CASE REPORT 6 [ID#150]

Methadone-Induced Encephalopathy: A Case Series

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OBJECTIVE: Accidental ingestion or consumption of supra-therapeutic doses of methadone can result in neurological sequelae in humans. We aimed to determine the neurological deficits of methadone-poisoned patients admitted to a referral poisoning hospital using the brain magnetic resonance (MR) and diffusion weighted (DW) imaging.

MATERIALS AND METHODS: In this retrospective study, brain MRIs of the patients admitted to our referral center for methadone intoxication were reviewed. Methadone intoxication was confirmed based on history, congruent clinical presentation, and confirmatory urine analysis testing. Each patient had an MRI with Echo planar T1, T2, FLAIR, and DWI and apparent deficient coefficient (ADC) sequences without contrast media. Abnormalities were recorded and categorized based on their anatomic location and sequence.

RESULTS: Ten patients with abnormal MRI findings were identified. Eight had acute- and two had delayed-onset encephalopathy. Imaging findings included bilateral confluent or patchy T2 and FLAIR high signal intensity in cerebral white matter, cerebellar involvement, and bilateral occipito-parietal cortex diffusion restriction in DWI. Internal capsule involvement was identified in two patients while abnormality in globus pallidus and head of caudate nuclei were reported in another one. Bilateral cerebral symmetrical confluent white matter signal abnormality with sparing of subcortical U-fibers on T2 and FLAIR sequences were observed in both patients with delayed-onset encephalopathy.

CONCLUSIONS: Acute- and delayed-onset encephalopathies are two rare adverse events that can occur in methadone-intoxicated patients. Brain MRI findings can be helpful in detection of methadone-induced encephalopathy.