Bilateral Globus Pallidus Ischemia: Carbon Monoxide Poisoning

Bilateral Globus Pallidus İskemisi: Karbonmonoksit Zehirlenmesi

Globus Pallidus İskemisi / Globus Pallidus Ischemia

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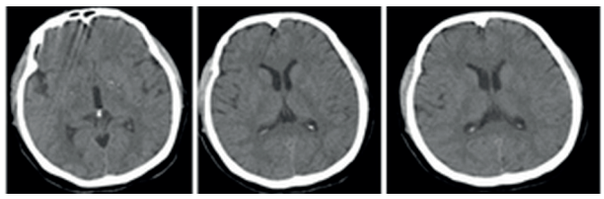


Figure 1. Image of the bilateral basal ganglia calcification on computed tomography of the brain

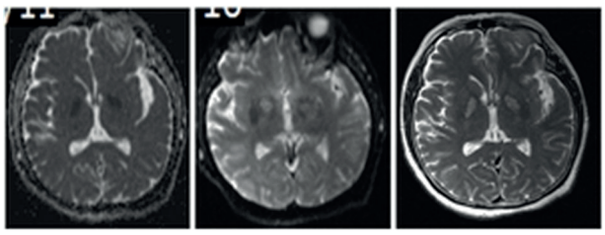


Figure 2. Image of the hypointense lesion in bilateral globus pallidus on ADC maps on MRI of the brain

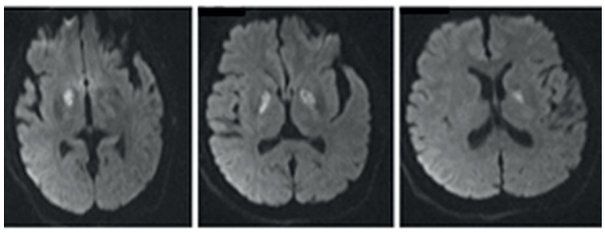


Figure 3. Image of the hyperintense diffusion restriction in bilateral globus pallidus on the diffusion-weighted series on MRI of the brain

A 65-year-old female patient was admitted to our emergency department by her relatives as she could not be awakened, and due to the changes in consciousness. The relatives of the patient stated that she slept in the same room as the stove and was found with foam around her mouth. It was determined that the patient whose level of consciousness was stupor, and whose Glasgow Coma Scale (GCS) score was 11 at admission, had 17.4% (reference range 0.5-2.5%) carboxyhemoglobin level in the blood tests. Despite the appropriate treatment (normobaric oxygen through a non-rebreather mask and hydration), there was no improvement in the mental status of the patient diagnosed with carbon monoxide poisoning. In order to describe the clinical picture, brain computed tomography (CT) and magnetic resonance imaging (MRI) was performed in the patient for whom a change in consciousness was unexpected because of the current carboxyhemoglobin level (17.4%), and thus the altered state of consciousness was prolonged (Figures 1, 2). The patient diagnosed with the lesions that demonstrated diffuse symmetric hyperintense diffusion restriction (Figure 3) was cooperative and oriented (GCS score 15). On the third day of admission, the patient who had no additional problems during follow-up was discharged after being given instructions.

Cerebral lesions associated with carbon monoxide poisoning can be detected by CT and MRI. Following carbon monoxide poisoning, lesions may occur in cerebral cortex, deep white matter, basal ganglia and hippocampus. Radiological findings may emerge at different times. Changes in white matter are the most frequently seen cases in carbon monoxide poisoning. Bilateral diffuse radiation exposure is often detected in the deep white matter and at the level of the centrum semiovale.

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