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Bilateral facial nerve palsy preceded by Lt WM infarction: A Case Report

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Introduction

The facial nerve, also referred to as the seventh cranial nerve, is a cranial nerve that arises from the pons of the brainstem. It governs the muscles involved in facial expression and plays a role in transmitting taste sensations from the anterior two-thirds of the tongue. Facial nerve palsy is commonly the result of inflammation of the facial nerve, often due to Bell's palsy, and other medical conditions including viral infections, trauma, stroke can also lead to facial nerve palsy. In this report, in contrast to other instances where palsy affects only one side of the face, we present a case of bilateral facial nerve palsy that occurred 2 months subsequent to right-sided hemiplegia caused by a left posterior frontal white matter infarction.

Case Report

A 73-year-old female patient with a medical history of fibromyalgia, rheumatic arthritis, postmenopausal osteoporosis, gastric cancer, heart failure, left hand skin necrosis following debridement and wound repair, and a right ankle abscess after a sural flap skin graft operation was admitted to the Department of Orthopedic Surgery at Daejeon Eulji University Hospital for oblique lateral interbody fusion on 2025.03.07. Following the surgery, during her hospitalization in the orthopedic department, the patient developed weakness in the right upper and lower extremities (Medical Research Council [MRC] grade of approximately 3/5) and dysarthria on 2025.03.18. Diffusion MRI revealed left posterior frontal white matter infarction (Figure 1). On 2025.08.16, She developed right facial palsy, graded as House-Brackmann grade 4, and diffusion MRI showed no evidence of acute infarction. Although the right facial palsy improved from House-Brackmann grade 4 to grade 3, the patient developed left facial palsy accompanied by dysarthria on 2026.10.17. An electromyography performed on 2025.10.22 revealed bilateral facial neuropathy, peripheral type (Table 1). The patient underwent rehabilitation therapy, including electrical stimulation therapy for both facial palsies and physical modalities for lower extremity pain, along with oral steroid medication. Eight months after the initial infarction and three months following the onset of facial palsy, muscle strength in the right upper and lower extremities improved to MRC grade 4/5, and the facial palsy slightly improved. The patient was transferred to another hospital and is currently undergoing outpatient follow-up.

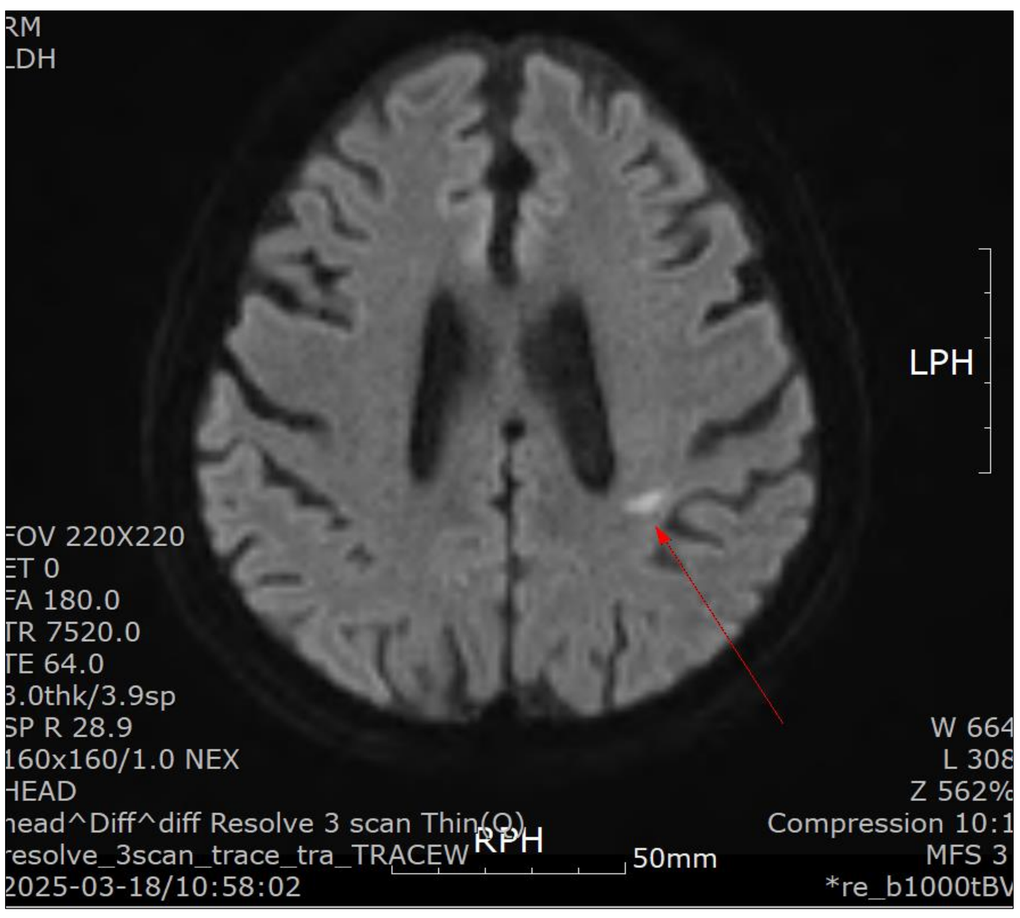

Figure 1. The Diffusion MRI taken occurence of right side weakness and dysarthria, showing left posterior frontal white matter infarction.

Nerve / Sites	R1 ms	R2 ms	R2-R1 ms
L Supra-orbital			
Left	NR	NR	NR
1.2		NR	NR
Right		NR	NR
2.2	NR	NR	NR

Nerve / Sites	Latency ms	Ampl. mV	Amp.2-4 mV	Sig
L Facial - Nas,Ocu,Oris				
Ear-Frontalis				No response
Ear-Orb Oculi				No response
Ear-Nasalis				No response
Ear-Orb Oris				No response
Ear-Mentalis				No response
R Facial - Nas,Ocu,Oris				
Ear-Frontalis				No response
Ear-Orb Oculi				No response
Ear-Nasalis				No response
Ear-Orb Oris				No response
Ear-Mentalis				No response

Table 1. Electrodiagnostic examination result show s bilateral facial neuropathy, peripheral type

Conclusions

We present a case of bilateral facial nerve palsy preceded by right hemiplegia due to a left posterior frontal white matter infarction. Unlike other cases where facial palsy typically affects only one side, this case involved palsy on both sides of the face, with a time gap of approximately two months. Through this case, we emphasize that physicians should consider that infarcts which may not appear logically connected at first glance, or a deterioration in the patient's overall condition, can lead to atypical bilateral facial nerve palsy. Thus, early workup and thorough evaluation are essential.