

Ofloxacin 투여 중 Torsades de Pointes 및 급성 심근 경색과 유사한 심전도를 보인 환자 1예

김정호 · 남기병 · 임재민 · 허진원 · 김선영 · 이경석 · 최기준 · 김유호

A Case of Ofloxacin-induced Torsades de Pointes and Abnormal ECG Change Mimicking Acute Myocardial Infarction

Jung-Ho Kim, MD, Gi-Byoung Nam, MD, Jae-Min Lim, MD, Jin-Won Huh, MD, Sun Young Kim, MD, Kyoung-Suk Rhee, MD, Kee-Joon Choi, MD and You-Ho Kim, MD

Department of Internal Medicine, Ulsan University College of Medicine, Asan Medical Center, Seoul, Korea

ABSTRACT

While some fluoroquinolone antibiotics can cause QT prolongation and Torsades de Pointes (TdP), serious proarrhythmic effects from ofloxacin have not been reported. Here, we report a case of ofloxacin-induced Torsades de Pointes with abnormal ECG changes, mimicking acute myocardial infarction. A 68-year-old man developed syncope following hospital admission for the treatment of pulmonary tuberculosis. TdP and marked QT prolongation (QT = 0.44 sec, QTc = 0.62 sec) were noted, with no remarkable serum electrolyte abnormality. The QT prolongation was followed by ST segment elevation, mimicking acute myocardial infarction. After discontinuation of ofloxacin, the QT interval shortened to 0.336 sec (QTc = 0.481 sec), with no recurrence of TdP, although the QT interval remained mildly elevated during the hospital course. From this case, we propose that care should be taken in the use of ofloxacin, especially in patients susceptible to TdP. (**Korean Circulation J 2002;32(9):815-819**)

KEY WORDS : Ofloxacin ; Torsades de pointes ; Myocardial infarction.

서론

QT prolongation, Torsades de Pointes (TdP), and acute myocardial infarction (AMI) are serious complications of fluoroquinolone antibiotics. QT prolongation and TdP have been reported with ciprofloxacin, ofloxacin, and levofloxacin. However, the incidence of TdP with ofloxacin is very low. In this case, a 68-year-old man developed syncope following hospital admission for the treatment of pulmonary tuberculosis. TdP and marked QT prolongation (QT = 0.44 sec, QTc = 0.62 sec) were noted, with no remarkable serum electrolyte abnormality. The QT prolongation was followed by ST segment elevation, mimicking acute myocardial infarction. After discontinuation of ofloxacin, the QT interval shortened to 0.336 sec (QTc = 0.481 sec), with no recurrence of TdP, although the QT interval remained mildly elevated during the hospital course. From this case, we propose that care should be taken in the use of ofloxacin, especially in patients susceptible to TdP. (**Korean Circulation J 2002;32(9):815-819**)

KEY WORDS : Ofloxacin ; Torsades de pointes ; Myocardial infarction.

quinolone ofloxacin 2 fluoro-
QT
가 TdP
가
ofloxacin (INH, RFP,
EMB, PZA) QT TdP
1

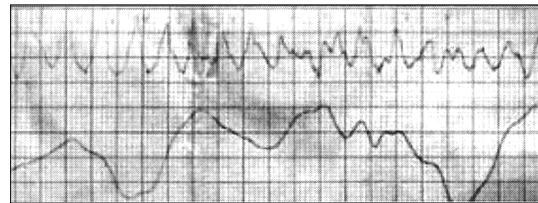


Fig. 1. Torsades de Pointes. ECG taken before DC cardioversion revealed polymorphic ventricular tachycardia.

x-ray가

증례

68 가 5
X-ray
AFB 4 (INH,
RFP, EMB, PZA)
3
20 1
가
137/75 mmHg, 109 / ,
22 / , 37.7
(crackle)
가(22,100/mm³)
7.9 mg/dL, 2.3
g/dL, 223 IU/L,
1.7 mg/dL 119 mEq/
L, 2.7 mEq/L
X-ray 가
1.5 cm
(105 /) QTc
0.50 (QT = 0.38)

PZA, EMB
가 INH, RFP
2 ofloxacin(: Tarivid®) kana-
mycin 가
MRSA(methicillin - resistant *Staphylococ-*
cus aureus) vancomycin 2 가

200 J
(Fig. 1). 3.6
mEq/L, 1.98 mEq/L, 8.3 mg/dL
900 mg
4 g
, QT 0.44 , QTc
0.62 (Fig. 2)
4.84 mEq/L, 3.4 mEq/L, 6.9
mg/dL, 1.8 g/dL
V₁₋₆, I, aVL
10 mm ST , II, III, aVF ST
urokin-
ase nitrate (Fig. 3). ST
4
CK : 97 U/L(: 50~250 U/L), CK -
MB : 1.3 U/L(: 1~16 U/L), Troponin - I :
ng/mL(<1.5 ng/mL)
(CK : 102 U/L, CK - MB : 1.0 U/L, Troponin - I :
0.6 ng/mL) (CK : 81 U/L, CK - MB : 3.0 U/L)

INH, RFP, ofloxacin, kanamycin, zan-
tac, megace(megestrol acetate,
, lasix, K - contin, cough syrup, ledermycin(demeclo-
cycline SIADH
, vancomycin . QT
fluoroquinolone
QT TdP

