

**Case Report****Intoxication with Low-Dose Baclofen: A Case Report**

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Abstract

Background & Objective: One of the most common causes of decreased level of consciousness has many causes, especially in young patients, is drug poisoning. Baclofen is used to reduce muscle spasm and acts through the presynaptic inhibition of motor neurons. Oral intoxication with this drug is not common, if seen, it is due to excessive drug use or underlying renal dysfunction.

Case: A 25-year-old woman was brought to our emergency department by her husband with complaining of decreased level of consciousness. The urine sample was sent for toxicology examination and then brain CT scan was done which was normal. After 36 hours she regained consciousness. During a retrospective history taking she stated the baclofen use repeatedly five times a day for two days because of severe muscle spasms before she came to the hospital.

Conclusion: The most common cause of severe baclofen poisoning is arbitrary use of drugs, and accidental use of the drug causes fewer symptoms. Side-effects of baclofen include drowsiness, convulsions, severe cardiac disorder and coma. What is essential for an emergency medicine specialist is to know that, regardless of the underlying cause of the patient's symptoms, the patient must first be stable and pay attention to maintaining the patient's airway.

Keywords: Poisoning, Baclofen, Coma

Introduction

Decreased level of consciousness has many causes, one of the most common causes, especially in young patients is drug poisoning (1,2). Baclofen is used to reduce muscle spasm and acts through the presynaptic inhibition of motor neurons (3). Oral intoxication with this drug is not common, if seen it is due to excessive drug use or underlying renal dysfunction (4). Symptoms of poisoning include a range from asymptomatic in mild intoxication to coma in severe cases (5,6). Therefore, we should think about poisoning in patients who are suspected of drug poisoning and have symptoms.

Case Report

A 25-year-old woman was brought to our emergency department by her husband with complaining of decreased level of consciousness. He told that she had a general weakness for two days, and had decreased level of consciousness about two hours before arrival.

The patient's blood glucose was: 95 and then naloxone was given two mg but there was no response to naloxone. Her vital signs were as follows: Blood Pressure 87/pulse, Respiratory Rate 8 per minute, O₂ saturation in air room 80%, Pulse Rate 78 beats per minute, Temperature 37 °C and Glasgow Coma Scales 8/15. Her pupil was midsize and reactive to light, and all laboratory tests include electrolyte, urine analysis, coagulation profile and complete Blood Cell count were in normal range. Given the patient's level of consciousness we

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decided to intubate the patient. The urine sample was sent for toxicology examination and after intubation, brain CT scan was done which was normal.

The patient was admitted to the ICU and treated conservatively. After two days the patient opened her eyes, and obeyed the motor commands and after four days off admission she became conscious. During a retrospective history taking she stated the baclofen use repeatedly five times a day for two days because of severe muscle spasms before she came to the hospital.

Discussion

Baclofen is one of the first line drugs to treat muscle spasms (2,4). By taking the first dose, the drug is immediately absorbed into the gastrointestinal tract and reaches the peak blood level within two hours (3,7). The most common cause of severe baclofen poisoning is arbitrary use of drugs, and accidental use of the drug causes fewer symptoms (5). Some articles have reported symptoms of poisoning even with 100 mg of the drug (4,6). Our patient for 48 consecutive hours received 125mgr daily. Side-effects of baclofen include drowsiness, convulsions, severe cardiac disorder and coma. Our patient's symptoms were initially nausea and lethargy, which had not been reported in any of the previous cases, and the patient's symptoms progressed to decreased level of consciousness.

There is no antidote for this drug and treatment is supportive when there are life-threatening side effects or drug poisoning evidence (7). Patients with reduced consciousness and respiratory depression should be intubated and mechanically ventilated (3,4). Our patient was also intubated due to decreased consciousness and received supportive treatment in the ICU.

Conclusion

Overall, patients with an acute decrease level of consciousness and suspicion of drug intoxication should consider baclofen poisoning and measure blood levels of the drug. Routine toxicity assessment does not include baclofen. What is essential for an emergency medicine specialist is to know that, regardless of the underlying cause of the patient's symptoms, the patient must first be stable and pay attention to maintaining the patient's airway.

Ethical Considerations

This study was performed with the financial and moral support of the research deputy department of the Mashhad University of medical sciences.

