Protocol
C-05

SECTION: C-05

TITLE: Adult Wide-Complex Tachycardia

REVISED: July 01, 2024

ADULT WIDE-COMPLEX TACHYCARDIA

This protocol includes ventricular tachycardia with a pulse, Torsades with a pulse, and wide-complex tachycardias of unclear origin. When possible, a 12-lead may be helpful in determining rhythm origin.

BLS-Specific Care *See Adult General Cardiac Care and ACS Protocol C-3*

AEMT/O.M. SPECIFIC CARE: *See Adult General Cardiac Care/ACS Protocol C-3*

ALS-Specific Care *See Adult General Cardiac Care and ACS Protocol C-3*

Cardioversion for hemodynamically UNSTABLE patients

- Settings for synchronized cardioversion (See *Appendix 11: Electrical Therapy*) :
  - Zoll: 200 J
  - Other devices: Manufacturers recommended settings.
- Ensure "**SYNC**" button is pressed between each desired synchronized shock
  - If synchronization is not obtained, proceed with unsynchronized cardioversion (i.e. defibrillation) at the same settings
- Sedation/Analgesia before cardioversion is highly desirable, but not mandatory. If vascular access cannot be obtained for prompt sedation, then cardioversion may be performed without sedation. See *Protocol M-15: Sedation for Painful Procedures* for medications and doses
  - Use Midazolam (Versed) for sedation in cardioversion.
  - **DO NOT** administer sedation if:
    - Systolic BP < 90 mmHg
    - Low respiratory rate, SpO2 and/or diminished mental status

For hemodynamically STABLE patients presenting with wide complex tachycardia, antidysrhythmic therapy is indicated.

Antiarrhythmics:

- Amiodarone
  - LOADING DOSE - IV/IO:150 mg IV infusion over 10 minutes.
    - May repeat **once** as needed. (max dose loading dose of 300 mg).
    - Convert to maintenance infusion once complete.
  - MAINTENANCE INFUSION: IV/IO: 1 mg/min
    - To Mix: 450 mg/250 cc, infuse via infusion pump.

- Lidocaine
  - 1.0-1.5 mg/kg slow IV bolus followed by additional doses of 0.5-0.75 mg/kg every 5minutes **not to exceed 3 mg/kg or 300 mg in 30 minutes (not including infusion).**
  - If ectopy resolves, can set up a maintenance Infusion.
    - (Be sure to rebolus @ 0.5-0.75 mg/kg in first 8-10 minutes of infusion to maintain therapeutic levels of lidocaine)
  - **Maintenance Infusion**: 2-4 mg/minute titrated for effect (Start @ 2 mg/min & add 1 mg/min for each additional 1 mg/kg IV bolus)
    - 1 mg/kg bolus = 2 mg/min.
    - 1.5-2 mg/kg total bolus = 3 mg/min.
    - 2.5-3 mg/kg total bolus = 4 mg/min.

- Adenosine (Adenocard): Consider Adenosine for **suspected SVT with aberrancy**. Use Lidocaine or Amiodorone instead of Adenosine in cases of **known VT**
  - IV: 6 mg **rapid IVP**
  - Repeat at 12 mg in 3-5 minutes two times PRN (total 30 mg)
  - Follow each dose with a flush of at least 20-60 ml

- Magnesium sulfate IV/IO:
  - First-line agent in treatment of hemodynamically stable polymorphic wide complex tachycardia (torsades de pointes.)
  - Also indicated in treatment of refractory VF/VT, wide complex tachycardia in the presence of suspected hypomagnesmia and life-threatening ventricular dysrhythmias due to suspected digitalis toxicity
    - IV/IO: 2 g every 5 minutes, 1st line for Torsades or refractory V-Fib/Pulseless V-Tach.
    - Do not give faster than 1 g/minute
    - **Repeat PRN every 5 minutes to a max of 8 grams**