



REVISTA BRASILEIRA DE ANESTESIOLOGIA

Official Publication of the Brazilian Society of Anesthesiology
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CLINICAL INFORMATION

The development of ventricular fibrillation due to etomidate for anesthetic induction: a very rare side effect, case report

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Received 28 February 2013; accepted 10 June 2013

Available online 16 October 2013

KEYWORDS

Etomidate;
Induction of
anesthesia;
Ventricular
fibrillation

Abstract

Background and objectives: Ventricular fibrillation occurring in a patient can result in unexpected complications. Here, our aim is to present a case of ventricular fibrillation occurring immediately after anesthesia induction with etomidate administration.

Case report: A fifty-six-year-old female patient with a pre-diagnosis of gallstones was admitted to the operating room for laparoscopic cholecystectomy. The induction was performed by etomidate with a bolus dose of 0.3 mg/kg. Severe and fast adduction appeared in the patient's arms immediately after induction. A tachycardia with wide QRS and ventricular rate 188 beat/min was detected on the monitor. The rhythm turned to VF during the preparation of cardioversion. Immediately we performed defibrillation to the patient. Sinus rhythm was obtained. It was decided to postpone the operation due to the patient's unstable condition.

Conclusion: In addition to other known side effects of etomidate, very rarely, ventricular tachycardia and fibrillation can be also seen. To the best of our knowledge, this is the first case regarding etomidate causing VF in the literature.

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PALAVRAS-CHAVE

Etomidato;
Indução da anestesia;
Fibrilação ventricular

Desenvolvimento de fibrilação ventricular por causa de etomidato para indução anestésica: um efeito colateral muito raro, relato de caso

Resumo

Justificativa e objetivos: A ocorrência de fibrilação ventricular em um paciente pode resultar em complicações inesperadas. Nosso objetivo é apresentar um caso de fibrilação ventricular que ocorreu após a indução anestésica com administração de etomidato.

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Relato de caso: Paciente do sexo feminino, 56 anos, com pré-diagnóstico de cálculos biliares, foi admitida na sala de cirurgia para colecistectomia laparoscópica. A anestesia foi induzida com a administração de etomidato com uma dose em bolus de 0,3 mg/kg. A paciente apresentou uma grave e rápida adução dos braços logo após a indução. Taquicardia com QRS largo e frequência ventricular de 188 bpm foram detectadas no monitor. O ritmo converteu-se em fibrilação ventricular (FV) durante a preparação para a cardioversão. A paciente foi imediatamente submetida a desfibrilação. O ritmo sinusal foi obtido. Decidimos adiar a cirurgia por causa da condição de instabilidade da paciente.

Conclusão: Além dos efeitos secundários conhecidos de etomidato, taquicardia ventricular e fibrilação, embora muito raramente, também podem ser observadas. Até onde sabemos, esse é o primeiro caso na literatura de FV causado por etomidato.

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Introduction

Ventricular fibrillation (VF) is a cardiac pathology in which the ventricle is completely chaotic and does not contract effectively. VF can cause very serious endpoints. Etomidate is a hypnotic agent that has a stable cardiovascular profile and results in minimal respiratory side effects. For this reason, it is commonly preferred for the induction of anesthesia in hemodynamically unstable patients.¹

The reported side effects related to etomidate are myoclonus, vomiting, pain on injection site, and adrenocortical suppression.²

In rare cases, other adverse effects regarding etomidate have been mentioned. In the current report, we aimed to present a case in which VF developed during induction with etomidate in a patient underwent laparoscopic cholecystectomy due to gallstones. In the literature, this is the first report investigating this association.

Case report

A fifty-six-year-old female patient with a pre-diagnosis of gallstones was admitted to the operating room for laparoscopic cholecystectomy. The patient's history of hypertension with the irregular use of an antihypertensive drug was known during the pre-anesthesia evaluation. Routine biochemical and hematological tests were normal. ECG was in normal sinus rhythm (Fig. 1), heart rate was 74 beats/min, PA chest X-ray was normal, and considered ASA II. The patient was monitored, and the initial arterial blood pressure (BP): 140/110 mmHg, heart rate: 118 beats/min, presence of sinus tachycardia rhythm, and peripheral oxygen saturation (SpO₂): 98% were detected.

The induction was performed by etomidate (ETOMIDATE Lipuro® B. Braun Melsungen AG, Berlin-GERMANY) with a bolus dose of 0.3 mg/kg. Severe and fast adduction appeared in the patient's arms immediately after induction. Myoclonic

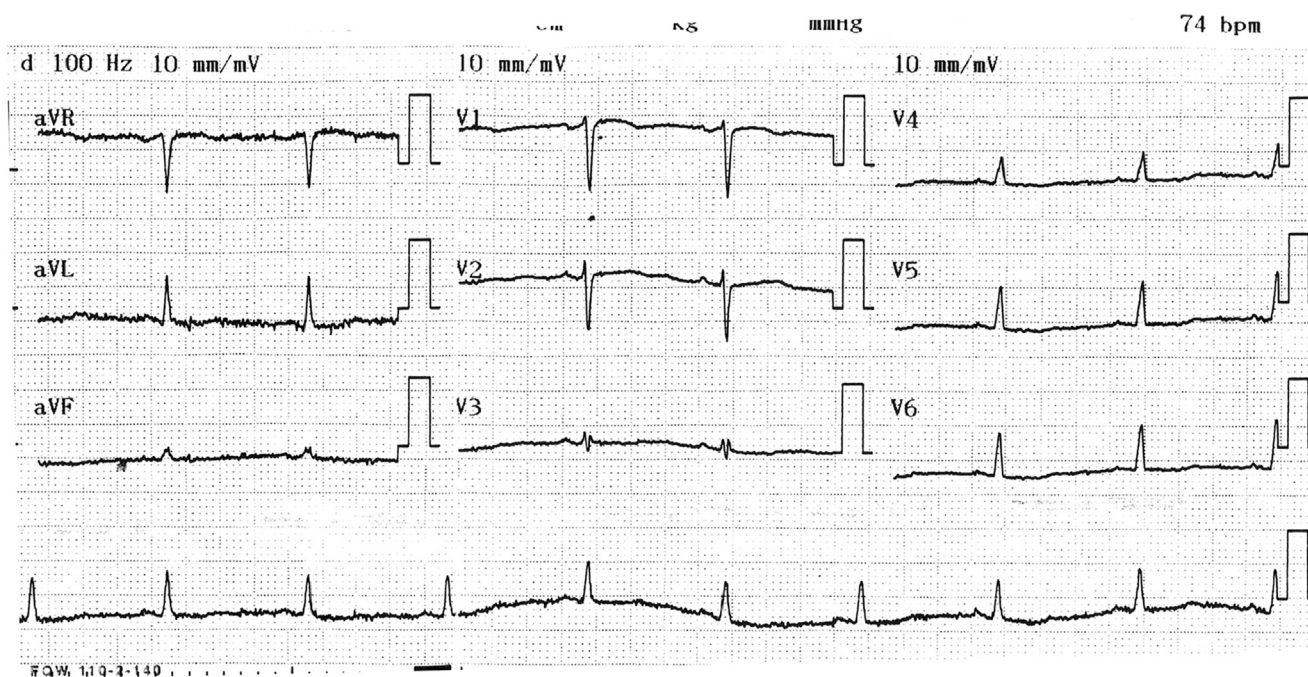


Figure 1 Preanesthetic ECG Image.

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