We present a patient who developed acute inflammatory demyelinating polyneuropathy (AIDP) following influenza vaccination. While rare, vaccination can precipitate this autoimmune condition and prompt recognition can improve outcomes and prevent further disability.

An 87-year-old Cantonese-speaking woman presented with third-degree burns following prolonged exposure to hot water. Two weeks following influenza vaccination, the patient developed numbness in both legs. The patient was promptly started on intravenous immunoglobulin (IVIG) therapy at a dose of 0.4 g/kg per day for five days. Over the following weeks, the patient demonstrated gradual improvement in neurological symptoms, AIDP was suspected. Lumbar puncture was consistent with AIDP.

Over her hospital stay, the patient developed progressive ascending muscle weakness. She also experienced paresthesias, difficulty walking, and loss of deep tendon reflexes. While it was initially difficult to obtain an extensive history due to the acute nature of the patient's burns and language barriers that were minimally resolved with interpreter services.

Neurological examination revealed bilateral lower limb weakness, sensory deficits along lower extremities, and eventual development of areflexia. Over her hospital stay, the patient demonstrated gradual improvement in neurological symptoms, AIDP was suspected. Lumbar puncture was consistent with AIDP.

Discussion

This case highlights a potential association between vaccination and AIDP. While rare, vaccination can precipitate this autoimmune condition and prompt recognition can improve outcomes and prevent further disability.

The patient was promptly started on intravenous immunoglobulin (IVIG) therapy at a dose of 0.4 g/kg per day for five days.

Serial nerve conduction studies showed evidence of remyelination, further supporting the diagnosis of AIDP.

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The patient was promptly started on intravenous immunoglobulin (IVIG) therapy at a dose of 0.4 g/kg per day for five days.

Physical therapy and rehabilitation were initiated to optimize functional recovery.

Over the following weeks, the patient demonstrated gradual improvement in muscle strength and sensation.

Serial nerve conduction studies showed evidence of remyelination, further supporting the diagnosis of AIDP.

Case Presentation

Figure 1. Molecular Mimicry

Structural similarities (between foreign antigens and proteins or antigens present on peripheral nerves) drive the immune response against nerve tissue.

Immune system attack + Vaccine

Immune cross reactivity

Figure 1. Molecular Mimicry

Structural similarities (between foreign antigens and proteins or antigens present on peripheral nerves) drive the immune response against nerve tissue.

Conclusion

This case underscores the need for continued surveillance of vaccine-related adverse events to enhance patient safety and public health.

Clinicians should be aware of the potential rare adverse events associated with vaccinations, including vaccine-mediated acute inflammatory demyelinating polyneuropathy.

Vigilance in recognizing such complications and initiating appropriate management is critical to optimize patient outcomes and maintain public confidence in vaccination programs.

References


