

Kaiser Permanente San Diego Medical Center

Abstract

Ziconitide has been shown in the literature for the use of chronic pain patients with no history of psychosis with the use of intrathecal pump administration.¹⁻³ This unique medication is created from a toxin naturally made by the Cone snail (a ω-conotoxin peptide). The molecule is a calcium channel blocker that works by infused into the cerebrospinal fluid to inhibit the release of glutamate, CGRP and substance P in the brain and spinal cord to provide pain relief In addition, there have been findings of literature, to suggest the effects of overdose of Ziconitide including somnolence, dizziness, ataxia⁴.

This poster classifies an interest in case of a patient with an intrathecal pump, presenting with altered mental status likely secondary to dosing, increases an overdose of Ziconitide in addition to sepsis.

Background

The patient is a 51 year old female with a history of diet-controlled type II diabetes, stage III CKD, and epilepsy on Topomax with chronic pain syndrome due to prior foot surgeries with spinal neurostimulator and intrathecal pain pump who was brought to the hospital for altered mental status.

Data was recorded through chart review on Epic systems.

As the case report is devoid of patient identifiable information, it is exempt from IRB review requirements as per Kaiser San Diego policy

Patient consent was obtained in this case.

Discussion

The patient’s mentation only slightly improved after Narcan there for an LP was performed by anesthesiology showing pleocytosis (negative gram stain, glucose 77, protein 43). Viral meningitis was suspected prompting IV steroids and broad coverage with IV Vancomycin/Ceftriaxone/Acyclovir. Chest X-Ray and brain CT were negative. In addition to patient was seen to be in renal failure possibly due to sepsis which in turn may have caused her suspected overdose and confusion from the ziconitide.

Ultimately, the patient's mentation improved to baseline and her renal function approached baseline after IV hydration. She was medically stable for discharge home today with primary care follow up and labs in 1 week



Figure 1 – Cone Snail

Results

This case shows an interesting nuance of concomitant infections, causing or worsening overdose of Ziconitide through an intrathecal pump. Or any patient with altered mental status that should be included in the differential diagnosis and there’s an important consideration for pain, medication management, and for physicians.

References

Sources:

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2. Delhaas EM, Huygen FJPM. Complications associated with intrathecal drug delivery systems. BJA education. February 2020. Accessed August 6, 2023. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7807963/>.
3. Hunter, C. (2020, April 9). Ziconotide - a sea snail venom that treats pain. Ainsworth Institute. <https://ainsworthinstitute.com/ziconotide-for-pain/>
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