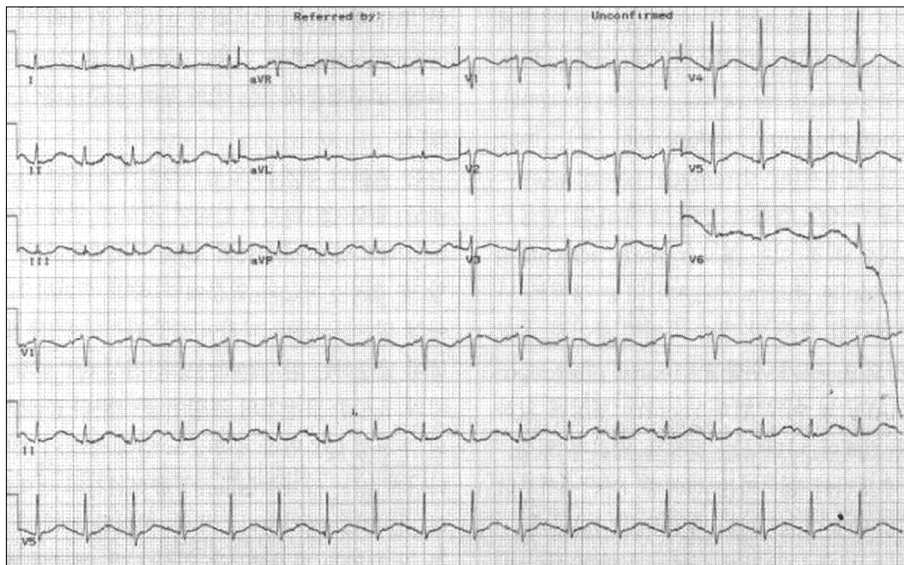


Fig. 2. Post-resuscitation ECG. After resuscitation, ECG showed markedly prolonged QT and QTc intervals (0.44 and 0.62 sec, respectively).

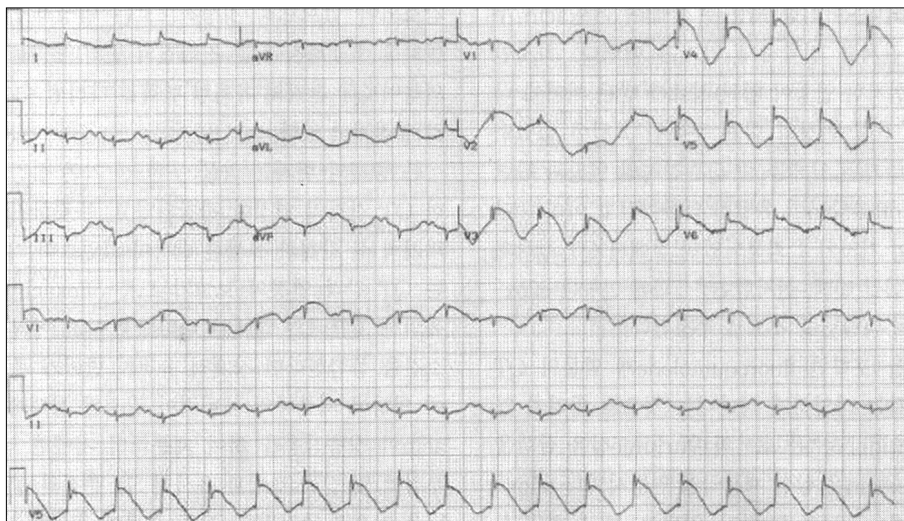


Fig. 3. Abnormal ECG change mimicking acute myocardial infarction. At intensive care unit, the patient complained of atypical chest pain with marked ST-T wave changes (10 mm ST segment elevation in leads V₁₋₆, I, aVL and ST segment depression in leads II, III, aVF).

가 , QT 고 찰
가 ofloxacin QT QT QT
ST QT
, 2
0.336 (QTc=0.481) TdP (, ,), (,
, (,
(, liquid protein)

(class nini ⁶⁾ levofloxacin TdP
 IA, class III), (terfenadine, astemizole), QT fluoroquinolone
 (tetra/tricyclic antidepressant), (class effect) ,
 (phenothiazine, haloperidol), macrolide
 (erythromycin, clarithromycin) ¹⁷⁾ QT
 TdP QT
 (rapidly activating delayed rectifier K ch- QT 가
 annel, I_{Kr}) ,
 가 , QT
 (early afterdepo - larization, EAD) QT
 reentry , QT
¹⁾ ,
 , (silent)
 , ⁹⁻¹³⁾ ,
 QT 가 ,
 , (repolarization reserve)
 , ofloxacin QT
 , QT , QT
 , QT 가
 QT ofl- QT
 oxacin QT ofloxacin QT
 , ST - T ofloxacin 가 ofloxacin QT
 , 가 ofloxacin
 Ofloxacin fluoroquinolone QT ofloxacin
 ,
 . Adamantidis ⁸⁾ Purkinje ST
 sparfloxacin ofloxa- ST
 cin levofloxacin . Kang 가 urokinase
²⁾ HERG ST 4
 fluoroquinolone HERG 가
 QT 가
 levofloxacin, ciprofloxacin, ofloxacin ST - T
 가 ¹⁴⁾ ,
 . Samaha ⁵⁾ levofloxacin fluoroquinolone QT
 QT TdP 가
 가 () ofloxacin
 . Ian- 가

요 약

Fluoroquinolone
 sparfloxacin, grepafloxacin
 fluoroquinolone QT
 Torsades de pointes
 ofloxacin TdP
 ofloxacin
 (INH, RFP, EMB, PZA) QT
 TdP
 1

중심 단어 : Ofloxacin ; Torsades de pointes ;

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