient.

The patient's breathing rate, heart rate, and skin color are carefully monitored. If breathing is uncertain, the upper back should be supported.

should be placed in a lightly elevated position. If necessary, cardiopulmonary resuscitation measures should be initiated.

Place the patient on his side and protect him from vomiting.

Prevent injury by removing hard objects from the area.

Ensure that the airway is open without tilting the head back.

Cooling measures are continued at this stage.



Hyperthermia syndrome often does not resolve on its own. Especially if the child's body temperature is rising rapidly or the patient has lost consciousness, it is imperative to immediately call an ambulance.

Even after hyperthermia is resolved, the body remains weakened for several hours. Heart rhythm disturbances, temporary slowing of brain activity, slowed breathing, or excessive sweating may occur. Therefore, the patient should undergo a full examination in a medical facility.

Prevention of hyperthermia syndrome

Prevention measures are very simple, but extremely effective:

Do not stay in the sun for a long time.

Wear light, breathable clothing on hot days.

Continue to drink water regularly.

Monitor body position during sports or physical labor.

Avoid staying in cars, closed places, or hot rooms for a long time.

Constantly monitor body temperature in infectious diseases.[4]

In conclusion, hyperthermic syndrome is a serious pathological condition that, if not treated promptly, can be life-threatening. Its main causes are heat stroke, high physical exertion, infections, and disorders of the body's thermoregulation system. The main goal of first aid is to gradually reduce body temperature, provide the body with fluids, and monitor breathing and heart activity. Most importantly, in such a situation, it is necessary to call for medical help as soon as possible and constantly monitor the patient.

These approaches are important in saving the patient's life.

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