

Thursday, March 7, 2013
Quality and Safety Educators Academy
Teaching Patient Safety – Table Top Exercise #1

Level	Characteristics from Vincent Model (1)	Analysis of heparin overdose
Patient	Complexity and seriousness of condition Language and communication Personality and social factors	Post op patient -> increased risk of bleed
Task or technology	Availability and use of protocols Availability and accuracy of test results	Intern did not review protocol before signing
Individual staff member	Knowledge and skills; Motivation and attitude Physical and mental health	Nurse not familiar with heparin
Team	Verbal and written communication Supervision and willingness to seek help; Team leadership	Pharmacist to MD/RN communication unclear Pharmacist not supervised
Work environment	Staffing levels and mix of skills Patterns in workload and shift Design, availability, and maintenance of equipment Administrative and managerial support	CPOE dropdown too easy to pick wrong dose Intern workload
Organizational management	Financial resources and constraints Policy standards and goals Safety culture and priorities	Nurse did not think to ask supervisor for help
Institutional	Regulatory context; Medicolegal environment	

(1) Vincent C, NEJM 2003, 348:11

What action plan or interventions would you put in place for the heparin overdose? Rate your intervention and how feasible or timely the solution will be to implement.

Contributing factor	Action Plan or Intervention	Rating: Weak, Intermediate, or Strong?

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Case: Delayed Diagnosis of Adrenal Insufficiency

Mr. Jones, a 47 yo male with Type I Diabetes Mellitus diagnosed as a child, presented to the Emergency Department with fatigue and diffuse abdominal pain, vomiting and inability to tolerate oral intake for 3 days. The pain was cramping, associated with nonbilious, nonbloody emesis. He had not been taking his insulin for 2 days because he was unable to eat and did not want his sugars to be low.

Past medical history included only diabetes. Medications included insulin glargine and prandial rapid acting insulin. On physical exam, Mr. Jones was thin but well nourished, in pain but no acute distress. His blood pressure was 96/58, pulse 70, and he was afebrile, oxygenating well on room air. His abdomen was soft but mildly, diffusely tender, worst in the epigastric region. Labs were notable for blood sugar of 197, creatinine 1.2, potassium of 5.8 and an anion gap of 22. Abdominal CT scan was negative for any acute pathology.

