Dane County EMS Newsletter

March, 2024

! SCOPE OF PRACTICE CHANGES: !

Effective March 31st, new mandates from the state level affecting the scope of practice has necessitated two changes to the County EMS protocols.

1. Vagal maneuvers are now a paramedic-only intervention (DCEMS Protocols, Tachycardia with a Pulse p43)
2. Manual defibrillation is now a paramedic-only intervention (DCEMS Protocols, Defibrillation Procedures p157). **Non-paramedic providers will have to utilize AED mode on their defibrillators.**

DCEMS Trauma Symposium

Join us on April 10th for a special trauma training with presentations from the Dane County Medical Advisors and local experts in trauma care!

Time: 5:30pm-8pm

Location: Dane County Emergency Management Office 2982 Kapec Rd. Fitchburg (virtual available)

CEUs offered

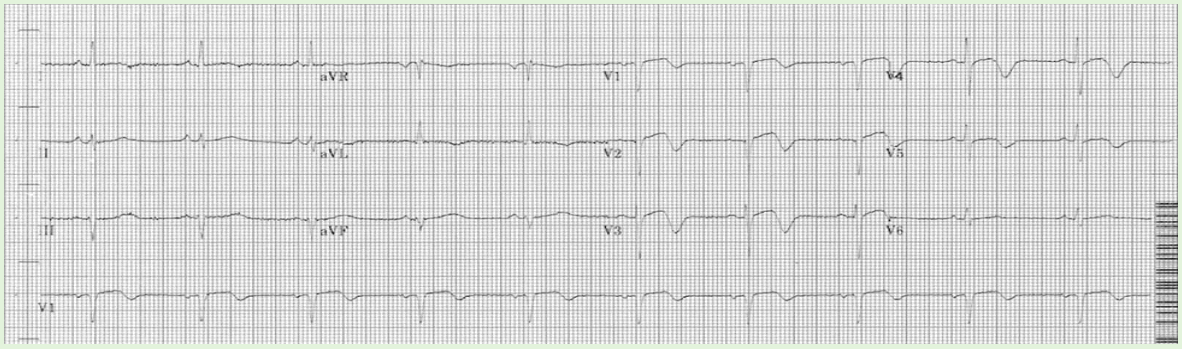
Register at:

https://www.surveymonkey.com/r/BN9H98H

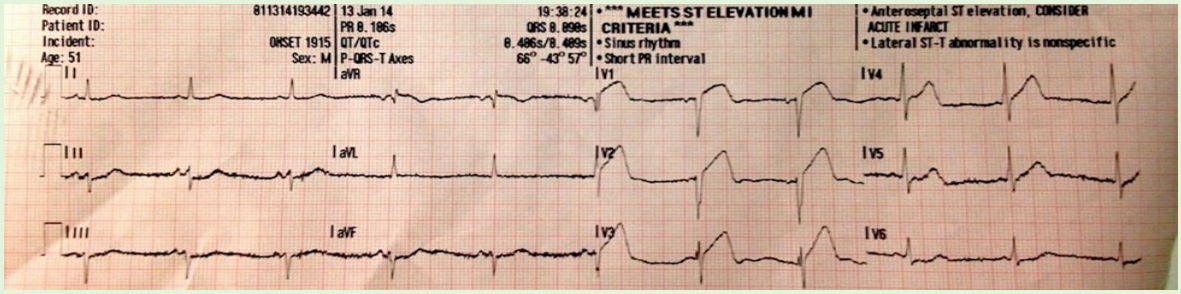
February Viz Quiz Follow Up

Answer: Wellen's Syndrome and Requires Transport

- Wellen's Syndrome is a clinical syndrome with biphasic or deeply inverted T-waves in V2 & V3 (may extend to V-6), with a history of recent chest pain that has now resolved.
- This is highly specific for critical stenosis of the Left Anterior Descending coronary artery.
- These patients are at high risk of extensive anterior wall MI in the next days to weeks, and almost always require a trip to the cath lab for management.
- Cardiac markers may be normal, or only slightly elevated.
- Previously thought to have two separate types – Type A and Type B – it is now considered an evolving waveform. Initially biphasic T-waves with later, symmetric and deep T-wave inversions (>2mm) in the precordial leads[1].
- Originally thought to be rare, this has been identified in 14% of patients with unstable angina on presentation, and 60% of patients in the first 24 hours[2].
- Another example:



- Don't get distracted – even though this EKG does not meet STEMI criteria, combined with the history it is vey concerning. An EKG obtained while this patient still had pain may have looked like this:



- Bottom Line: Serial EKGs are important and can give great information! Combined with a detailed history and physical exam, it can help you sniff out the STEMI, the STEMI mimic and the ticking time bomb!

