Long QTc Syndrome

Long QTc Syndrome is a disorder of the heart's electrical conduction system. It is not a disease by itself, but it is a condition of many different things that can affect the heart's electrical system. Long QTc affects a process called *repolarization*. Repolarization allows the heart to recharge itself after each heartbeat. In Long QTc syndrome, the heart takes longer to recharge, which can lead to:

- A very fast heart rhythm (arrhythmia).
- Fainting (syncope).
- Sudden death.

PEOPLE AT RISK

- Those who are born deaf.
- Children and young adults whose family members have experienced unexplained fainting or sudden cardiac death.
- Taking certain medications.
- If you are a person that has been diagnosed with Long QTc syndrome, heart arrhythmias may also be provoked by:
  - Exercise.
  - Intense emotional stress.
  - Sudden, loud noises.

CAUSES

Long QTc syndrome can be caused by many different things. It can be an acquired or a congenital condition:

I. Acquired: This may be associated with:

- Abnormal electrolyte levels such as:
  - Low potassium levels.
  - Low magnesium levels.
- Medications such as:
  - Antihistamines.
  - Antidepressants/psychotropic drugs.
  - Antiarrhythmics.
  - Antibiotics/Antifungals/Antivirals.
  - Some GI (*gastrointestinal*) medications such as Propulsid.
  - Diuretics.
  - Some high blood pressure medications.
  - Some cholesterol lowering medications.
  - Certain migraine medications.

II. Congenital:

There are some genetic conditions that can cause Long QTc syndrome, such as:

- Jervell-Lange-Nielsen Syndrome. This is an autosomal recessive gene and is associated with deafness at birth.
- Romano Ward Syndrome. This is an autosomal dominant gene. It is not associated with deafness at birth.

DIAGNOSIS

Different kinds of tests can be used to diagnose Long QTc syndrome. These include:

- Obtaining a complete family history.
- Electrocardiogram (ECG): An ECG records the heart's electrical activity.
- Holter Monitoring: This is a monitor that you wear. It records your heart beat and can help diagnose heart arrhythmias.
- Stress Testing: A stress test can produce a Long QTc syndrome either by exercise or by giving medicine that makes the heart beat faster.

- Some genetic tests may be able to diagnose Long QTc syndrome.

TREATMENT

Long QTc syndrome may need to involve different treatment methods, such as:

- Correct any medications that may be the cause.
- Correct abnormal electrolyte levels.
- Correct abnormal thyroid levels.
- Heart medications such as Beta Blockers can be help treat the syndrome.
- An ICD defibrillator. If you develop a fast heart rate that does not go away or that comes and goes, you may need an ICD. This is an implantable device that can shock a fast heart rate into a normal heart rhythm.

SEEK IMMEDIDIATE MEDICAL CARE IF:

- You have chest pain that feels like squeezing or pressure.
- Faint or pass out.
- Feel your heart racing or skipping beats.
- Have shortness of breath.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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