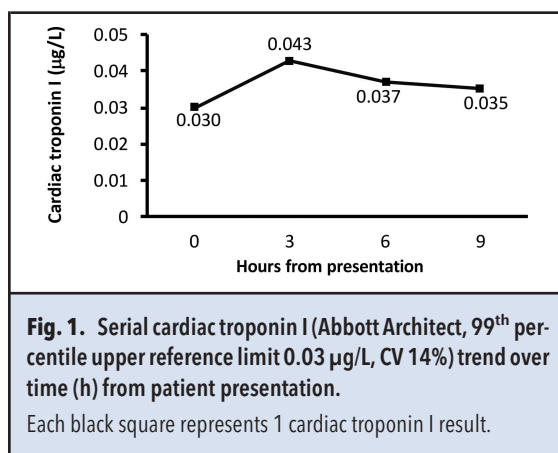


Gastroesophageal Reflux?

Kenneth W. Dodd and Stephen W. Smith*

CASE DESCRIPTION

A 58-year-old man presented with 1 month of epigastric pain after eating, which worsened when lying flat. His pain was usually relieved with belching but was now persistent. Coronary risk factors included obesity, hypertension, and smoking. Serial electrocardiograms were normal. Cardiac troponin concentrations are shown in Fig. 1. The admitting team believed the patient to be “ruled out” for acute myocardial infarction (MI) and was about to discharge him with a diagnosis of gastroesophageal reflux.



QUESTIONS

1. What are the criteria to meet the definition of type 1 acute MI?
2. Does this patient meet those criteria?

The answers are below.

ANSWERS

Diagnosis of type 1 acute MI is based on a rise or fall of cardiac troponin with at least 1 value above the 99th percentile, and symptoms or findings on electrocardiography, myocardial imaging, coronary angiography, or autopsy consistent with myocardial ischemia (1). In the setting of atypical symptoms, mild cardiac troponin in-

creases are often overlooked (2, 3). In this case, the cardiac troponin I trend and symptoms meet criteria for myocardial infarction. This patient underwent coronary angiography, which revealed near-total occlusion of the right coronary artery; a coronary stent was successfully placed.

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Does This Patient Have Acute Myocardial Infarction?

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CASE DESCRIPTION

A 58-year-old female patient with a history of myocardial infarction (MI)² and multiple episodes of cardiomyositis presented with signs and symptoms of acute coronary syndrome (ACS). An electrocardiogram showed Q-waves that were attributed to her previous MI. Her first cardiac troponin I (cTnI) was <0.04 ng/mL but she progressed to ST-elevation acute MI while her cTnI remained <0.04 ng/mL for 69 h postadmission. cTnI by a different assay showed a rise and fall of cTnI concentration (Table 1).

Table 1. Patient's laboratory results (assay A) with results from the comparison assay (assay B).

Time since admission, h:min	Neat sample, ng/mL		50:50 Mix, assay A, ng/mL		50:50 Mix, assay B, ng/mL	
	Assay A	Assay B	Expected ^a	Measured	Expected	Measured
Admission	0.0	0.0	0.16	0.0	0.16	0.15
1:49	0.0	0.4 ^b	0.16	0.0	0.36	0.25
12:29	0.0	7.3 ^b	0.16	QNS ^c	3.81	QNS
20:39	0.0	5.7 ^b	0.16	0.0	3.01	3.14
44:40	0.0	1.9 ^b	0.16	QNS	1.11	QNS
68:55	0.0	1.1 ^b	0.16	Not done	0.71	Not done

^a Expected concentrations were calculated from the measured cTnI concentration in the neat sample and the concentration of the patient pool (0.32 ng/mL).
^b Positive for AMI.
^c QNS, quantity not sufficient to do mixing study.

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² Nonstandard abbreviations: MI, myocardial infarction; ACS, acute coronary syndrome; cTnI, cardiac troponin I.