TORSADES DE POINTES ASSOCIATED WITH MOXIFLOXACIN AND HALOPERIDOL IN A PATIENT WITH ALCOHOLIC LIVER CIRRHOSIS

Yan YH, Fan PS, Chen CK , Hsu GJ, Hua SC, Lin MS
Department of Internal Medicine, Chia-Yi Christian Hospital, Chiayi, Taiwan

BACKGROUND: Many noncardiovascular drugs cause repolarization time prolongation and increasing the risk of torsade de pointes (TdP). Fluoroquinolones are widely used and well tolerated antibiotics. However, the major adverse event is associated with prolongation of the corrected QT (QTc) interval. Moxifloxacin carries the greatest risk of QTc prolongation in all available quinolones. Haloperidol is the most common antipsychotics for acute delirium and psychosis in critically ill patients and associated with cardiovascular side effects including hypotension, prolongation of QTc interval and TdP. We report a case of TdP in a patient with liver cirrhosis receiving moxifloxacin and haloperidol.

CASE SUMMARY: A 45-year-old man with alcoholic and viral hepatitis B related liver cirrhosis was admitted to the hospital for pneumonia and antibiotics therapy receiving intravenous moxifloxacin 400mg daily. Intravenous haloperidol and benzodiazepine for the treatment of severe delirium tremens (DTs) were given for alcohol withdrawal syndrome. ECG revealed QTc interval prolongation after administration of three doses of moxifloxacin and developed TdP five minutes after a dose of intravenous haloperidol 5 mg administration (total dosage 20 mg over 3 days). He was converted to normal sinus rhythm after defibrillation, intravenous magnesium sulfate and antiarrhythmic agents. Moxifloxacin and haloperidol were discontinued, and the man's QTc interval subsequently returned to baseline.

CONCLUSIONS: The development of TdP is a patient-specific response to a repolarization-prolonging drug, depending on the repolarization reserve. In patients with underlying risk factors for a prolonged QTc interval, the use of moxifloxacin can lengthen the interval further and ultimately trigger episodes of TdP. In particular, TdP has been proved associated with haloperidol administration. Risk can be reduced by avoiding prescriptions of multiple medications associated with QTc interval prolongation, especially in high-risk patients.

KEYWORDS: Torsades de pointes, Moxifloxacin, Haloperidol, Liver cirrhosis