Oculogyric Crisis Associated with Disulfiram-Induced Pallidonigral Lesion

Jae Hyeok Lee
Chul Hyoung Lyoo
Jin Goo Lee
Myung Sik Lee

Department of Neurology, Pusan National University Yangsan Hospital, Yangsan, Korea
Department of Neurology, Gangnam Severance Hospital, Yonsei University College of Medicine, Seoul, Korea
Department of Neurology, Incheon Choongang General Hospital, Incheon, Korea

We report a man who developed oculogyric crisis one month after disulfiram intoxication. Brain MRI showed lesions involving bilateral globus pallidus and left substantia nigra. In our patient, neuronal discharges from pathologically reorganized basal ganglia circuit to the midbrain ocular motor center might lead to tonic deviation of the eyes.

Key Words: Disulfiram, Oculogyric crisis.

Discussion

Disulfiram is metabolized to cyanide disulfide (CS2) and produce lesions at the globus
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pallidus and substantia nigra pars reticulata in monkeys. In humans, pallidal or lenticular lesions after disulfiram intoxication have been reported. However, to our knowledge, lesion at the substantia nigra after disulfiram intoxication is rarely documented on brain MRI studies.

OGC occurs frequently in association with neuroleptic treatment, postencephalitic parkinsonism, and focal brain lesions at the putamen or globus pallidus. These findings suggest that OGC can be caused by basal ganglia dysfunction, particularly of the dopaminergic system. In our patient, neuronal discharges from pathologically reorganized basal ganglia circuit to the midbrain ocular motor center might lead to tonic deviation of the eyes.

We reported a patient who developed disulfiram induced parkinsonism, dystonia, and OGC, responding markedly to the anticholinergics treatment.

REFERENCES


Figure. 1. T2-weighted brain MRI shows increased signal intensity in both globus pallidus (A) and left midbrain adjacent substantia nigra (B).