

Medscape Conference Coverage, based on selected sessions at the:

American Neurological Association (ANA) 134th Annual Meeting

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Report of Motor Neuron Disease After HPV Vaccine

Allison Gandey

October 28, 2009 (Baltimore, Maryland) — Investigators are reporting a case of motor neuron disease after immunization with the quadrivalent vaccine *Gardasil*. The Merck product is designed to prevent infection with several types of human papillomavirus.

Presenting here at the 134th annual meeting of the American Neurological Association, researchers describe a case of rapidly progressive disease leading to the death of a 14-year-old girl.

"Pathological features support the temporal association of the clinical presentation and vaccination and provides supporting evidence that immune-mediated reactions to the nervous system are potential risks after Gardasil vaccination," Catherine Lomen-Hoerth, MD, director of the Amyotrophic Lateral Sclerosis Center at the University of California–San Francisco, told the meeting.

"Our patient received 3 doses of Gardasil with symptom onset 2 months after her last dose," the poster presenters wrote. "Despite treatment with aggressive immunosuppression, her weakness relentlessly progressed and she died of respiratory failure 21 months after the onset of her weakness."

Postmortem evaluations revealed widespread infiltrates of T lymphocytes and macrophages in the grey and white matter at all levels of the spinal cord. Researchers also report extensive demyelination and severe loss of motor neurons.

In September, investigators presenting at the European Committee for Treatment and Research in Multiple Sclerosis annual meeting reported cases of autoimmune disorders after immunization with Gardasil.

Two groups presented at the meeting — one identified a case of multiple sclerosis after vaccination and the second a case of neuromyelitis optica.

Other Reports of Autoimmune Disorders

Presenter Maria Bouktsi from the Interbalkan European Medical Center in Thessaloniki, Greece, told *Medscape Neurology* that her team is questioning whether the immuno-stimulatory properties of the human papillomavirus-like particles of the vaccine are triggering adverse effects in vulnerable patients.

It is the same question that researchers asked in a recent issue of *Multiple Sclerosis* (2009;15:116–119). Ian Sutton, MD, from St. Vincent's Hospital in New South Wales, Australia, and his team reported 5 cases of multiple sclerosis after vaccination with the drug. The group reported in January that patients presented with multifocal or atypical demyelinating syndromes within 21 days of immunization.



Symptoms began 2 months after the last dose of Gardasil.

No definitive conclusions can be made based on this report, Dr. Sutton and his team noted. "It should not be overlooked that several epidemiological studies indicate that viral infection is associated with a threefold increase in the risk of a multiple sclerosis relapse," write the researchers.

7 More Cases

Lead investigator of the second group presenting on this topic said that he agrees that postmarketing pharmacovigilance is necessary to improve safety. "[Human papillomavirus] vaccines elicit a strong inflammatory systemic immune response," said Til Menge, MD, from Heinrich-Heine University in Düsseldorf, Germany.

His group suggests that it was this inflammatory response that may have triggered a case of fulminant neuromyelitis optica in a previously healthy 17-year-old girl.

Investigators have not established a causal relationship, but they are asking clinicians to closely monitor patients for any emerging side effects.

The researchers have disclosed no relevant financial relationships.

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