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Peri-brachial Plexus PDRN Injection for A Patient with Postherpetic Brachial Plexopathy

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Most complications of herpes zoster (HZ) are associated with the spread of varicella-zoster virus (VZV) from the initially involved sensory ganglion. However, motor nerve impairment after HZ, such as limb weakness, is a rare but burdensome complication that is difficult to treat. The corticosteroids have previously been reported to be effective in managing postherpetic motor and sensory neuropathies. However, it's use may be limited because of various side effects. Recently, polydeoxyribonucleotide (PDRN) has been reported as a viable substitute for corticosteroids in various musculoskeletal disorders. Here, we reported a case of a patient with brachial plexopathy following HZ (postherpetic brachial plexopathy), who showed improvement after administration of ultrasound-guided PDRN injection around the brachial plexus.

Case
A 73-year-old female with a history of well-controlled hypertension and hyperlipidemia presented with sudden left upper limb pain, graded Numeric rating scale (NRS) 9, and weakness. 3days after development of the pain, characteristic grouped vesicles and surrounding erythema were developed on the dermatome of 5th and 6th cervical root. There was a weakness in the left shoulder, which was rated Medical Research Council 10 (MRC) grade 2 in the manual muscle test (MMT). The remaining neurological examination was insignificant. With clinical identification of HZ, antiviral and pain control therapy was started with IV acyclovir, pregabalin, and Helium-Neon laser for 8 days. Despite resolution of the vesicles and erythema, the weakness did not improve. In electrophysiological studies, performed 3 weeks after onset of symptoms, left brachial plexopathy was diagnosed. Brachial plexus MRI, acquired 21 days after the onset of symptoms demonstrated mild swelling and increased signals in the left brachial plexus, especially in the C5 and C6 dorsal root ganglia and roots. With the result of studies and clinical history, postherpetic brachial plexopathy was diagnosed. Patient was initially treated with oral medications, but these were discontinued due to the side effects. Next, the patient was recommended for corticosteroid injection around the brachial plexus, but she refused the injection due to concerns regarding the metabolic side effects of corticosteroids. Then, after she was adequately informed about the anti-inflammatory effects of PDRN, the patient agreed to receive a PDRN injection. Ultrasound-guided

injection was performed with PDRN around the left brachial plexus. After single day, the patient showed marked alleviation of left arm pain from NRS 9 to 4. Three more PDRN injections were performed at a weekly interval. After the treatments, the left arm pain was maintained at NRS 3 for 6 months and motor weakness improved from MRC grade 2 to 4.

Conclusion

PDRN injection can be considered a viable substitute of corticosteroid injection, when the use of corticosteroid is restricted due to side effects.

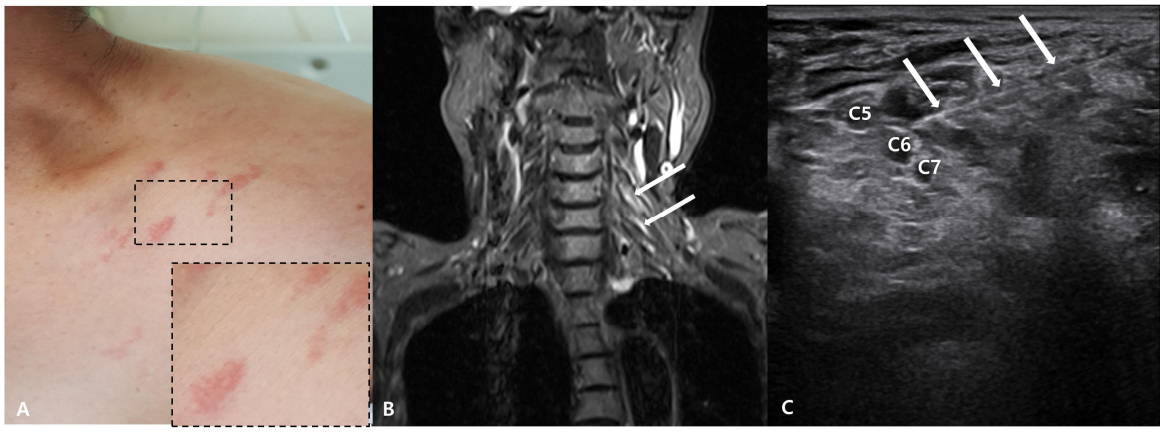

Figure 1. (A) The erythematous vesicular eruption is distributed around the left shoulder. (B) Brachial plexus magnetic resonance images (MRI) acquired 21 days after the onset of symptoms. Coronal T2-weighted short tau inversion recovery images demonstrate mild swelling and increased signals in the left brachial plexus especially in the C5 and C6 dorsal root ganglia and roots (white arrow) (C) and (D) Ultrasound-guided polydeoxyribonucleotide (PDRN) injection (white arrow) to the left C5 and C6 root.