

**District III EMS
Quality & Improvement
May - 2004
“Case of the Month”**

Welcome to this month's quality and improvement case. I hope folks are finding these useful and educational. Remember, the purpose of these cases is to help all of us learn and improve the care we provide. As the front line link in our EMS services, you have an important and challenging job that is greatly appreciated. Thank you all for your excellent work. This month we review a chest pain patient: a common encounter for all of us that can present in many different ways. Please continue to forward interesting cases to the radio room for inclusion in this series. Any questions, feel free to contact me at Daniel.Wolfson@vtmednet.org

Chief Complaint: 66 yo male with Chest Pain

Pre-hospital course:

2310 Hrs: ALS service responds to find a CAOX3 65 yo male c/o left-sided non-radiating chest pressure. The pt ranks the pain as 2/10 and notes it started approximately 1 hour ago while sleeping, after having ingested 12 shots of alcohol in 2 Long Island Iced Teas. The pain was originally worse and then abated some after vomiting x 1. The pt has had similar chest pain intermittently for a week and has seen his PCP for this. The pt c/o severe weakness and dizziness upon standing and N/V x 2, but denies SOB or HA.

PMH: Diabetes, Stomach Ulcer, NKDA

Meds: Enalapril, ASA, Amaryl, Glucophage, Lasix, Protonix, Timolol ophthalmic

Initial Vital Signs: HR 40 and weak, RR 32

Physical Exam: Skin: diaphoretic/pale; Neuro: moves all ext with good strength; Resp: lungs clear bilat; Abd: soft, nontender; Ext: +pitting pedal edema; Cardio: HR 40, weak radial pulses, unable to palpate pedal pulses.

The pt was placed on NRB oxygen at 15 liters, with an oxygen saturation of 92%. An IV access was established. Sufficient blood was not obtained to check a FSBS. Orthostatics were negative. The cardiac rhythm was noted to be irregular at 36 bpm. The pt was transported Priority 2 to FAHC.

2327 Hours: Vital signs en-route. HR 40, BP 110/70, RR 16, Diaphoretic, Pale.

2348 Hours: Vital signs en-route. HR 40 (weak), BP 108/60, RR 12, Diaphoretic.

Emergency Department Course:

23:59 Hours: Pt arrives in the Emergency Department c/o severe chest pain. Pt says the pain has been intermittent over the last two weeks and that it is now 10/10, associated with SOB and sweating.

Exam: BP 58/31, HR 48, RR 22, Oxygen Sat 92% RA. Pt is noted to be in severe distress. Physical exam is notable for hypotension, bradycardia, clear lungs, a benign abdomen, no focal neurologic deficit, pallor and diaphoresis.

An EKG is obtained showing a junctional narrow QRS complex bradycardia with ST elevations in the inferior leads consistent with an acute inferior MI.

This pt was severely hypotensive and bradycardic. The pt was resuscitated with administration of atropine x 3, 5-6 liter of IVF bolus, a dopamine pressor drip to support blood pressure, and external cardiac pacing. Despite these measures the pt continued to decline with refractory hypotension and depressed level of consciousness.

00:42 Hours: Pt is intubated and taken emergently to the cardiac catheterization lab. A temporary pacing wire was passed and a balloon pump was placed. The patient, however, had no intrinsic rhythm or blood pressure. Limited coronary angiography was performed and showed no significant coronary flow. The pt was pronounced dead at 01:52. Final Dx: Acute Inferior MI complicated by cardiogenic shock.

Take Home Message: The patient with ACS: Acute Coronary Syndrome (Acute Myocardial Infarction, Unstable Angina) does not always present with the classic story of crushing chest pain. Diabetics, the elderly, and women are notorious for atypical presentations. Maintain a high degree of suspicion when evaluating the patient with a possible ACS, and seek out abnormal vital signs or physical exam findings to aid in your diagnosis and triage. The severity of this pt's illness was not recognized pre-hospital.

Quality Improvement: This was a challenging case. This elderly, diabetic male was complaining of only 2/10 chest pain pre-hospital and was transported Priority 2 to the Emergency Department. However, the patient's profile included several of the risk factors for atypical presentations of ACS (diabetic, older age), he was bradycardic with a HR of 40, and had weak peripheral pulses, low oxygen saturation, and tachypnea. A Priority 3 response for a pt with this clinical picture would have been more appropriate. The pre-hospital crew did well in electing to establish IV access in this pt and frequently check his vital signs. Inferior MIs have a higher incidence of N/V 2nd to the Bezold-Jarisch reflex: sympathetic inhibition, vasodilation, bradycardia and hypotension from afferent vagal cardiac receptors in the inferoposterior left ventricle. Right ventricular MIs may present with hypotension, JVD, and clear lungs, as the RV loses function and acts only as a conduit not a pump. RV MIs require liberal fluid boluses to boost preload if the patient becomes hypotensive.