

# Delay In Time Presentation Of Chest Pain To Emergency Room In Ethnic Chinese.

*Hsiao Dee Lieu*

## A. Study and purpose rationale

The purpose of this study is to look at the pre-hospital delay time in Chinese or patient of ethnic Chinese origin with chest pain. Multiple studies have been done on the Caucasian population, and minority populations (i.e. blacks and Hispanics). Studies on the blacks and Hispanics have shown a substantial delay in the time presentation of chest pain to health care facilities than white Americans. However, the relative small, but growing Asian (Chinese or people of ethnic Chinese origin) population has not been studied. What factors governing the decisional processes of the ethnic Chinese to present to the hospital or alerting health care officials are relatively unknown. Factors including 1) language barriers, 2) educational levels, 3) generation or age difference, 4) social economic stratification, and 4) insurance will also be observed to see if they contribute to the delay.

A very important factor in predicting the outcome of acute myocardial infarction(AMI) is directly related to the time of therapy. The less time it takes to confirm AMI and direct therapy (i.e., thrombolysis or angioplasty) the better the outcome. In large population thrombolysis trials, the GISSI (Lancet 1987; i;8714) and ISIS-2 (Lancet 1988;ii; 349-60) studies, it has demonstrated the there is 47% reduction in mortality with streptokinase (GISSI) when administered less than 1 hour of infarction. 23% mortality reduction within 3 hours of infarction. In this study, we hypothesized that there will be a pre-hospital delay in Chinese patients. This hypothesis stemmed from personal and a few other doctors subjective experiences with working with Chinese patients. If the hypothesis is proven true, then a more detailed population studies on the Chinese could be performed to understand the reason(s) of delay, and to dictate the direction of health policy and improve health education in this population.

## B. Study design and statistical analysis

The study will be a prospective questionnaire trial. Subjects will be selected from patients who presents to the adult emergency room with chest pain, and who are either clinically suspected by the ER physician through history or documented MI with EKG changes and laboratory abnormalities.

Subjects who identify themselves as Caucasian or ethnic Chinese will be included in the study. Preliminary calculation using the time of response of chest pain from black population in Brooklyn New York (Clark LT. "Analysis of prehospital delay among inner-city patients with symptoms of MI: implications for therapeutic intervention. J. Natl Med Assoc 1992 Nov; 84(11):931-937.") yields a rough sample size of 420 ethnic Chinese needed for the study to be significant in proving a time difference of 6 hours. Result will be analyzed in parallel to that of the white population. The continuous variables will analyzed with the t-test, and the categorical variables will analyzed with the chi-square test. An interim analysis will be performed after 100 patients in each group to see if there is statistical significance, trend, and to recalculate the sample size of Chinese needed for the study to be significant.

## C. Description of study procedures

There will be no additional interventions or procedures performed additional to the routine medical necessary management.

## D. Study drugs

none

**E. Medical devices**

none

**F. Study questionnaires**

Please refer to questionnaire sheet

**G. Description of study subjects and method of recruitment**

Any patients who presents to the ER with clinically suspected MI requiring admission or documented MI. The following criteria must be met:

**a. Inclusion Criteria**

1. Any patient who identify his/herself as Caucasian or ethnic Chinese.
2. Must be able to give signed or verbal consent.
3. Must be able to communicate in a language able to be translated by hospital staff or patients' family members or relatives.
4. Questionnaire must be performed within 24 hours of hospitalization.

**b. Exclusion Criteria**

1. Patients who are too unstable e.g. in cardiogenic shock, requiring intubations, or any psychiatric or other illness interfering with their ability to communicate or recall.
2. Patients who presented to ER involuntarily.
3. Any drug or alcohol dependency that may interfere with the study.

**H. Confidentiality of study data**

Patients, hospital unit numbers, and social security numbers will all be converted into a study number to maintain confidentiality.

**I. Location of study**

Beth Israel Hospital of NY. Beth Israel admits 6-8 patients per day with chest pain believed to be cardiac in origin. Of the cardiac patients, about 5% are Chinese. The hospital also has two full time Chinese clinical cardiologists with two busy practices in Chinatown New York.

**J. Risks and benefits**

Not applicable

**K. Alternative therapies**

Not applicable

**L. Compensation and costs to subjects**

There will be no costs to the subjects. No compensation

**M. Minors and research subjects**

Not applicable. Study done in adult ER

#### **N. Radiation or radioactive substances**

Not applicable.

#### **O. References**

- 1) Jalal K Ghali, et al. Delay between onset of chest pain and arrival to the coronary care unit among minority and disadvantaged patients. *J. Natl. Med. Assoc*, Vol. 85, No. 3;pp 180-185.
- 2) Heriot, et al. Delay in presentation after myocardial infarction.
- 3) L. Haywood, et al. Chest pain admissions: characteristics of black, latino, and white patients In low- and mid-socioeconomic strata. *J. Natl. Med. Assoc*. Vol.85. No. 10;pp749-757.
- 4) Clark LT, et al. Analysis of prehospital delay among inner-city patients with symptoms of myocardial infarction: implications for therapeutic interventions. *J.Natl Med. Assoc* 1992 Nov;84(11):931-937.
- 5) Weaver WD. Time to thrombolytic treatment: factors affecting delay and their influence on outcome. *J. Am. Coll. Cardiol* 1995 June 25 (7 Suppl):3S-9S
- 6) Casacicia M, et al. Prehospital management of acute myocardial infarct in an experimental metropolitan system of medical emergencies. *G. Ital Cardiol* 1996 June; 26(6):657-72.
- 7) Meischke H, et al. Reasons patients with chest pain delay or do not call 911. *Ann. Emerg. Med.* 1995 Feb;25(2):193-7.
- 8) Ottesen MM, et al. Determinants of delay between symptoms and hospital admission in 5978 patients with acute myocardial infarction. The TRACE study group. Trandolapril cardiacl Evaluation. *Eur. heart J* 1996;Mar; 17(3):429-437.
- 9) Leitch JW, et al. Factors influencing the time from onset of chest pain to arrival at hospital. *Med. J. Aust* 1989 Jan 2:150(1):6-10.
- 10) Hartfor M, et al. Components of delay time in suspected acute myocardial infarction with particular emphasis on patient delay. *J. Intern Med* 1990 Nov;228(5):519-523.
- 11) Rowley JM. Management of myocardial infarction: implications for current policy derived from the Nottingham Heart Attack Register. *Br. Heart J* 1992 Mar;67(3):255-262.
- 12) Lee HO, Typical and atypical clinical signs and symptoms of myocardial infarction and delayed seeking of professional care among blacks. *Am. J. Crit. Care* 1997 jan;6(1):7-13.