

## P-47

### A self-poisoning patient with fever, conscious change, ventricular tachycardia and hypotension

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**Objective:** Self-poisoning with multiple drugs is not uncommon in psychiatric patients. A 12-lead ECG is a non-invasive, inexpensive, and readily available tool to unveil some occult but lethal cardiac conduction abnormality induced by multiple drugs poison. We present a self-poisoning patient with fever, conscious change, ventricular tachycardia and hypotension. A 12-lead ECG leads to the correct diagnosis and proper treatment.

**Case Report:** A 42-year-old man with medical history of major depression was sent to emergency department of a regional hospital by paramedics for being drowsy in the morning. Paramedics said he might take about 400 hypnotics last night. Vital sign in triage revealed body temperature of 39.1 centigrade Celsius, heart rate of 152 beat per minute, blood pressure of 97/58 mmHg, Glasgow coma scale of E1V1M1, and pupillary light reflex of 5/5. Physical examination showed crackles over bilateral lung field, no myoclonus nor fasciculation over extremities, and no diaphoresis of skin. He received 0.5 mg flumazenil and general convulsion occurred within 1 minute. His wife presented and said he may have 400# of Bupropion. The ECG monitor showed wide QRS tachycardia and the 12-lead ECG confirmed ventricular tachycardia. He received 96 mEq i.v. NaHCO<sub>3</sub>, 100 mg i.v. lidocaine, and 250 ml of 10% fat emulsion. ECG finding changed to sinus rhythm. Influenza test was positive for influenza A. Chest x-ray showed right low lobe pneumonia. After intubation, he was transferred to medical center. Another 12-lead ECG revealed right axis deviation of the terminal R wave, interventricular conduction delay, and QT prolong. Overdose of Bupropion mixing with tricyclic antidepressants was considered. After continuous sodium bicarbonate & sedation infusion, he recovered 5 days later. Finally, he confirmed the ingestion of 45 tablets of 150 mg Bupropion, 30 tablets of 25 mg amitriptyline, and over 400 tablets of 2mg clonazepam.

**Conclusion:** Self-poisoning with multiple drugs is common in the daily practice of emergency department. Bupropion, as a K-Channel blocker, may induce ECG finding of QT prolong and Torsade de pointes[1]. Tricyclic antidepressants, as a Na-channel blocker, may present with wide QRS, right axis deviation of terminal QRS on aVR, ventricular tachycardia and ventricular fibrillation[2]. ECG may lead to early diagnosed and correct treatment.

#### Reference:

1. Curry, S.C., et al., Intraventricular conduction delay after bupropion overdose. *J Emerg Med*, 2005. 29(3): p. 299-305.
2. Yates, C. and A.F. Manini, Utility of the electrocardiogram in drug overdose and poisoning: theoretical considerations and clinical implications. *Curr Cardiol Rev*, 2012. 8(2): p. 137-51.