Cerebral Hypoxia

Cerebral hypoxia refers to a condition in which there is a decrease of oxygen supply to the brain even though there is adequate blood flow.

CAUSES

Following are examples of causes that could lead to cerebral hypoxia:

- Drowning.
- Strangling.
- Choking.
- Suffocation.
- Cardiac arrest.
- Head trauma.
- Carbon monoxide poisoning.
- Complications of general anesthesia.

SYMPTOMS

Symptoms of mild cerebral hypoxia include:

- Inattentiveness.
- Poor judgment.
- Memory loss.
- Decrease in movement (*motor*) coordination.

Brain cells are sensitive to oxygen deprivation. They can begin to die within five minutes after the oxygen supply has been cut off. When hypoxia lasts for longer periods of time, it can cause:

- Coma.
- Seizures.
- Brain death.

In brain death, basic life functions such as breathing, blood pressure, and cardiac function are preserved. But there is no consciousness or response to the world around.

TREATMENT

Treatment depends on the underlying cause of the hypoxia. But basic life-support systems have to be put in place:

- Mechanical ventilation to secure the airway.
- Fluids, blood products, or medications to support blood pressure and heart rate.
- Medications to suppress seizures.

Recovery depends on how long the brain has been deprived of oxygen and how much brain damage has occurred. Carbon monoxide poisoning, though, can cause brain damage days to weeks after the event. Most people who make a full recovery have only been briefly unconscious. The longer someone is unconscious, the higher the chances of death or brain death and the lower the chances of a meaningful recovery. During recovery, psychological and neurological abnormalities may appear, persist, and then resolve. These include:

- Memory loss (*amnesia*).
- Personality regression.
- Hallucinations.
- Muscle spasms and twitches.

RESEARCH BEING DONE

The NINDS supports and conducts studies aimed at understanding neurological conditions that can damage the brain, such as cerebral hypoxia. The goals of these studies are to find ways to prevent and treat these conditions.

Research is continually being done to learn more about this problem.

Provided by: The National Institute of Neurological Disorders and Stroke

Document Released: 12/08/2003 Document Re-Released: 09/26/2009

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