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Case Report

Facial Asymmetry after Herpes Zoster Affecting Trigeminal Nerve: A Case Report

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Abstract

Postherpetic neuropathic pain can develop after herpes zoster infections; however, zona-induced paresis is a rare complication. In the literature, there are only a few cases in which segmental motor paresis developed. We present a case of trigeminal zoster which progressed with weakness and atrophy in facial muscles, neuropathic pain and its medical and physiotherapy treatment.

Keywords: Herpes zoster; Facial asymmetry; Rehabilitation

Introduction

Neuropathic pain commonly develops after herpes zoster infections; however, zona-induced paresis is a rare complication [1]. In the literature, there are only a few cases in which Segmental Motor Paresis (SMP) with muscle weakness has been reported after Herpes Zoster (HZ) infection [1,2]. Postherpetic neuralgia is a chronic pain syndrome that can last for years and is often resistant to treatment. The condition can lead to physical and social disability as well as psychological disorders in severe cases [1,3]. Herpetic skin rash usually heals within about 2-4 weeks, but pain often persists even after the complete recovery from the initial rash. This pain, which continues for a certain period of time, is called Postherpetic Neuralgia (PHN). It is estimated that 11% to 15% of patients who apply to pain clinics have PHN [3,4]. The severity of paresis is significantly correlated with the electrophysiological abnormalities found in postherpetic neuralgia. Herpes zoster-related motor paralysis has been reported in 0.5% to 5% of cases and cranial nerves are usually involved [4,5]. We hereby present a case of trigeminal zoster which progressed with weakness and atrophy in facial muscles, and its treatment.

Case Presentation

A 35-year-old female patient applied to our clinic with the complaint of paresthesia in the left half of the face and weakness in the jaw and left labial commissure. About 8 weeks ago, she had been treated with a diagnosis of zoster and her rash had regressed, but feeling of burning, numbness and weakness had continued. On physical examination; there were remnants of hyperpigmented lesions on the left half of the face due to the zoster. The left side of the face showed visible facial asymmetry. There were atrophies on the left masseter and temporal muscles and the nasolabial fold was more prominent on the left side due to atrophy. She had hypoesthesia and hot/cold sensation had decreased on the left side of the face. Eye closure, eyebrow-raising, frowning, and nostril movements did not differ from the left to the right. Mouth closure, teeth showing and lip pursing were significantly weaker on the left side as well as jaw movement to the left. The patient was being followed by the dermatology department due to hyperpigmented lesions. Her past medical and family history was unremarkable. There were no pathological results in complete blood count, biochemistry and urine tests. For neuropathic pain, Pregabalin 75 mg/day 1 × 1 was started, and dosage was increased up to 3 times per day. The patient was given a rehabilitation program. Temporal, mandibular and pterygoid muscle stimulation with faradic current (30 min/day); biofeedback; strengthening and joint range of motion exercises for mandibular muscles were utilized. At the end of 15 sessions, the patient's muscle strength and daily activities showed significant improvements; however, the left nasolabial fold remained prominent. A home exercise program was organized and the patient was referred to the dermatology department for cosmetic treatment of the nasolabial fold.

Discussion

The trigeminal nerve (5th cranial nerve) is the largest cranial nerve which exits as 2 roots from the anterior aspect of the pons, reaches the semilunar (gasser) ganglion and is divided into 3 branches. Ophthalmic nerve, maxillary nerve, mandibular nerve has both motor and sensory nerve fibers. 12% of peripheral facial paralyses are caused by the varicella zoster virus. In 14% to 50% of the patients, pain is seen in the affected area before the vesicular rash. The first branch of the trigeminal nerve is mostly affected, while the second and third branches are affected more rarely [3]. In our case, the third branch of the trigeminal nerve was significantly affected. In addition to neuropathic pain, motor weakness was present to the degree that the patient's daily activities and quality of life was significantly affected. Neuropathic pain develops in 10% of cases after herpes zoster and its frequency increases in patients over 60 years of age [3,4]. In our case, there were also neuropathic symptoms that disturbed the patient. Although our patient was young, we think that stress-induced herpes zoster

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infection was present in our patient. Reactivation of the latent virus in the dorsal root ganglion explains the paresthesia and hyperesthesia in the affected dermatome, but the cause of motor paresis has not been explained. Inflammation and hypervascularity around the dorsal root ganglion may impair the blood barrier; thus causing motor paresis. According to another theory, the spread of the virus to other anterior horn cells may be the cause of paresis and radiculopathy [5]. Physical therapy is generally used to create a therapeutic reaction in the tissue. Electrical stimulation is used to activate atrophic and weakly innervated muscles and also to strengthen these muscles. The range of motion exercises are used to prevent movement limitation due to weakness and to normalize muscle tone. With strengthening exercises, the primary aim is to prevent atrophy and strengthen muscles. Our patient also benefitted significantly from physical therapy and almost complete recovery was obtained in terms of the patient being able to perform daily activities. However, facial asymmetry remained as a problem and the patient was referred to the dermatology department for cosmetic treatment of the left nasolabial fold. While neuropathic pain due to herpes zoster is common, motor paresis is rare. In this case, a patient who was diagnosed with postherpetic neuralgia with trigeminal nerve involvement and motor paresis is described, and the successful treatment of the condition is presented.

Ethical Approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Informed consent was obtained from all individual participants included in the study.

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