

中文題目：甲氧氯普胺誘導之突發性心跳停止

英文題目：Metoclopramide-induced sudden cardiac death in a patient with systemic sclerosis

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Introduction

Metoclopramide is a prokinetics commonly prescribed for nausea and vomiting. However, it may carry a risk of lethal arrhythmia in some situations. Herein, we report a case of ventricular fibrillation, highly-suspected induced by metoclopramide.

Case report

A 27 year-old male patient with systemic sclerosis was hospitalized for sepsis from intra-abdominal infection and decompensated heart failure. Echocardiogram disclosed moderate amount of pericardial effusion. After pericardiocentesis and daily intravenous furosemide, dyspnea improved gradually.

Patient's condition remained unstable in the following 18 days of his hospitalization but the dyspnea gradually improved. However, on day 18, patient developed severe nausea that resulted in vomiting and difficulty of diet feeding. Therefore, intravenous metoclopramide was administered rapidly via central venous catheter. Five minutes after the injection, patient complained about heart-burning sensation and palpitation. He lost his consciousness immediately after the complaint and was found pulseless. Electrocardiogram showed ventricular fibrillation. No resuscitation was performed due to the declaration of "Do Not Resuscitate".

Discussion

Cardiac arrhythmias are not uncommon in patients with systemic sclerosis. Among these disturbances, premature ventricular beat is the most frequent, while sudden cardiac death is 5-21%. However, considering the dramatic change after metoclopramide infusion, medication-induced arrhythmia should be highly suspected.

Metoclopramide has been reported to cause lethal ventricular arrhythmia. One of the possible explanations is its structural similarity to procainamide. By blockade of outward K current channel(I_{Kr}) of cardiac myocyte, metoclopramide may induce QT interval prolongation and then torsades de pointes(TdP). The risk factors of drug-induced TdP included heart failure, high drug concentration, and rapid rate of intravenous infusion.

In conclusion, metoclopramide, a potentially QT-prolonging drug, should be used with caution, especially administered via central venous line in patients with heart failure.