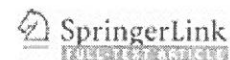


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Autonomic dysfunction and HPV immunization: an overview.

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Author information

Erratum in

Correction to: Autonomic dysfunction and HPV immunization: an overview. [*Immunol Res.* 2018]

Abstract

This article reviews the case series reported from several countries describing patients with suspected severe side effects to the HPV vaccines. The described symptom clusters are remarkably similar and include disabling fatigue, headache, widespread pain, fainting, gastrointestinal dysmotility, limb weakness, memory impairment episodes of altered awareness, and abnormal movements. This constellation of symptoms and signs has been labeled with different diagnoses such as complex regional pain syndrome (CRPS), postural orthostatic tachycardia syndrome (POTS), small fiber neuropathy (SFN), myalgic encephalomyelitis/chronic fatigue syndrome (ME/CFS), or fibromyalgia. It is known that autoimmunity and autoantibodies are present in a subset of patients with CRPS, POTS, SFN, ME/CFS, and fibromyalgia. This article proposes that vaccine-triggered, immune-mediated autonomic dysfunction could lead to the development of de novo post-HPV vaccination syndrome possibly in genetically susceptible individuals. Being cognizant that a temporal relationship between vaccination and symptom onset does not necessarily equate to causality, mounting evidence of case series calls for well-designed case-control studies to determine the prevalence and possible causation between these symptom clusters and HPV vaccines. Since personalized medicine is gaining momentum, the use of **adversomics** and pharmacogenetics may eventually help identify individuals who are predisposed to HPV vaccine adverse events.

KEYWORDS: Autoimmunity; Autonomic dysfunction; Chronic fatigue syndrome; Chronic regional pain syndrome; Fibromyalgia; HPV vaccine; Myalgic encephalomyelitis; Postural orthostatic tachycardia syndrome; Small fiber neuropathy

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