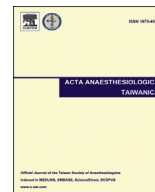




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Acta Anaesthesiologica Taiwanica

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Letter to the Editor

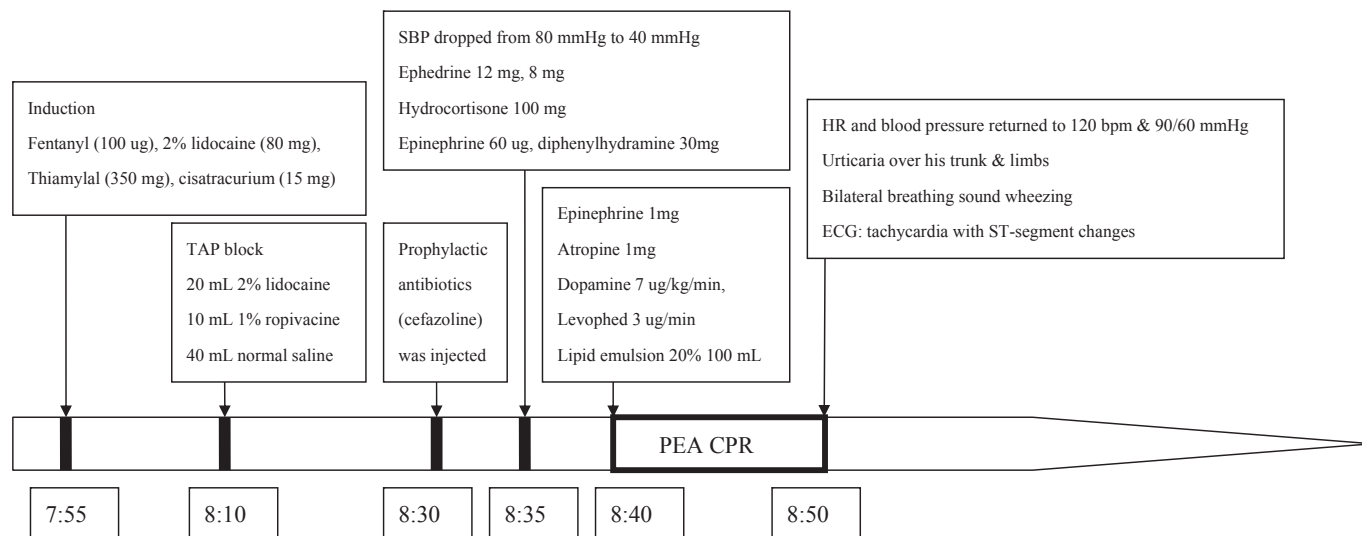
Local anesthetics exacerbate antibiotic-induced anaphylactic shock

To the Editor

A 40-year-old, body weight 71 kg and height 171 cm, male patient with rectal cancer was scheduled for low anterior resection surgery. Anesthesia was induced with fentanyl 100 µg, 2% lidocaine 80 mg, thiamylal 350 mg, propofol 80 mg, and cisatracurium 15 mg to facilitate intubation uneventfully and sevoflurane for maintenance of anesthesia. Bilateral transversus abdominis plane (TAP) block with mixed saline solution (40 mL saline with 400 mg lidocaine and 100 mg ropivacaine) were performed 15 minutes later and a prophylactic antibiotic, cefazoline (Taiwan Biotech Co., Ltd., Taoyuan, Taiwan), was administered 35 minutes later. However, an episode of hypotension occurred 5 minutes after cefazoline administration. The patient turned to pulseless electric activity (PEA) soon although inotropic agents of ephedrine 20 mg and

epinephrine 60 µg bolus given. Cardiopulmonary resuscitation (CPR) started immediately with epinephrine 1 mg, hydrocortisone (100 mg), diphenhydramine (30 mg), dopamine 7 µg/kg/min, and levophed 3 µg/min intravenous administration accordingly for 10 minutes; meanwhile, lipid emulsion 20% 100 mL was infused. During the period of resuscitation, urticaria over his trunk and limbs, bilateral lungs wheezing and tachycardia with electrocardiogram ST-segment changes presented. Patient resumed back his stable hemodynamic and was transferred to intensive care unit (ICU) for further management. Laboratory analysis revealed elevated immunoglobulin E level (70.6 IU/mL) without myocardial injury.

Cefazoline was the most likely trigger agent resulting in perioperative immunoglobulin E-mediated anaphylactic reactions. However, the total doses of lidocaine and ropivacaine was unintentionally administered to exceed the maximum recommended local



bpm = beats per minute; ECG = electrocardiography; HR = heart rate; PEA-CPR = pulseless electric activity-Cardiopulmonary resuscitation; SBP = systolic blood pressure; TAP = transversus abdominis plane.

Figure 1. During anesthesia, bilateral transversus abdominis plane (TAP) block were performed. However, an episode of hypotension attacked 5 minutes after cefazoline administration and turned to pulseless electric activity (PEA) soon. Besides fluid resuscitation and inotropic agents, the 20% intralipid was given immediately. HR and blood pressure returned to 120 bpm and 90/60 mmHg. bpm = beats per minute; ECG = electrocardiography; HR = heart rate; PEA-CPR = pulseless electric activity-Cardiopulmonary resuscitation; SBP = systolic blood pressure; ST = ST-segment; TAP = transversus abdominis plane.

Conflicts of interest: All authors have no conflicts of interest to declare.

<http://dx.doi.org/10.1016/j.aat.2015.09.002>

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Please cite this article in press as: Hu P-Y, et al. Local anesthetics exacerbate antibiotic-induced anaphylactic shock, Acta Anaesthesiologica Taiwanica (2015), <http://dx.doi.org/10.1016/j.aat.2015.09.002>

anesthetic (LA) dosage. Local anesthetic systemic toxicity (LAST) may still occur in procedures of peripheral nerve blocks within the recommended LA dose despite careful attention to needle and catheter placement, within safe dose limits, and without intravascular placement.¹ For TAPs block, the peak plasma level may be reached at 30 minutes postinjection and exceed the therapeutic range.² Excessive dose of local anesthetics increased the incidence of LAST in the present case. An unintended episode of shock resulted in acidosis. Acidosis increased the LAST for a tendency to dissociate lidocaine from protein binding and induced a PEA event. The patient resumed to stable following rapid responses to PEA with inotropes and 20% intralipid (Figure 1). Therefore, in a patient undergoing peripheral nerve block under general anesthesia, unstable hemodynamic episode should administer inotropes and intralipid 20% as soon as possible to prevent LAST from rapidly hemodynamic exacerbation.^{3,4}

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