



ADULT POLYMORPHIC TACHYCARDIA WIDE (≥ 0.12 SEC) TORSADES DE POINTES

History

- Age
- Past medical history (MI, Angina, Diabetes, post menopausal)
- Recent physical exertion
- Palpitations, irregular heart beat
- Time (onset /duration / repetition)

Signs and Symptoms

- Chest pain, heart failure, dyspnea
- AMS
- Shock, poor perfusion, hypotension
- Pale, diaphoresis
- Shortness of breath
- Nausea, vomiting, dizziness

Differential

- Cardiac arrest
- Sinus Tachycardia vs. dysrhythmia
- Fever, sepsis, infection
- Pericarditis, pulmonary embolism
- Aortic dissection or aneurysm
- Overdose

**Assess tachycardia in context of clinical condition
Identify and treat underlying cause of tachycardia**

P Cardiac Monitor

**Unstable / Serious Signs and Symptoms
HR Typically ≥ 150**
Hypotension, Acute AMS, Ischemic Chest Pain,
Acute CHF, Seizures, Syncope, Poor Skin Signs,
or Shock secondary to tachycardia

YES

Defibrillation Procedure

Consider Sedation Prior to Cardioversion
MIDAZOLAM
2 – 2.5 mg IV / IO, 5 mg IM / IN
May repeat as needed
(Maximum 10 mg)

Wide and Irregular: 200J

Polymorphic QRS (Not-Synchronized)

May repeat cardioversion attempts

NO

B 12 Lead ECG Procedure
IV or IO Access Protocol UP 6

Pulse Present?

YES

P Consider consultation with medical control

NO

Exit to
Cardiac Arrest
Protocol AC 3

QT Interval < 500 msec

QT Interval > 500 msec

P

AMIODARONE
150 mg in 50 mL of NS IV / IO
Infuse over 10 minutes
May repeat if tachycardia recurs or persists

Or

LIDOCAINE
1 – 1.5 mg/kg IV / IO
If refractory, may repeat
0.75 mg/kg IV / IO
(Maximum 3 mg/kg)

Monitor and Reassess

P

Consider
MAGNESIUM SULFATE
2 g IV / IO
over 5-10 minutes
May repeat
(Maximum 4 g)

Monitor and Reassess

Polymorphic QRS:
QRS complexes in a single lead
will change shape from complex
to complex.

**Notify Destination or
Contact Medical Control**

Adult Cardiac Protocol Section



ADULT POLYMORPHIC TACHYCARDIA WIDE (≥ 0.12 SEC) TORSADES DE POINTES

AMIODARONE INFUSION INSTRUCTIONS

DOSE: 150 mg/50 mL infused over 10 minutes

- Inject 150 mg of Amiodarone into 50 mL Normal Saline bag
- Using a 10 gtt IV set, administer 50 gtt/minute

MAGNESIUM SULFATE INFUSION INSTRUCTIONS

*DOSE: 2 g infused over 10-20 minutes
Packaged 4 g/100 mL BAG or 5 g/10 mL VIAL*

- Remove 50 mL (2 g) from 100 mL (4 g) bag of Magnesium Sulfate
 - Reserve withdrawn 50 mL (2 g) in case repeat dose is needed
- OR**
- Withdraw 2 g from vial and inject into 50 mL Normal Saline bag
 - Using a 10 gtt IV set, administer 50 gtt/minute

Pearls

- **Recommended Exam: Mental Status, Skin, Neck, Lung, Heart, Abdomen, Back, Extremities, Neuro**
 - **Most important goal is to differentiate the type of tachycardia and if STABLE or UNSTABLE and SYMPTOMATIC.**
 - **12-Lead ECG:**
 - 12 Lead ECG not necessary to diagnose and treat
 - Obtain when patient is stable and/or following rhythm conversion.
 - **Monomorphic QRS:**
 - All QRS complexes in a single lead are similar in shape.
 - **Polymorphic QRS:**
 - QRS complexes in a single lead will change shape from complex to complex.
 - **Rhythm should be interpreted in the context of symptoms and pharmacological or electrical treatment given only when symptomatic, otherwise monitor and reassess.**
 - **Unstable condition**
 - Condition which acutely impairs vital organ function and cardiac arrest may be imminent.
 - If at any point patient becomes unstable move to unstable arm in algorithm.
 - **Symptomatic condition**
 - Arrhythmia is causing symptoms such as palpitations, lightheadedness, or dyspnea, but cardiac arrest is not imminent.
 - Symptomatic tachycardia usually occurs at rates ≥ 150 beats per minute. Patients symptomatic with heart rates < 150 likely have impaired cardiac function such as CHF.
 - **Serious Signs / Symptoms:**
 - Hypotension. Acutely altered mental status. Signs of shock / poor perfusion. Chest pain with evidence of ischemia (STEMI, T wave inversions or depressions.) Acute congestive heart failure.
 - Search for underlying cause of tachycardia such as fever, sepsis, dyspnea, etc.
 - Typical sinus tachycardia is in the range of 100 to (220 – patients age) beats per minute.
 - If patient has history or 12 Lead ECG reveals Wolfe Parkinson White (WPW), DO NOT administer a Calcium Channel Blocker (e.g., Diltiazem) or Beta Blockers. Use caution with Adenosine and give only with defibrillator available.
 - **Polymorphic / Irregular Tachycardia:**
 - This situation is usually unstable and immediate defibrillation is warranted.
 - If QT length is known, use for decision-making. Prolonged QT length defined as > 500 msec.
 - QT length < 500 msec:
 - Arrhythmia more likely related to ischemia or infarction and Magnesium not likely helpful.
 - May quickly deteriorate into Ventricular Fibrillation.
 - Even when terminated by defibrillation, may recur, so follow with medication therapy.
 - QT prolongation > 500 msec:
 - Magnesium more likely to be helpful.
- Document all rhythm changes with monitor strips and obtain monitor strips with each therapeutic intervention.