Carbonmonoxide Post-interval Syndrome

Sir,

Carbonmonoxide (CO) is a colorless, odorless and non-irritant gas.\textsuperscript{1} It appears as an end-product of poor combustion of fossil fuels.\textsuperscript{2} CO poisoning may be fatal due to its acute effects, and it may also cause serious permanent disorders as a result of its late effects.\textsuperscript{2,3} CO binds to hemoglobin in competition with oxygen, and leads to tissue hypoxia.\textsuperscript{3,4}

An 11-year boy was brought to the Emergency Room due to a change in consciousness. Glasgow Coma Score (GCS) was 12. Carboxyhemoglobin (COHb) level was found to be 50%. Normobaric oxygen treatment (NBOT) with 100% oxygen was started. He was discharged after 2 days of hospital stay because his clinical condition and COHb level returned to normal.

He was brought in emergency again, due to confusion, 3 days after his discharge. His GCS was 10. Cranial computed tomography scan and COHb level were normal. NBOT with 100% oxygen and supportive treatment were started. He also had a convulsion, so valproate sodium was added to his treatment table. His clinical condition changed to delirium during his observation. Electroencephalogram showed rare generalized slow waves with normal basal activity (Figure 1). Axial T2-weighted cranial magnetic resonance imaging revealed heterogeneous appearance in globus pallidi bilaterally (Figure 2). He started to respond to verbal stimuli on the seventh day. After his symptoms totally healed, he was discharged on the 10th day.

CO poisoning affects all tissues like those of brain, heart, kidneys, skeletal muscle and peripheral nerves.\textsuperscript{3,4} Although symptoms of CO poisoning may appear in early stages, they may also be delayed up to several weeks.\textsuperscript{4} Weakness, chest pain, confusion, hallucination, agitation, syncope, seizures and coma may be seen in acute phase.\textsuperscript{5} A symptom-free period is seen after acute phase. That period may be permanent or patient may enter the late phase characterized by encephalopathy symptoms. Some authors describe that phase as the post-interval syndrome.\textsuperscript{1}

Hyperbaric oxygen therapy (HBOT) should also be considered in patients who have at least one of the following: syncope, seizure, symptoms of cardiac ischemia, dysrhythmias, COHb level of $\geq$ 25%, or coma on admission.\textsuperscript{2,5} Although some patients with late neurological sequelae have been treated with HBOT, there are also some patients who were treated successfully with NBOT alone.\textsuperscript{1}

Patients and their relatives should be warned about late neuropsychiatric symptoms, and patients should be followed-up for a longer period in the case of severe and/or prolonged exposure to CO.

REFERENCES

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