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Intrathecal baclofen (ITB) pumps are being increasingly used for treatment of spastic disorders in children. Over 10,000 pumps have already been implanted nationwide. With the increasing prevalence of these devices, anesthesia providers need to be conversant with possible perioperative complications associated with ITB pumps and the clinical manifestations of baclofen toxicity.

Here we present an illustrative case of a 17 year-old man with spastic cerebral palsy who presented for routine ITB pump replacement and experienced severe respiratory depression and coma in recovery following an uneventful general anesthetic. Forty-five minutes after admission to the recovery room, he was noted to be lethargic, hypotensive, bradycardic, and severely bradypnic (6-8 breaths/minute). Further assessment revealed a semi-comatose patient who exhibited global hypotonia, hyporeflexia, and miotic pupils. After unsuccessful treatment with naloxone and consultation with the neurosurgeon, the patient was given physostigmine 1mg IV with atropine 0.2 mg IV. The patient's vital signs normalized and he promptly became rousable, had improved muscle tone, and began to attempt to self-extubate. He was extubated at this point. Following extubation, the patient remained awake and conversant for approximately 40 minutes after which he again experienced severely depressed sensorium. A second dose of physostigmine was given with only a transient response. At this point the patient was reintubated, his ITB pump was turned off, and he was transferred to the intensive care unit. His muscle strength and mental status returned to baseline over the ensuing 8 hours at which time he was extubated and ultimately discharged two days later on a reduced ITB dose.

This report of inadvertent intrathecal baclofen toxicity recognized in the recovery room highlights several critical aspects of this potential perioperative complication. First, there are very few reports of toxicity via ITB in the anesthesia literature, making it highly plausible that pediatric anesthesia providers may be unaware of the symptoms and management of intrathecal baclofen overdose. Furthermore, because of the many steps involved with baclofen pump placement there are several points at which the overdose may occur, however the error may not become apparent until symptoms appear. Finally, the management of intrathecal baclofen overdose is largely supportive as there is not a specific antidote to baclofen. However, physostigmine has been used successfully to reverse the associated systemic effects. As our case demonstrates, however, the relatively short duration of action of physostigmine compared to ITB requires vigilant observation and possibly redosing of physostigmine. ITB toxicity is an important but largely unreported clinical phenomenon of which anesthesia providers should be aware, especially in light of the increasing prevalence of these devices in both pediatric and adult populations.

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