

# The Nerve! Readers Speak

## Reader Response: Amnestic Syndrome and Bilateral Hippocampal Diffusion Abnormalities From Opioid Use

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Reports of opioid-associated amnestic syndrome<sup>1</sup> have increased with the rising use of opioids, particularly among young men.<sup>2</sup> At our institution in British Columbia, which has one of the highest rates of opioid-related hospitalizations in Canada,<sup>3</sup> we have observed at least 3 such cases in the last 4 years with similar initial imaging. All were positive for fentanyl on urine toxicology. One of these was associated with a delayed leukoencephalopathy causing akinetic mutism, which developed roughly 3 weeks after initial presentation with isolated anterograde amnesia. Diffuse delayed leukoencephalopathy was recently reported as an unexpected outcome of acute opioid-associated amnestic syndrome.<sup>4</sup> It would be interesting to know the eventual outcome in this case, and if any follow-up was provided. Monitoring for a delayed leukoencephalopathy should be considered by neurologists caring for these vulnerable patients. Prognosis should be deferred until these patients have been stable for at least 1 month after presentation.

1. Ahlback C, Holmes BB, Narvid J, Rosendale N. Amnestic syndrome and bilateral hippocampal diffusion abnormalities from opioid use. *Neurol Clin Pract.* 2021;11(5):e823-e824.
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3. Belzak L, Halverson J. The opioid crisis in Canada: a national perspective. LA crise des opioïdes au Canada: une perspective nationale. *Health Promot Chronic Dis Prev Can.* 2018;38(6):224-233.
4. Switzer AR, Beland B, Sarna JR, Walzak A, Pfeffer G. Fentanyl overdose causing hippocampal ischaemia followed by delayed leukoencephalopathy. *Can J Neurol Sci.* 2020;47(3):398-399.

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## Author Response: Amnestic Syndrome and Bilateral Hippocampal Diffusion Abnormalities From Opioid Use

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We thank Drs. Randhawa and Chen for their comments on our article.<sup>1</sup> We appreciate their insightful comments regarding the possibility of delayed leukoencephalopathy in patients with acute opioid-associated amnestic syndrome.<sup>2</sup> Our patient<sup>1</sup> did indeed have interval follow-up at 1, 3, and 34 months after the index hospitalization. By 1 month, the patient returned to his previous cognitive baseline with no reported memory deficits. Since his hospitalization, he has not experienced any new neurologic symptoms, including headaches, vision changes, weakness, sensory changes, tremor, bradykinesia, or gait changes. No further brain imaging was indicated. We agree that patients with opioid-associated amnestic syndrome warrant close follow-up given the possibility of unforeseen neurologic sequelae. Going forward, it will be important to understand the risk factors predisposing to opioid-associated delayed leukoencephalopathy and the latent period range after opioid exposure.

1. Ahlback C, Holmes BB, Narvid J, Rosendale N. Amnestic syndrome and bilateral hippocampal diffusion abnormalities from opioid use. *Neurol Clin Pract.* 2021;11(5):e823-e824. doi: 10.1212/CPJ.0000000000001056.
2. Switzer AR, Beland B, Sarna JR, Walzak A, Pfeffer G. Fentanyl overdose causing hippocampal ischaemia followed by delayed leukoencephalopathy. *Can J Neurol Sci.* 2020;47(3):398-399.

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