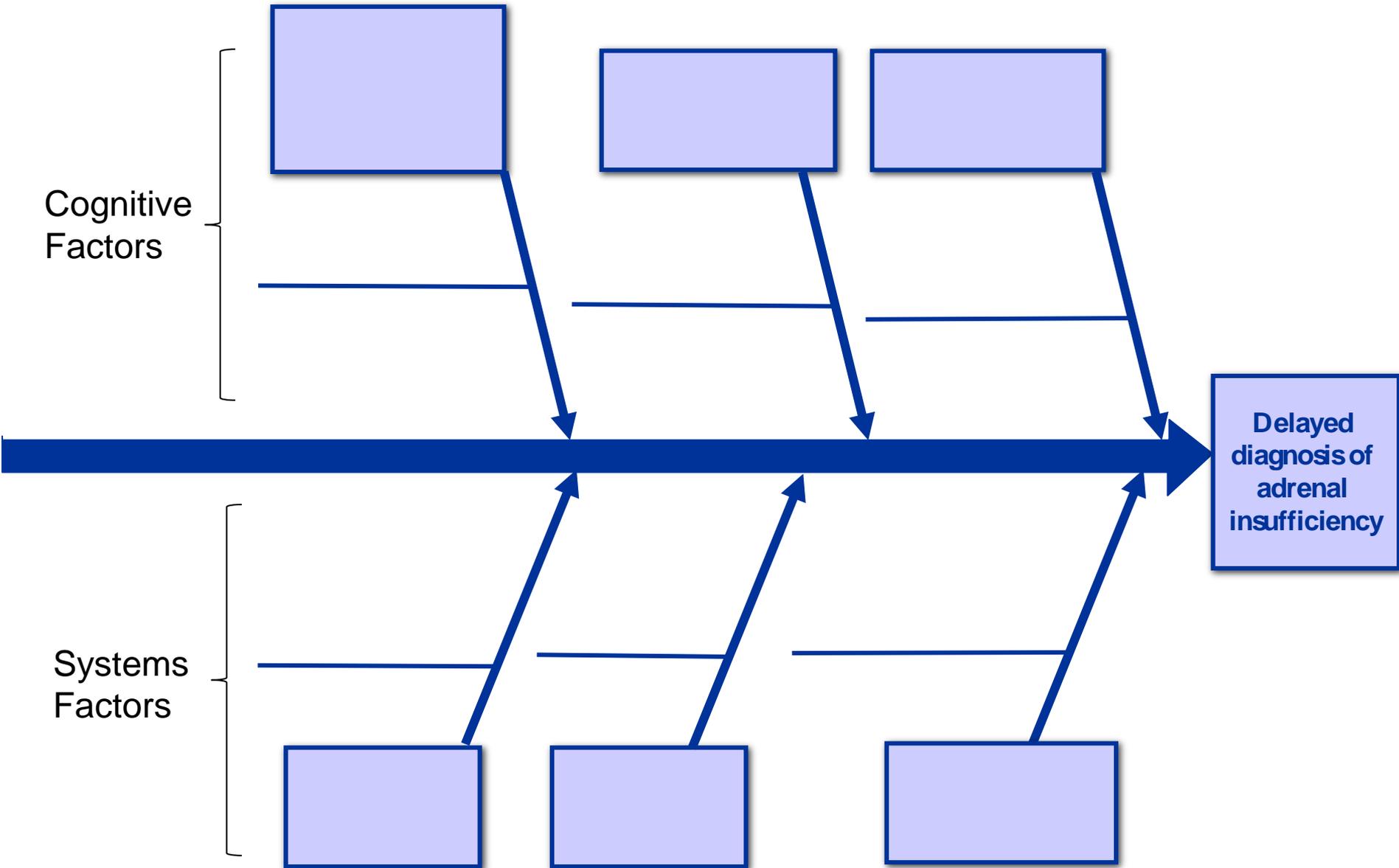
The emergency physicians attributed the patient's symptoms and laboratory abnormalities to DKA from insulin non-compliance in the setting of viral gastroenteritis. They started an insulin drip and IV normal saline resuscitation. Labs were rechecked 4 hours later showing an improving potassium (5.3) and creatinine (0.9) and a closed anion gap of 8. Insulin drip was discontinued and the patient was then admitted to the night float resident, who reviewed the chart. The overnight resident noticed that Mr. Jones had actually been admitted to HUP 4 times in the past year with similar symptoms and had a nuclear study that showed moderately delayed gastric emptying. Each admission, Mr. Jones had been discharged with a prescription for metaclopramide and an appointment with an endocrinologist, however he never filled these scripts or attended these appointments.

The next morning the on call team took signout and rounded briefly with the attending on Mr. Jones who was still in the ED awaiting a floor bed. The plan was made to restart the promotility agent and fluids, control glucose, and avoid narcotic pain meds. The discussion was cut short because of other new admissions and a sick patient on another floor. Mr. Jones continued to have abdominal pain, requesting medication on multiple occasions. When paged the covering intern, stuck on the floor in rounds and on the advice of his resident (*"His CT's negative; he's probably a frequent flyer looking for drugs. Doesn't he know his gastroparesis will get worse?"*), offered PO acetaminophen over the phone. After several requests for narcotic pain medication were denied without an explanation, the patient demanded to sign out AMA and left the ED.

Two days later, Mr. Jones returned with lightheadedness and fatigue and was again admitted. His potassium was again elevated at 5.9, but creatinine was stable at 0.9 with a normal anion gap. His blood pressure was still 90s/50s. A medical student on the admitting team interviewing the patient in detail clarified that the patient's most concerning symptom was fatigue, which had led to him losing his job (and his health insurance) eight months ago which is why he could not follow-up with the appointments previously made for him.

After discussion of the patient on rounds with the attending, it was noted that Mr. Jones often had a potassium level in the mid-5 range, and four months ago, had an equivocal serum cortisol level drawn while in hospital. Mr. Jones was again examined by the team and found to have slightly darkened skin, a slowly progressive finding according to the patient over the last few months. Another morning serum cortisol level was drawn and found to be low. After confirmation with a cosyntropin stimulation test, the diagnosis of adrenal insufficiency was made.

DIAGNOSTIC ERROR FISHBONE DIAGRAM



Delayed
diagnosis of
adrenal
insufficiency