Ventricular Tachycardia (with pulses)

Signs and Symptoms

- Ventricular Tachycardia on ECG (Runs or Sustained)
- Conscious, rapid pulses
- Chest pain, shortness of breath
- Dizziness/syncope
- Palpitations
- HR usually 150-160 bpm, may be much higher in peds.
- QRS > 0.12 seconds
- AICD shocks delivered

History

- Medications, diet, drugs
- Syncope/near syncope
- AICD/pacemaker
- Previous cardiac event

Differential

- SVT/afib with aberrant conduction
- Artifact/device failure
- Acute coronary syndrome
- Endocrine/metabolic
- Hyperkalemia
- Drugs
- Pulmonary
- Torsades de Point

WARNINGS

! Exercise judgment and caution when sedating unstable patients and do not delay cardioversion.

! In patients with a perfusing rhythm, caution must be exercised to not administer **Amiodarone (Cordarone®)** in less than 10 min. as it may result in bradycardia/hypotension.

! Do not delay cardioversion in unstable patients. If difficulty securing IV access, may proceed directly to cardioversion.

Care: Adults and Pediatrics

I P

Follow general directive #3, Orders for all Patients

! Establish an IV of **Normal Saline** and infuse at a rate of KVO.

Initiate cardiac monitoring.

Is patient unstable? ("Pre-arrest" with decreased level of consciousness or hypotension/poor perfusion)

No

I P

Perform 12 Lead ECG. Transmit 12 lead and consult with medical control regarding rhythm. If suspect SVT/Afib with aberrancy, refer to Cardiac Emergencies Protocol # 8. If suspect V-Tach:

I P

Administer

! **Amiodarone** (**Cordarone®**) **5mg/kg** up to150 mg SLOW IV (over 10 min.)

If no response:

I P

Repeat the dose once of

! **Amiodarone** (**Cordarone®**) SLOW IV (over 10 min.)

After conversion perform 12-Lead ECG.

Yes

I P

! Consider **Midazolam** (**Versed®**) **0.05mg/kg** up to 2.5 mg IV if the patient is conscious.

I P

Administer escalating synchronized cardioversion at **0.5J/kg then 1-2J/kg PRN**. Adults use100J, 200J, 300J, 360J PRN.

I P

If the rhythm persists, the patient remains unstable and there is a high suspicion of Torsades de Pointes (polymorphic V-Tach), Consider **Magnesium Sulfate** **25mg/kg** up to 2 grams IV drip over 10 minutes.

After conversion perform 12-Lead ECG.

Pearls

- Consider **Midazolam** (**Versed®**) IM for sedation if unable to secure IV access or patient condition dictates.
- For witnessed/monitored ventricular tachycardia, try having the patient cough.
- Engage the synchronizer prior to each cardioversion attempt for monomorphic VT. If unable to synchronize, use unsynchronized defibrillation dose.
- Check the patient's pulse and cardiac rhythm following each cardioversion attempt.
- If the patient does not have an "R" wave discernable from the "T" wave, use defibrillation starting at 100 Joules.
- When administering, **Magnesium Sulfate** for adults: mix 2 grams in 250 ml NaCl to run wide open using a microdrip (60 gtts/ml) set over 10 min.
- If presumed hyperkalemia (renal failure, dialysis, etc), administer 1 to 2 amps of **Sodium Bicarbonate.**
- When administering **Amiodarone** (**Cordarone®**) for adults: mix 150 mg in 250 ml NaCl to run wide open using a microdrip (60 gtts/ml) set over 10 min. Consult medical control for pediatric administration.
- On these patients, continuous cardiac monitoring, and SpO_2 are required, as well as vital signs every 5 min.
- Refer to appropriate protocol if any change in rhythm.
- Unstable patients require emergent cardioversion. Do not delay treatment of unstable patients to obtain IV access.

Performance indicators

- Prompt recognition and treatment of unstable patients in V-Tach.
- Pulse check and rhythm strips recorded after every drug and/or cardioversion attempt.