

Introduction

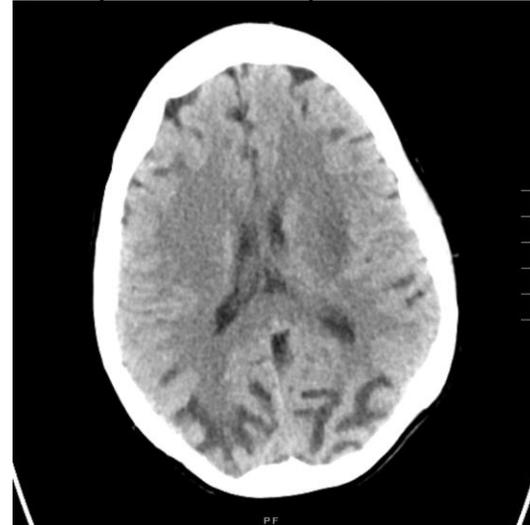
- Methanol is a clear, colorless alcohol whose ingestion could be accidental or intentional
- Methanol is metabolized by alcohol dehydrogenase to produce formaldehyde and formic acid, which causes direct neuronal toxicity in the retina, optic nerves, and basal ganglia[^]
- Patients can suffer from encephalopathy, neuropathy, sensory loss, among other things
- Rehabilitation of these patients lacks standardization

Case

Presented to ED with dizziness and vision loss. Methanol level was 0.173 g/dL on admission. Treatment with IV fomepizole and hemodialysis was initiated. On evaluation, she was maximum assist for most ADLs, moderate assist for ambulation, and had moderate-severe cognitive deficits. She was unable to visually track or identify objects. No optokinetic nystagmus was appreciated. She experienced spontaneous recovery of her vision, with the best acuity being observed in the right upper field of view. On discharge, she required supervision for ADLs and verbal cues because of visual impairment. She was recommended to have supervision for ambulation using a white cane. She was able to discern letters and colors. Optokinetic nystagmus remained absent.

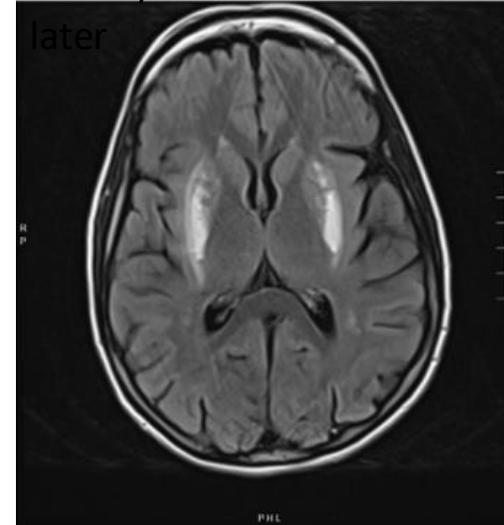
The rehabilitation of a patient with encephalopathy and cortical blindness after drinking methanol

CT w/o taken on presentation



Hypodensities in the putamen and extensive bilateral subcortical white matter changes primarily in the occipital lobes.

MRI w/o taken 1 month later



Profound white matter hyperintensities in the bilateral putamen, improvement in occipital disease

Discussion

- MRI taken one month after initial CT showed hyperintensities of the bilateral putamina and improved white matter disease in the occipital and temporal lobes
- Spontaneous recovery of right upper field of visual acuity correlated with the improvement seen on MRI
- Occipital cortex white matter disease was less severe than expected on initial CT
- It is possible that transient PRES contributed to the degree of occipital cortex white matter disease on the initial CT, and resolution of this contributed to the improved findings on MRI and partial recovery of her vision

Conclusion

To our knowledge, there are no studies investigating methanol toxicity outcomes following inpatient rehabilitation. Identifying effective rehabilitation modalities for therapists to implement would lead to the development of a disease specific rehabilitation program for this population

References

[^] Tephly, TR. The Toxicity of methanol. *Life Science*. 1991;48(11):1031-41