Acute Angioedema in a Patient Who Received Ketamine and Succinylcholine: A Case Report

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To the Editor: Rapid sequence intubation (RSI), defined as the simultaneous administration of a sedative and a neuromuscular blocking agent, is the preferred method of endotracheal intubation in the emergency department (ED). Although angioedema and anaphylaxis are not common side effects of these drugs, they rarely happen. This report focuses on a 26-year-old woman, a known case of cerebral palsy and epilepsy, who admitted to the ED with complaints of fever and breathing discomfort. The patient had fever, cough, and purulent sputum for 3 days. Drug history included valproate sodium and gabapentin. No allergy to medication had reported. Vital signs on admission were as follows: axillary body temperature -38.9°C, heart rate -122 times/min, respiratory rate -42 times/min, and blood pressure -70/50 mmHg (1 mmHg = 0.133 kPa). Initial room air arterial oxygen saturation (SpO_2) was 73% which to 80% after supplying oxygen administered through a simple face mask. Course crackles could be heard on auscultation on both lungs, especially on the right side. Blood gas analysis showed metabolic acidosis and hypoxemia. After the primary evaluation, we decided to establish a secure airway for the patient to improve oxygenation, prevent energy loss, and decrease the risk of aspiration. Considering the unstable hemodynamic conditions and the lack of etomidate in our ED, we decided to use ketamine plus succinylcholine for induction.

After preoxygenation, intravenous ketamine and succinylcholine were administered. After about 30 s, the patient experienced severe swelling of the face, lips, and tongue so that the tongue completely protruded from the mouth cavity making laryngoscopy impossible. Bag-valve-mask ventilation and maintenance of the arterial oxygen saturation in the desirable level were not successful. Hence, emergency cricothyrotomy, using a 16-gauge angiocatheter, was performed and ventilation through the catheter was started. Then, crystalloid, epinephrine, and hydrocortisone were administered. After about 10 min, the swelling was subsided and laryngoscopy was possible. Therefore, tracheal intubation was performed successfully, and the patient received mechanical ventilation. After that, the patient was admitted to the Intensive Care Unit, and finally, she was discharged home after 12 days.

RSI is the cornerstone of modern emergency airway management. This approach provides optimal intubating conditions and facilitates successful endotracheal intubation.[1] Safe induction of anesthesia can be accomplished with a variety of medications; however, depending on the clinical scenario encountered, some agents might be more appropriate than others.[2] Anaphylaxis during anesthesia is a rare phenomenon but might have life-threatening consequences. The incidence of anaphylaxis during anesthesia has been reported to range from 1/4000 to 1/25,000.[3] If it is not promptly diagnosed and treated, a severe or prolonged reaction can lead to cardiovascular collapse and death. Our case showed the possibility of drug-induced anaphylaxis during RSI. This requires the physician to be vigilant for these possible complications and can manage them appropriately.

Healthcare professionals must be able to recognize the signs of anaphylaxis, treat an episode promptly and appropriately, and provide preventive recommendations.[4]

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Conflicts of interest

There are no conflicts of interest.

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