

# PRESENTING SYMPTOMS OF ACUTE CORONARY SYNDROME IN OLDER AND YOUNGER ADULTS IN TRINIDAD & TOBAGO.

Zada Hassanali<sup>1,2</sup>, Ian Sammy<sup>1</sup>, Joanne Paul<sup>1,3</sup>, Paula Nunes<sup>1</sup>, Vidya Ramcharitar Maharaj<sup>3</sup>, Paula Robertson<sup>3</sup>

- 1. The University of the West Indies, St Augustine
- 2. The Southwestern Regional Health Authority of Trinidad and Tobago
- 3. The North Central Regional Health Authority of Trinidad and Tobago

### Introduction

Syndrome Coronary Acute (ACS) is a major cause of mortality in Trinidad and Tobago. In the Emergency Department, challenges exist in diagnosis in the elderly. With the increasing life expectancy Emergency Departments in Trinidad and Tobago are admitting more elderly patients annually. The symptomatology of patients with ACS remains unknown for this population, as do the differences that exist in elderly patients.

There is little data on the differences in Acute Coronary Syndrome (ACS) presentations between younger and older patients in developing countries, though ACS is a major cause of mortality, and more elderly patients are presenting with the condition.

# Methods

- A prospective study of patients admitted to the San Fernando General Hospital was undertaken.
- The aim of this study was to determine the differences in the reported symptoms of ACS between the older patients (age ≥ 65) and younger adults (age 18 64) in the ED. A secondary objective was to determine if differences in reported symptoms also exist between older men and older women.

# Results

- Of the 1148 study subjects, 41.3% were elderly and 47.0% were males. Syncope (OR 2.1; 95% CI 1.1, 3.7),
- Chest pain at rest was the most frequent symptom reported in all groups.
- Paroxysmal Nocturnal Dyspnea [PND] (OR 1.3; 95% CI 1.0, 1.7) and orthopnea (OR 1.3, 95% CI 1.0, 1.6) were more likely in the elderly.
- Exertional chest pain (OR 0.7; 95% CI 0.5, 0.9) was more likely younger patients, compared to the elderly.
- In females, shortness of breath (OR 1.4; 95% CI 1.1, 1.8), PND (OR 1.8; 95% CI 1.3, 2.4), orthopnea (OR 2.0; 95% CI 1.6, 2.7) and palpitations (OR 1.7; 95% CI 1.3, 2.2) were more common than in men.

Results		
	Male	Female
SOB (Rest)	57.1	64.9
SOB (Exertion)	19.1	23.5
PND	16.9	26.8
Orthopnoea	22.1	36.6
Palpitations	31.2	43.3
Nausea	38.2	48.3
Dizziness	24.1	29.1
Headache/other	7.1	12

# \*Male \*Female \*\*Male \*Female \*\*Male \*Female \*\*Thomas and the state of the state

### Conclusion

There were significant
differences in reported symptoms
between older and younger
patients and men and women.
These should be taken into
account when developing clinical
diagnostic tools for the diagnosis
of ACS in these populations.

## References

PAHO. Health Situation Analysis, Country Profile: Trinidad and Tobago 2012. Regional Health Observatory. Searched http://new.paho.org/hq/index.php?option=com\_content&view=article&id=3261&Itemid=2408 World Bank Indicators – Population – Trinidad & Tobago. http://www.tradingeconomics.com/trinidad-and-tobago/agedependency-ratio-old-percent-of-working-age-population-wbdata.html. Searched on 12th October, 2012. http://www.paho.org/cdmedia/ge\_cp/trinidadtobago.pdf Searched on 13 September, 2012. Beharry A, Rios M, Sandy S, Chin J, Pooran S, Welch W, Seemungal T. Audit of sudden deaths in the Accident and Emergency Department of a tertiary hospital in Trinidad and Tobago. West Indian Med J. 2011 Jan; 60(1): 61-7. Searched http://www.ncbi.nlm.nih.gov/pubmed/21809714 WHO. NCD Country Profiles 2011 - Trinidad and Tobago. Searched online June 9, 2013. http://www.who.int/nmh/countries/tto\_en.pdf

Anderson J, Adams C et al. AHA Practice Guideline: 2011
ACCF/AHA Focussed Update Incorporated Into the
ACC/AHA 2007 Guidelines for the Management of Patients
With Unstable Angina/ Non-ST-Elevation Myocardial
Infarction. Searched online June 16, 2012.
http://circ.ahajournals.org/content/123/18/e426.full

Thygesen K, Alpert JS, White HD. Universal definition of
myocardial infarction. Eur Heart J 2007;28:2525-38

