

Example of diagnostic tests research paper

[Experience](#), [Failure](#)



Diagnostic Tests

This paper will describe diagnostic tests performed in respect of acute myocardial infarction and heart failure. The two diseases affect the cardiovascular system. The tests to be described are cardiac enzymes analysis and chest x-rays. The former test is recommended for patients with acute myocardial infarctions while chest x-rays are prescribed for heart failure patients.

Cardiac enzyme analysis is recommended as part of the diagnostic profile for acute myocardial infarction. It is recommended because injured cardiac cells release cardiac specific isoenzymes that can be detected in blood after they rupture following insults such as sustained hypoxia. Other than aiding in the diagnosis of acute myocardial infarction, it is also recommended because it helps to ascertain the time of onset of the infarction. The test measures the serum levels of the following isoenzymes: creatinine kinase (CK) and its isoenzyme CK-MB, lactic dehydrogenase and its isoenzyme, myoglobin, and troponin I. These enzymes are released into the blood at varying intervals following an acute myocardial infarction. Therefore, the particular enzyme elevated helps to determine the time of onset of the myocardial infarction. The test helps to establish the following in regards to the disease, the presence or absence of myocardial infarction and if present, the time of onset. The test is correlated with the findings of health history and echocardiogram (ECG). The latter is a graphic recording of the heart's electrical activity. During an acute myocardial infarction, some sections of the graph show abnormalities such as peaking of the T-wave and elevation of the ST segment. It is used to determine the evolution, location, and

resolution of an acute myocardial infarction (Smeltzer, Bare, Hinkle, and Cheever, 2009, p. 796).

In regards to heart failure, a chest x-ray is recommended although it may have limited utility for patients with early heart failure. This test helps to confirm the diagnosis and in the determination of the underpinning cause of the heart failure (ESC Committee, 2012, p. 1797). The test reveals the heart's size, shape, contours, position, cardiac and pericardial calcifications, and changes in pulmonary circulation. Its findings are correlated with those of other tests such as ECG and assays of serum electrolytes, creatinine, blood urea nitrogen, thyroid stimulating hormones, and complete blood count (Smeltzer, Bare, Hinkle, and Cheever, 2009, p. 796).

In summary, this paper has described two diagnostic tests prescribed for patients with or suspected to have acute myocardial infarction and heart failure. The two tests provide information useful for diagnosis of the diseases, location of the affected parts, time of onset, and extent. They can both be confirmed by an ECG.

References

ESC Committee (2012). ESC guidelines for the diagnosis and treatment of acute and chronic heart failure 2012. *European Heart Journal*, 33, 187-1847.

Smeltzer, S. C., Bare, B. G., Hinkle, J. L., & Cheever, K. H. (2009). *Brunner and Suddarth's textbook of medical surgical nursing (10th ed.)*. Philadelphia, PA: Lippincott Williams & Wilkins.