



Correspondence

Sugammadex-induced anaphylaxis involving sudden onset of severe abdominal pain



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To the Editor:

Sugammadex-induced anaphylaxis has been reported at an incidence of 0.0029–0.039% [1,2]. Moreover, hypersensitivity reactions to sugammadex typically involve skin and/or mucocutaneous manifestations, as well as respiratory episodes. Here, we describe a patient who exhibited sugammadex-induced anaphylactic shock, which began with abdominal symptoms. The patient provided written informed consent for publication of this report. An 18-year-old woman, with height of 163 cm and body weight of 57 kg, was scheduled for extraction of wisdom teeth under general anesthesia. She had American Society of Anesthesiologist physical status I, and reported no history of hypersensitivity. General anesthesia was induced with 120 mg propofol, 0.4 µg/kg/min remifentanyl, and 50 mg rocuronium; the patient was intubated nasally. Sevoflurane and remifentanyl were used to maintain anesthesia. Other administered medications were as follows: 1 g cefazolin, 7.2 ml of 2% lidocaine with adrenaline, and 1 g acetaminophen. The operation was uneventful and lasted 48 min. Upon emergence, 200 mg sugammadex was injected after confirmation of limb movement. Three minutes after sugammadex administration, the endotracheal tube was extubated. The patient then complained of an intense urge to urinate, as well as abdominal pain and nausea. We had already begun to prepare the patient for transfer to the ward; thus, a urine catheter was inserted temporarily on the stretcher, and an expulsion of 100 ml urine was observed. However, the patient continued to complain of severe abdominal pain. Cyanosis of the fingers was observed, and the patient's vital signs were blood pressure: 78/41 mmHg, heart rate (HR): 140 bpm, and peripheral capillary oxygen saturation (SpO₂): 71%. Flushing was observed in the lower limbs. The patient

was conscious and breathing normally without abnormal respiratory sounds; she received a total dose of 40 mg ephedrine, but her vital signs did not stabilize. Flushing extended throughout the body; however, the patient remained conscious and could breathe normally. A total of 0.3 mg adrenaline was administered subcutaneously. Over the next 20 min, the patient's blood pressure improved to 113/53 mmHg, HR improved to 89 bpm, and SpO₂ improved to 99%; she remained conscious. Flushing began to disappear and abdominal pain receded. The patient was transferred to the intensive care unit and measurement of non-specific IgE antibody revealed a concentration of 1919 IU/ml (detection limit: 170 IU/ml). Anaphylaxis was suspected because of her clinical symptoms and the elevated level of non-specific IgE antibody. The patient fully recovered on postoperative day (POD) 1 and was discharged without complications on POD 3. Three months later, skin-prick tests were performed by dermatologists; the results indicated that sugammadex was the causative agent of anaphylaxis.

In this case, anaphylactic shock occurred postoperatively in the operating room before the patient was transferred to the ward. Because her symptoms (e.g., nausea and urge to urinate) are common during emergence from general anesthesia, we overlooked the occurrence of anaphylaxis until we observed cyanosis in her fingers. Sugammadex-induced anaphylaxis typically presents when the patient is already extubated and is undergoing transfer to the hospital ward. In addition, skin manifestations are not easily recognized when the patient is covered with blankets and sedated; in such cases, patients are unable to report pruritus. A previous publication indicated that clinical symptoms of hypersensitivity due to sugammadex generally occurred within 10 min of bolus administration [3]. Thus, patients who receive sugammadex should be observed carefully in the operating room for an

appropriate period of time. Moreover, all staff members in the operating room should be aware of the possibility of anaphylaxis-related postanesthetic abdominal symptoms.

Disclosures

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Declarations of interest

None.

References

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