

Hospitals should be aware of rare, life-threatening heart rhythm

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(PhysOrg.com) -- Hospital care providers need to be more aware that cardiac arrest from a medication-induced heart rhythm problem is a rare but potentially catastrophic event in patients, according to a joint scientific statement from the American Heart Association and American College of Cardiology.

The statement, published online in *Circulation: Journal of the American Heart Association* and *Journal of the American College of Cardiology*, is endorsed by the American Association of Critical-Care Nurses.

The rhythm disturbance, called Torsade de Pointes (TdP), has a characteristic electrocardiogram (ECG) pattern described as a “twisting” of points on the read-out. The abnormal rhythm is associated with a drop in blood pressure, which can lead to fainting. TdP may also lead to a more serious rhythm disturbance called ventricular fibrillation, which may cause [sudden cardiac arrest](#). TdP is a special concern for patients in intensive care units (ICU).

Medicines that prolong the heart’s Q-T interval increase the risk for TdP. The Q-T interval is a measurement on an ECG that represents the time for electrical activation and inactivation of the ventricles, the lower chambers of the heart.

“This scientific statement is particularly important for healthcare professionals who administer QT-prolonging drugs in hospital units where patients have continuous ECG monitoring such as in ICUs,” said

Barbara J. Drew, R.N., Ph.D., chair of the statement writing committee. “If the ECG warning signs of TdP are recognized on the patient’s cardiac monitor, then TdP and subsequent cardiac arrest should be avoidable.”

Patients who require continuous ECG monitoring frequently have multiple risks for TdP such as electrolyte imbalances and kidney problems, and are more likely to receive medications intravenously, added Drew, who is a professor of nursing and cardiology at the University of California in San Francisco.

The tell-tale signs of TdP often occur an hour or so before ventricular fibrillation and can be corrected with quick action, thus avoiding full cardiac arrest.

Risk factors for TdP include:

- Heart rhythm abnormalities such as long Q-T syndrome (diagnosed by ECG)
- Use of medicines that cause long Q-T syndrome, especially those given intravenously (most commonly: antibiotics, antipsychotics, antiarrhythmia drugs)
- Heart disease
- Advanced age
- Female gender
- Low blood levels of calcium, potassium or magnesium
- Diuretic use
- Kidney problems

The statement suggests continuous ECG monitoring for at-risk patients, lists the drugs and drug combinations most likely to cause TdP, and provides guidance for managing drug-induced long Q-T syndrome and immediate treatment for TdP.

Provided by American Heart Association

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