Citation: 1. https://en.wikipedia.org/wiki/Wellens%27_syndrome

2. de Zwaan, C; Bär FW; Janssen JH; et al. (March 1989). "Angiographic and clinical characteristics of patients with unstable angina showing an ECG pattern indicating critical narrowing of the proximal LAD coronary artery". American Heart Journal. 117 (3): 657–665. doi:10.1016/0002-8703(89)90742-4. PMID 2784024

3. https://litfl.com/wellens-syndrome-ecg-library/

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Case Study

Case: You are called to the home of a 34 year-old female who is reporting abdominal cramping. She is 36 weeks, 2 days pregnant and having contractions every 2-3 minutes. No vaginal bleeding reported. The patient does note that spontaneous rupture of membranes (bag of water broke) just prior to your arrival. On scene, you notice a woman lying on the couch, diaphoretic and grunting. Her initial vitals are: HR 110, resp 30, BP 128/84, SpO2 99%. She is lying in a pool of clear fluid. What do you do next?

Your partner volunteers to start the IV while you perform the vaginal inspection. Your exam is purely inspection (no digital exam). What you see is a head being delivered with an umbilical cord prolapsed. Do you transport immediately, or stay and deliver the baby? Next steps: 1. Position the mother with elevated hips, knees to chest. 2. Use a gloved finger to relieve pressure on the cord. 3. You may apply a moist saline dressing as well. 4. You are telling the mother not to push.

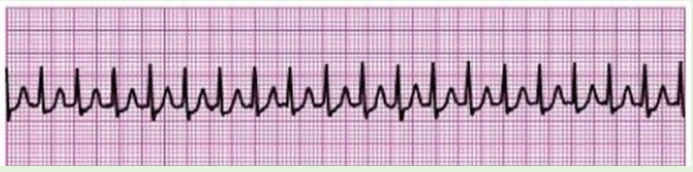
The mother pushes anyhow, and now the body delivers. What is your next step in the care of the mother? IV fluid bolus, monitor vitals, message pelvis to promote placental delivery, call medical control. What should you not do in this situation? Do NOT pull on the umbilical cord to deliver the placenta. This can cause either the cord itself to tear, or incomplete placental delivery.

Final thoughts: As you dry, suction, and stimulate the infant, you may place the infant skin to skin with mother. For transport, consider using either an infant warming device (if your service has one), OR consider using a polyurethane bag and towel from the neck down to keep the baby warm. Consider this especially in low birth weight or pre-term infants.

Case Vignette

You are called to a restaurant for a 44 yo man with complaint of palpitations. He was eating dinner and suddenly felt his heart start racing. He notes this has happened before. He usually holds his breath and bears down and symptoms resolve. He feels dizzy and lightheaded, told his wife, and she called 911. When you arrive on scene, you observe a tall, thin man who is awake and alert, but looks uncomfortable and is pale and diaphoretic. He denies chest pain but states he is short of breath. Initial vitals: HR 175, resp 26, BP 90/54, SpO2 95%. On exam, lungs are clear. Heart sounds tachycardic without murmur. The patient is in mild distress. What do you do next? What are your treatment options?

Nest steps: Your partner starts an IV and places the patient on the monitor. You place leads to perform a 12-lead EKG. Rhythm strip is below. What rhythm is this and how do you treat it?



Narrow complex tachycardia with a pulse. Regular rhythm. Diagnostic possibilities include SVT/pSVT, ventricular tachycardia, atrial flutter. NOTE: The scope of practice for treatment options have recently changed. Vagal maneuvers are now paramedic level ONLY. Adenosine is the first-line medication option. First dose is 6mg IV fast push, followed by repeat dosing of 12mg.
SVT fun facts: Incidence is 0.16% of the population (168 cases per 100,000 people). Mortality is 5%. Prevalence twice as high in women. Hypotension usually comes from the rate being so high that there isn't time for diastole (refilling of the LV). Adenosine has a half life of 5-10 SECONDS! So it is important to push rapidly. Main contraindication of adenosine is a WIDE-complex tachycardia, as adenosine in this instance may precipitate vfib. Not all patients with SVT have underlying coronary artery disease.

2024 Dane County Cardiac Arrest Celebration
June 1st
More info to come...

Upcoming Events and Training

3/20, 6-8pm UW Health: Neurological Emergencies
Register to attend at uwhealth.org/een
4/4, 6-8pm SSM Health: Neurology
Register for in-person here; Register for virtual here
4/10, 5:30-8pm Dane County Trauma Symposium
Register to attend at https://www.surveymonkey.com/r/BN9H98H
4/17, 6-8pm UW Health: Burns Update
Register to attend at uwhealth.org/een
4/20, 8am Dane County Driving Range
Register at this link

Thank you for reading! For questions, comments, or feedback you can contact the DCEMS office at dcems@countyofdane.com or by calling 608-335-8228. All other staff contact information can be found at em.countyofdane.com/EMS/contactus.