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Bilateral cerebral ptosis with in patient with subdural hemorrhage: A Case Report

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Introduction
Differential diagnosis of bilateral ptosis can be challenging due to multiple etiologies. Although cerebral ptosis is rare, it is known to be frequently associated with unilateral right hemispheric lesion. We report a bilateral cerebral ptosis case developed after acute right subdural hemorrhage (SDH).

Case Report
A 79-year-old woman presented with mild left hemiparesis, bilateral complete ptosis and headache after falling down accompanied with loss of consciousness. Computed Tomography of the brain revealed a traumatic right fronto-temporo-parietal SDH without midline shift and there was no evidence of parenchymal lesion in brain Magnetic resonance imaging. She underwent craniotomy with hematoma removal. Examination after surgery revealed alert mental status and obeying a three step command. However, even when she tried to open her eyes, she could not open her eyes at all despite of frontalis contraction. There was no evidence of abnormalities in the neuro-ophthalmologic evaluation including pupil reflex, gaze deviation or visual field loss. Although she had difficulty in getting rehabilitation because of bilateral complete ptosis, she underwent rehabilitation with assistance of physical and occupational therapist. Bilateral ptosis were gradually improved with intensive rehabilitation. On measurement of eyelid function performed six weeks after onset in rehabilitation unit, the bilateral palpebral aperture measured 5 mm. The bilateral superior margin-reflex distance was 1 mm. Levator excursion amplitudes from downgaze to upgaze measured 7 mm bilaterally. The results of facial nerve conduction study, electromyography and blink reflex study to exclude peripheral type facial neuropathy were normal. Furthermore, ocular myasthenia gravis was excluded considering no fluctuating, fatigable ocular symptoms and negative acetylcholine receiver antibody. For more information, the brain perfusion single-photon emission computed tomography (SPECT) and Diffusion Tensor Imaging (DTI) were conducted. The brain perfusion SPECT revealed hypoperfusion in left frontal, right temporal regions and right basal ganglia. Bilateral intact corticospinal tract were

visualized in DTI. Bilateral ptosis resolved almost completely and she could walk independently at hospital discharge.

Conclusion

In patient with bilateral cerebral ptosis is known to be mostly related to right hemispheric infarction and early diagnosis is urgent as acute bilateral cerebral ptosis is usually associated with impending sign of cerebral herniation. Bilateral ptosis also can be the primary manifestation of acute right SDH without parenchymal lesion. In our case, the brain perfusion SPECT can provide additional information. Right hemispheric hypoperfusion in brain perfusion SPECT implied that lateralization of eyelid control is dominant to the right hemisphere consistent with previous reports. Bilateral cerebral ptosis after right SDH showed favorable prognosis of recovery.