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Title: Clinical Profile of Low Risk Chest pain Patients Presenting to a Community Hospital Emergency Room: High Obesity rate

Background:

One of the common but challenging clinical problem in Emergency Room (ER) is the patients presenting with chest pain. Majority of these patients do not have a life-threatening condition and are at very low risk for having an MI or major cardiovascular adverse effect. Gastroesophageal reflux, esophageal dysmotility and esophageal hypersensitivity, panic disorder, anxiety, and depression are some of the causes of non cardiac chest pain. Obesity has also been associated with non cardiac chest pain. Several case-control and cohort studies indicate that obesity has casual association with Gastro Esophageal Reflex disease (GERD). Obesity, typically defined as BMI more than 30, has risen all over the world. A large segment of this low risk patients are either admitted to inpatient units or to observation centers, mostly awaiting provocative testing to rule out coronary ischemia. This is very expensive with an estimated annual cost of \$10-13 Billion. The reason attributed to this high admission rate is the fact that an incorrect diagnosis is high risk for patients for morbidity and mortality and high risk for the providers for medical malpractice claim. The HEART score is a quick and reliable predictor of outcome in chest pain patients and can help to identify the low risk patients presenting to the ER. Age, hypercholesterolemia, hypertension, cigarette smoking, family history and obesity are some of the clinical profiles used in calculating heart score along with history, EKG changes and the troponin levels. The clinical profile of patients with chest pain is important in identifying the low risk group. Our aim was to retrospectively analyze the clinical profile of low risk patients who were discharged from the ER without any major cardiovascular adverse effect.

Methods:

This study is a retrospective chart review conducted on patients presented to a mid western 228 bed community hospital ER with chest pain who were identified as low risk. ER providers used "Heart Score" model to identify the low risk patients who can be safely discharged and followed as out patients. The "Heart Score" work sheet was programmed in to the Electronic Medical records (EMR) for documentation. These patients were sent to cardiology clinic for evaluation and follow up within 72 hours after discharge from ER. These patients had high compliance rate in cardiology out patient follow up. There was no death or myocardial infarction at 30 day follow up.

Results:

Starting in September of 2015, in a 7 week time, 40 patients were identified as appropriate to follow this protocol. 50% were male and 50% female. Median age for males was 52 years (SD16) and for females was 53 years (SD 13). Average Body Mass Index (BMI) for male was 31.7 (SD 5.1) and for female 35.4 (SD 9.1). 70% of men 65% of women had a BMI above 30. 65% of men and 45% of women had history of hypertension.

Conclusion:

Among the low risk chest pain patients presenting to this community hospital, there was equal percentage of men and women. The age distribution was similar between men and women. We did not have control group. But the BMI was elevated in both men and women indicating high rate of obesity in both group. In our reported population, more than 65% were obese. Our results indicate that obesity should be considered as a one of the casual factor in non cardiac chest pain. Several studies have indicated that this might be GERD mediated.