EXTENSIVE MYELITIS AFTER ORAL POLIO VACCINATION: MRI FEATURES

The first poliomyelitis cases from Sabin vaccine occurred in 1962, and by 1969, over 300,000 people were vaccinated. By 1972, the last case of poliomyelitis in the United States was reported. However, concerns about vaccine-related neurological complications led to a decrease in vaccination rates, especially among developing countries where polio is still endemic. In high-income countries, the risk of vaccine-related complications is very low, but in lower-income countries, where polio is still endemic, the risk may be higher.

Several studies have suggested that a small number of people vaccinated with Sabin vaccine may develop vaccine-associated paralytic polio (VAPP) or acute flaccid paralysis (AFP). This condition is characterized by a sudden onset of flaccid paralysis, often within 14 days of vaccination, and is accompanied by pain and muscle atrophy. Children and young adults are at higher risk of developing VAPP, but the condition can also occur in older individuals.

The mechanism of VAPP is thought to involve a reaction between the vaccine virus and the immune system, leading to the development of a neuroinvasive strain. This strain can then spread to the central nervous system, causing inflammation and damage to the spinal cord. MRI can be useful in diagnosing VAPP, as it can identify changes in the spinal cord such as increased T2 signal intensity, edema, and signal changes in the gray and white matter. These changes are often seen in the cervical and thoracic regions of the spinal cord.

In conclusion, while the risk of VAPP is low, it is important to be aware of this potential complication of vaccination. Healthcare providers should be able to recognize the signs and symptoms of VAPP and refer affected individuals to specialists for further evaluation and management.

Image 1: MRI of the cervical spine showing increased T2 signal intensity in the spinal cord, consistent with VAPP.

Image 2: MRI of the thoracic spine showing similar findings.

Discussion

Increased T2 signal intensity involving the thoracic spinal cord in a patient with a history of Sabin vaccine administration is consistent with VAPP. The patient had a history of asymmetric onset of lower extremity weakness and loss of sensation. MRI showed increased T2 signal intensity involving the thoracic spinal cord. The patient was treated with supportive care and his neurological symptoms resolved over several weeks. This case highlights the importance of recognizing and reporting cases of VAPP, as it can lead to early intervention and potentially improved outcomes.

References


