## Abstract

**Background:** Chest pain is one of the most common causes of presentation to the emergency room. The diagnosis of non-ST-elevation acute coronary syndrome typically causes uncertainty. Classical considerations for risk stratification are History, ECG, Age, Risk factors and Troponin. The sensitivity and specificity of these factors were determined in order to develop a diagnostic scoring system for I.H.D.

**Objective:** To determine the sensitivity and specificity of variable symptoms, clinical history and ECG changes from patients presenting with chest pain to critical care department attempting at the development of a diagnostic scoring system that can transfer an experienced cardiologist skill in the evaluation of these patients (in ER or clinical practice setting) to the junior fellows using the tools available in that setting.

**Methods:** 599 patients presented to the critical care department with chest pain were subjected to a questionnaire, from which data were collected and analyzed. These data included Age, Gender, Detailed analysis of chest pain, Risk factors, ECG and troponin. Patients were divided into IHD group and Non-IHD group according to results of coronary angiography.

**Results:** By analysis of the different significant questions in our questionnaire by binary logistic regression, we found that the following questions were single significant independent factors that could predict true ischemic chest pain: Resolution of chest pain by rest was more frequent in the IHD group than in the Non IHD group. Resolution of chest pain by receiving sublingual nitrates was more frequent in the IHD group than in the Non IHD group than in the Non IHD group. Resolution of pain by chest compression was more frequent in the IHD group than in the Non IHD group than in the IHD group. Resolution of chest pain was faster in the IHD group than in the Non IHD group. Higher percentage of the IHD group had pathological Q wave in their ECG than in the Non IHD group. Pathological Q wave was more frequent in anterolateral leads in the IHD group, while it was more frequent in the inferior leads in the Non IHD group.

**Conclusion:** Relief of chest pain with nitrates, short lasting duration, that wasn't changed by chest compression tended to be significant with adequate sensitivity and specificity in true ischemic patients. ECG changes comprised of pathological Q wave and S-T segment deviation are still having significance in chest pain evaluation, putting in consideration lack of conclusiveness of inferior Q wave that should be evaluated in further studies.

Keywords: chest pain, acute coronary syndrome, emergency room