

RS is a disorder defined as a metabolic encephalopathy associated with other characteristic organ involvement. It is characterized by fever, profoundly impaired consciousness, and disordered hepatic function.

The etiology of RS is not well understood, but most cases follow a common viral illness, typically influenza or varicella. RS is a condition characterized pathologically by cerebral edema and fatty changes of the liver. The onset of RS is notable for profuse effortless vomiting and lethargy that quickly progresses to neurologic impairment, including delirium, seizures, and coma, and can ultimately lead to increase ICP, herniation, and death ([Ibrahim and Balistreri, 2016](#)). The cause of RS is a mitochondrial insult induced by various viruses, drugs, exogenous toxins, and genetic factors. Elevated serum ammonia levels tend to correlate with the clinical manifestations and prognosis.

Definitive diagnosis is established by liver biopsy. The staging criteria for RS are based on liver dysfunction and on neurologic signs that range from lethargy to coma. As a result of improved diagnostic techniques, children who would have been diagnosed with RS in the past are now diagnosed with other illnesses, such as viral or inborn metabolic errors affecting organic acid, ammonia, and carbohydrate metabolism. Cases of unrecognized, drug-induced encephalopathy by antiemetics given to children during viral illnesses have symptoms similar to those of RS.

The potential association between aspirin therapy for the treatment of fever in children with varicella or influenza and the development of RS precludes its use in these patients. However, by the time the US Food and Drug Administration required aspirin product labeling in 1986, most of the decline in RS incidence had already occurred.

Nursing Care Management

The most important aspect of successful management of a child with RS is early diagnosis and aggressive supportive therapy. Rapid progression to coma and high peak ammonia concentrations are associated with a more serious prognosis. Cerebral edema with increased ICP represents the most immediate threat to life.

Care and observations are implemented as for any child with an altered state of consciousness (see earlier in this chapter) and