SHAH VS. BACKMAN VS. ABBOT'S CUT OFF FOR HSTNL SHOWED DIFFERENT POSSIBILITIES IN PATIENTS WITH CHEST PAIN PROFILE?

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Background: Chest pain is a common cause of worldwide hospital admission and is a major burden on health-care resources. Cardiac troponin has substantially improved the accuracy of diagnosis and prognostic assessment of patients with suspected acute coronary syndrome (ACS). We wanted to investigate the use of a high sensitive assays for cardiac troponin (hsTnI) in the emergency department and its influence in patients admission or discharge (according to assigned color code and pain during triage), in order to identify the best one in terms of accuracy between the gap from the cut off and the need of hospitalization.

Methods: We have conducted a retrospective analysis based on 1758 (three month) accessions in emergency department (ED). We have focused our attention between 1014 patients (534 men, 480 women) having cardiological profile, excluding thoracic trauma or other non cardiological pain. We compared three different possible scenarios to ruled in chest pain patients to intepretate the hsTnI: from literature Shah 12 ng/L, for Abbott hsTnI 34 ng/L for men, 15 ng/L for woman; and Beckman Coulter hsTnI 19.8 ng/L for men and 11.6 ng/L for woman.

Results: The need of hospitalization was associated with a value above the cut-off of each method taken into in a statistically significant way (Abbott, p<0.001; Beckman, p<0.001; Shah, p<0.001). Moreover, the gap from the cut-off is associated with an increased probability of admission, corrected for age, gender and color code (Abbott OR 7.74, 95% CI 2.89-20.75, p<0.001; Backman 3.93, 95% CI 1.89-8.18, p<0.001; Shah 5.06, 95% CI 2.51-10.22, p<0.001). The hospitalization is highly associated with the color code (p<0.001) given during the triage.

Conclusion: In this population, there is not a statistically significant difference between the three different interpretative cut off taken into consideration in identifying hospitalized patients. There is a statistically significant association between the color code given during the triage, the hsTnI level and the hospitalization, so the real key of the use of this marker is strongly related to the correct diagnosis.

BIOGRAPHY

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