Reye's Syndrome

Reye’s syndrome is a disorder associated with salicylate use in children with viral illnesses, such as the chickenpox and influenza. For this reason, aspirin should be avoided in this population. Instead, acetaminophen can be used. This syndrome is known to affect various organs throughout the body including fatty changes in the liver. As the child’s liver begins to fail, lab results may show increased liver enzymes, such as AST, ALT, and increased ammonia levels. Reye’s syndrome is characterized by acute encephalopathy. Children should be monitored closely for signs of increasing ICP, such as a change in level of consciousness, headache, vomiting, abnormal/asymmetrical pupils, posturing, and/or seizures. Early detection and treatment of Reye’s syndrome is essential, as death may result within hours if left untreated.



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Cause

Aspirin (Salicylates) to Treat Viral Illness (In Children)
Aspirin and Viruses
Reye’s syndrome is associated with salicylate use in children with viral illnesses, such as the chickenpox and influenza. For this reason, aspirin should be avoided in this population. Acetaminophen is recommended as an alternative medication.

Assessment

Cerebral Edema
Cerebral Edamame
Children with Reye’s syndrome will have cerebral edema. When cerebral edema occurs, the child may experience seizures and a decreased level of consciousness.

Lethargy (Decreased LOC)
Leather-jacket
A patient with Reye’s syndrome may present as tired or weak. This is called lethargy. Patients should be closely monitored for increasing neurologic impairment and decreased level of consciousness, as this could indicate worsening of the condition.

Vomiting
Vomit
Frequent vomiting is associated with Reye’s syndrome.

Liver Failure
Dead Liver
This syndrome is known to affect various organs throughout the body, most notably inducing fatty changes in the liver. As the child’s liver begins to fail, lab results may show increased liver enzymes such as AST, ALT, and increased ammonia levels.

Interventions

Monitor for Increased ICP
Monitor and Up-arrow Pressure-cooker Cranium
Early detection and treatment of Reye’s syndrome is essential, as death may result within hours if left untreated. After initial onset of this condition, closely monitor the patient's ICP, respiratory rate, and blood pressure. Increased ICP may indicate cerebral edema, which is a serious threat to these patients and could result in coma or death. Signs and symptoms of increased ICP include a change in level of consciousness, headache, vomiting, abnormal/asymmetrical pupils, and posturing. For more information, refer to the Picmonic card titled ‘Increased Intracranial Pressure’.

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Mannitol (Osmitrol)

Manatee

Mannitol is an osmotic diuretic used to decrease ICP. This medication works by creating an osmotic gradient that pulls fluid from the brain into the vasculature and provides an immediate plasma-expanding effect that reduces hematocrit and blood viscosity and leads to diuresis.

Considerations

No Aspirin for Children

No-sign Aspirin and Children

Children under the age of 18 should not be given aspirin or salicylate-containing medications. Instead, acetaminophen can be used.

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