Compliance with ethical guidelines:

Informed consent has been obtained from the patient.

Acknowledgment

The authors express their gratitude to the participants in this study who had sincere and unwavering cooperation.

Conflict of Interest

Authors declare no explicit and potential conflicts of interests associated with the publication of this article.

Reference

1. Weißhaar GF, Hoemberg M, Bender K, Bangen U, Herkenrath P, Eifinger F, et al. Baclofen intoxication: a "fun drug" causing deep coma and nonconvulsive status epilepticus--a case report and review of the literature. *Eur J Pediatr.* 2012; 171(10):1541-7.
2. C-F Chong, T-L Wang. An unusual presentation of baclofen overdose. *Emerg Med J.* 2005; 22:673-674. doi: 10.1136/emj.2003.011908.
3. Franchitto N, Rolland B, Pelissier F, Simon N. How to Manage Self-poisoning with baclofen in alcohol use disorder? current updates. *Front. Psychiatry.* 2018; 9: 417. Doi: 10.3389/fpsy.2018.00417
4. Anand JS, Zajac M, Waldman W, Wojtyla A, Bilinski P, Jaworska-Luczak B. Correlation between the single, high dose of ingested baclofen and clinical symptoms. *Annals of agriculture and Environmental health.* 2017;24(4):566-569. DOI: <https://doi.org/10.5604/12321966.1230735>
5. Sullivan R, Hodgman MJ, Kao L, Tormoehlen LM. Baclofen overdose mimicking brain death. *Clin Toxicol (Phila).* 2012; 50(2):141-4. doi: 10.3109/15563650.2011.654209.
6. Kos M, Drankowska J, Kościuk A, Widłak K, Tchórz M. The case series of baclofen intoxication. *Journal of Education, Health and Sport.* 2019; 9(9):15-19. eISSN 2391-8306. DOI <http://dx.doi.org/10.5281/zenodo.3372268>



7. Marcellus CD, Bot SL, Decleves X, Baud F, Renolleau S, Oualha S. Report of a severe accidental baclofen intoxication in a healthy 4-year-old boy and review of literature. Arch

Pediatr. 2019; 26(8):475-478.
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گزارش مورد

مسمومیت با دوز اندک باکلوفن: گزارش مورد

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چکیده

زمینه و هدف: کاهش سطح هوشیاری علل فراوانی دارد که یکی از مهم ترین آن ها به خصوص در بیماران جوان ، مسمومیت های دارویی است. باکلوفن دارویی است که برای اثر شل کنترگی عضلانی به کار می رود و عملکرد آن از راه مهارر اسپتورهای پره سیناپسی می باشد. مسمومیت در مصرف فرم هوراکی دارو نادر است و اگر دیده شود به علت مصرف زیاد دارو ویا بیماری زمینه ای است. هدف ما از معرفی این بیمار توجه به این نکته مهم است که مصرف چند دوز پشت سر هم این دارو می تواند علائم مسمومیت آن را ایجاد کند.

مورد: خانمی ۲۵ ساله توسط همسرش با شکایت کاهش سطح هوشیاری به اورژانس منتقل شد. با توجه به کاهش سطح هوشیاری بیمار اینتوبه شد و نمونه ادرار جهت بررسی ارسال شد. سی تی اسکن مغزی نرمال و نمونه ادرار وی نیز نرمال گزارش شد. تحت درمان های نگهدارنده بیمار پس از ۳۶ ساعت هوشیار شد و مصرف پنج بار قرص باکلوفن ۲۵ میلی گرم را در طی ۲۴ ساعت قبل از بستری به دلیل درد کمر بیان کرد.

بحث و نتیجه گیری: شایع ترین علت مسمومیت با باکلوفن مصرف زیاده از حد آن به قصد خودکشی است و مصرف اتفاقی دارو به ندرت مسمومیت ایجاد می کند. عوارض مصرف باکلوفن شامل خواب آلودگی، تشنج، عوارض قلبی و کوما می باشد. حتما در برخورد با بیمار مسمومیت در ابتدا باید توجه ویژه به پایدارسازی علائم حیاتی و حفظ راه هوایی داشت.

کلمات کلیدی: مسمومیت، باکلوفن، کوما

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