Reye's Syndrome Encyclopedia Article

Reye's Syndrome

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Reye's Syndrome

Reye's syndrome is a serious medical condition associated with viral infection and aspirin intake. It usually strikes children under age 18, most commonly those between the ages of five and 12. Symptoms of Reye's syndrome develop after the patient appears to have recovered from the initial viral infection. Symptoms include fatigue, irritability, and severe vomiting. Eventually, neurological symptoms such as delirium and coma may appear. One third of all Reye's syndrome patients die, usually from heart failure, gastrointestinal bleeding, kidney failure, or cerebral edema (a condition in which fluid presses on the brain, causing severe pressure and compression).

Reye's syndrome is a particularly serious disease because it causes severe liver damage and swelling of the brain, a condition called encephalopathy. Recovery from the illness is possible if it is diagnosed early. Even with early diagnosis, some patients who survive Reye's syndrome may have permanent neurological damage, although this damage can be subtle.

Reye's syndrome was discovered in 1963 by Dr. Ralph D. Reye. However, the connection between aspirin and viral infection was not made until the 1980s. In a study conducted by the Centers for Disease Control, 25 out of 27 children who developed Reye's syndrome after a bout with chicken pox had taken aspirin during their illness. In 140 of the children with chicken pox who had not taken aspirin, only 53 developed Reye's syndrome. Researchers are still unsure about the exact mechanism that causes aspirin to damage the liver and brain during viral infections. Some researchers suspect that aspirin inhibits key enzymes in the liver, leading to liver malfunction. However, why the combination of aspirin intake and viral infection may lead to Rye's syndrome has never been fully explained.

Since the early 1980s, public health officials and physicians have warned parents about giving children aspirin to reduce pain during viral infections. As a result of these warnings, the numbers of cases of Reye's syndrome have dropped significantly: in 1977, 500 cases were reported; in 1989, only 25 cases were reported. Nonaspirin pain relievers, such as acetaminophen, are recommended for children and teenagers. Although children represent the majority of Reye's syndrome patients, adults can also develop Reye's syndrome. Therefore, pain relief for cold and flu symptoms, as well as for other viral infections such as chicken pox and mumps, should be restricted to nonaspirin medications in both children and adults.