



# HEMORRHAGIC MYELITIS AFTER PAPILLOMA VIRUS (HPV) VACCINATION

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Published: December 17, 2020 Neuroimmunology

## INTRODUCTION

- Human papilloma virus (HPV) vaccination in young female was approved in 2006, and within few years, it was introduced in many countries around the world to prevent cervical cancer in women.
- Cervical cancer is the second most common cancer in women, with associated morbidity in young adolescent women.
- Chronic infection of the cervix transmitted by sexual contact with some oncogenic subtypes 16 and 18 of human papilloma virus can cause cancer.
- Vaccination with HPV against this infection before the first sexual experience may reduce morbidity by approximately 70%
- It's well known that acute disseminated encephalomyelitis (ADEM), myelitis, optic neuritis, neuromyelitis optica, multiple sclerosis and GBS can appear after vaccination, however a small number of them after HPV vaccination
- Most cases, symptoms begin a few days after vaccination but can at times appear even several months after vaccination

## CASE REPORT

- A 26-year old female was admitted to hospital for eight days of low back pain mainly on her left side, which radiated to both legs, and with numbness of left leg, urinary retention and general weakness. She had no any preceding viral infection or infective symptoms in the days/ weeks leading up to the actual illness. She had received the third dose of papilloma vaccine (Gardasil) one month earlier; the first and second vaccination doses had been administered five and seven month prior.
- Neurological examination revealed asymmetric spastic paraparesis, hyperreflexia and positive Babinski with sensory level at D9. Lumbar puncture revealed 7 cells, 86% monocytes, glucose 97mg/dl and protein 23.1mg/dl (normal values).
- Spinal MRI showed myelitis with intramedullary hemorrhage. She was diagnosed with dorsal myelopathy after the exclusion of vascular, infective, metabolic and autoimmune disease of her symptoms
- Treatment with IV methylprednisolone 1000 mg for three days and 500mg for another 3 days, followed by tablet prednisone 60 mg with tapering according to protocol, associated with physical and occupational therapy, clinical improvement in her condition, she began walking without help, the sensory level almost disappeared



Sagittal T1-weighted MRI showing long segment of high intensity signal in the medulla  
Corresponds to intramedullary hemorrhages



T1 the high intensity signal on the cord resolved completely and only a residual tiny dot of blood is seen.

## DISCUSSION

- It was reasoned that there might exist a correlation between HPV vaccination and myelitis, we explore the possible correlation between myelitis and vaccination
- The ability of vaccination to induce autoimmune illness has been debated in the literature for decades and is often surrounded by controversy, it has been postulated that vaccination might induce autoimmunity similar to those induced by infection.
- Several cases of young females presenting with CNS demyelination two to four weeks following HPV vaccine have been reported, but some of the patients had symptoms at the time of vaccination, raising the possibility that this vaccine may accelerate the transition from subclinical to clinical disease
- Acute disseminating encephalomyelitis was described by several authors following HPV vaccination but not hemorrhagic myelitis related to human HPV vaccination
- In conclusion, hemorrhagic myelitis has not been described in the literature after HPV vaccination, to the best of our knowledge, although there is no complete agreement that vaccines themselves cause hemorrhagic myelitis and other demyelinating diseases, but anyway it is worth remembering that these complications can exist.