

Zostermyelopathy: A Review

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Varicella Zoster virus (VZV) reactivation can present with many neurological manifestations ranging from peripheral nervous system to central nervous system. VZV myelopathy is a rare complication but can be catastrophic especially in immuno compromised host. We report a case of post-infectious Varicella Zoster myelopathy who was treated for meningoencephalitis, confirmed by positive CSF VZV DNA by PCR and developed bilateral diaphragmatic paralysis on the tenth day after treatment. He needed respiratory support with ventilator via tracheotomy. Further MRI showed increased signal intensity at C2 to C5 level of spinal cord, right C6, C7 and left C5-7 nerve roots. Repeated lumbar puncture yielded negative VZV PCR. The diagnosis was post-VZV radiculo myelopathy. Intravenous dexamethasone was given for a week. The patient got improvement in 2 months later and ventilator was weaned off. Post herpes zoster radiculomyelitis is a rare complication of VZV, which may be lethal and can present with bilateral diaphragmatic paralysis. A 72-year-old man presented to our hospital with alteration of consciousness for 1 day. His underlying diseases were composed of triple vessel disease S/P coronary artery bypass grafting, fairly controlled diabetes mellitus with HbA1c of 8.8%, hypertension, chronic kidney disease stage 3B with GFR of 40 mL/min and mild dementia. Two days prior, he developed painful vesicles along right C5, C6 dermatomes with fever. One day after that, he visited general physician clinic and was diagnosed as herpes zoster. He was prescribed acyclovir 800 mg oral 5 times a day. On the day of admission, his relatives found that he was drowsy, did not respond to verbal command and high-grade fever without headache or weakness. Initial physical exams showed vital signs as the following:

Temperature 38.5 degree Celsius, heart rate 86 bpm, respiratory rate 18/minute and BP of 153/76 mmHg. Skin lesions were multiple groups of vesicles along right C5, C6 and T1 dermatomes. Cardiovascular and respiratory systems were in normal limits. Neurological exam found no focal neurological deficit except for positive neck stiffness and drowsiness (E1V2M5). The initial clinical diagnosis was disseminated herpes zoster with acute VZV meningoencephalitis and acyclovir was prescribed intravenously at a dose of 10 mg/kg every 12 hours adjusted according to renal function. Blood chemistry profiles including blood chemistry, liver test, electrolytes were normal except for Cr of 1.6 mg/dL. (eGFR = 39 mL/min by Cockcroft-Gault) and serum sodium of 125 mmol/L. Brain CT with contrast was normal with no leptomeningeal enhancement. Lumbar puncture showed opening pressure of 19 cmH₂O, slightly turbid CSF, WBC of 283 per mm³, with 55% PMNs and 41% lymphocytes, RBC of 108 mm³, glucose 115 mg/dL with ratio of 0.49 to that of serum, protein of 283 mg/dl, and positive PCR for VZV DNA. Mycobacterium PCR and Herpes simplex PCR from CSF were negative. Anti-HIV was negative. Then he was admitted at isolation room. After treatment for 3 days, he got much improvement and was alert, could ambulate well without headache or fever. Skin lesions also improved and remained as scaly patch. Intravenous acyclovir was continued and planned for 14 days. On day 10 after treatment, he complained of lancinating pain over both shoulders with progressive weakness at both arm with MRC grade IV+ for both deltoid while other muscle groups were normal. He also had orthopnea and dyspnea on exertion. Chest X-ray showed no abnormal infiltration or atelectasis.

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