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【 LETTERS TO THE EDITOR 】

Response to the Letter to the Editor Entitled "Appropriate Strategy for Preventing Bradycardia-induced Cardiac Arrest by Dexmedetomidine"

Key words: asystole, adverse event, bradycardia, dexmedetomidine, endoscopic submucosal dissection, sedation

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The Authors Reply We thank Dr. Izumida and Dr. Imamura for their interest in our article (1) and for their comments. We completely agree with their first comment concerning the loading dose of dexmedetomidine (DEX). As some studies have reported (2, 3), a loading dose of DEX can cause instability of the cardiovascular system. The loading dose of DEX was administered following the manufacturer's instructions for use at that time. Although our patient was elderly, laboratory data showed that his hepatic and renal function were within normal limits. We therefore administered the loading dose of DEX to this patient according to the manufacturer's instructions. However, we discontinued loading dose administration in all other patients following this experience. The manufacturer's instructions for use still recommend implementation of a loading dose. We hope that the manufacturer improves their instructions for use, as we are concerned that severe complications may occur, as in our case. Furthermore, since elderly patients may have latent cardiovascular, hepatic, and renal dysfunction, we should always consider such latent organ dysfunction even if the laboratory data do not suggest any such abnormalities.

The last concern described in the letter also troubled us. The patient's first electrocardiogram (ECG) after resuscitation showed ST-segment elevation at II, III, and aVf. Although we performed an ECG several times during admission, the ECG normalized the next day, and no abnormalities were observed after that. Izumida et al. suggested that DEX might cause coronary spasms. ST segment changes can occur not only due to coronary spasms induced by DEX but also following catecholamine administration during resuscitation. In addition, takotsubo cardiomyopathy may have resulted from emotional or physical stressors caused by endoscopic submucosal dissection. Although we believed the cardiac arrest in our patient to have been caused by DEX-induced bradycardia, the reason for the observed ST segment changes and left ventriculography, similar to takotsubo cardiomyopathy, remains unclear.

The authors state that they have no Conflict of Interest (COI).

Tomoaki Yamasaki, Yuhei Sakata, Takehisa Suekane and Hiroko Nebiki

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Department of Gastroenterology, Osaka City General Hospital, Japan
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Correspondence to Dr. Tomoaki Yamasaki, tomorrow_aaa@yahoo.co.jp