Canto J, Williams R, Goldberg RJ, Peterson ED, Wenger NK,
Vaccarino V. et al. Association of Age and Sex with
Myocardial Infarction Symptom Presentation and In-Hospital
Mortality. JAMA. 2012;307(8):813-822. Searched online June

http://jama.jamanetwork.com/article.aspx?volume=307&issue

Reddy KS. Cardiovascular Disease and Non Western

Countries. N Engl J Med 2004;350:2438-40

Stern S, Behar S et al. Aging and Diseases of the Heart. Circulation 2003; 108: e99 – e101. Searched online June 18, 2012. http://circ.ahajournals.org/content/108/14/e99.full

El-Menyar A, Zubaid M, Rashed W, Almahmeed W, Al-Lawati J, Sulaiman K, et al. Comparison of men and women with acute coronary syndrome in six Middle Eastern countries. Am J Cardiol 2009;104(8):1018-22

Goch A, Misiewicz P, Rysz J, Banach M. The clinical manifestation of myocardial infarction in elderly patients. Clin Cardiol 2009;32(6):E46-51.

Wu YF, Wang PC et al. Risk Factors of Acute ST segment

elevation Myocardial Infarction patients without chest pain.

Hong Kong Journal of Emergency Medicine. March 2012. Vol

19(2); 98 – 102. Searched online June 18th, 2012. www.hkcem.com/html/publications/Journal/2012-2/p098-102.pdf

Martin TC, Van Longhuyzen H, Bennett B et al. The agespecific incidence of admission to the intensive care unit for acute myocardial infarction in Antigua and Barbuda. West Indian Medical Journal. September 2007. 56(4): 326-329. Searched online September 30, 2012 http://caribbean.scielo.org/scielo.php?script=sci\_arttext&pid=S0043-31442007000400003&Ing=es

Hassan S, Khan H, Chowdhury A, Sabah K, Ekram R. Prevalence and Pattern of Cardiac Emergencies in a Tertiary Care Hospital of Bangladesh. Bangladesh Critical Care J. March 2013;1:23-26. Searched online June 28, 2013. http://www.banglajol.info/bd/index.php/BCCJ/article/view/143 61/10211

Go A, Mozaffarian D, Roger V, Benjamin E, Berry J, Borden

W et al. Heart Disease and Stroke Statistics – 2013 Update:

2013;127:e6-e245; originally published online December 12,

A Report from the American Heart Association. Circulation.

2012. Searched online June 28, 2013
 http://circ.ahajournals.org/content/127/1/e6.full.pdf

 Rosengren A, Wallentin L, K Gitt A, Behar S, Battler A, Hasdari D. Sex, age and clinical presentation of acute coronary syndromes. Eur Heart J. 2004 Apr;25(8):663-70 Searched online June 28, 2013
 http://www.ncbi.nlm.nih.gov/pubmed/15084371

Index Mundi. Sweden Age Structure Searched Online June http://www.indexmundi.com/sweden/age\_structure.html Martin TC, Van Longhuyzen H, Bennett B, Peterson S Beazer C, Thomas CV. The age-specific incidence of admission to the intensive care unit for acute myocardial infarction in Antigua and Barbuda. West Indian med. j. [serial on the Internet]. 2007 Sep [cited 2013 June 28]; 56(4): 326-329. Available from: http://caribbean.scielo.org/scielo.php?script=sci\_arttext&pid= S0043-31442007000400003&Ing=en Martin TC. Acute myocardial infarction in the West Indies early observations, current issues and future concerns. West Indian med. j. [serial on the Internet]. 2009 Dec [cited 2013 June 28]; 58(6): 546-550. Searched online June 28, 2013. Available from: http://caribbean.scielo.org/scielo.php?script=sci\_arttext&pid= Gavalova L, Weston C, Birkhead J, Walker L, Timmis A,

2012. Searched online June 28, 2013. <a href="http://www.ucl.ac.uk/nicor/audits/minap/publicreports/pdfs/minap2012publicreport">http://www.ucl.ac.uk/nicor/audits/minap/publicreports/pdfs/minap2012publicreport</a>

Alfred R, Okeke O, Moronu C, Elliot V, Frankson A, Barton EN. Descriptive epidemiology of cases of acute myocardial infarction in Tobago. West Indian med. j. [serial on the Internet]. 2009 June [cited 2013 June 28]; 58(3): 257-260. Searched online June 28, 2013. Available from: <a href="http://caribbean.scielo.org/scielo.php?script=sci\_arttext&pid=S0043-31442009000300012&Ing=en">http://caribbean.scielo.org/scielo.php?script=sci\_arttext&pid=S0043-31442009000300012&Ing=en</a>

Cunningham D et al. Myocardial Ischaemia National Audit

Project How the NHS cares for patients with heart attack.

Annual Public Report April 2011 - March 2012. November

Ruiz-Garcia J, Lerman A, Weisz G, Maehara A, Mintz GS, Fahy M et al. Age and gender-related changes in plaque composition in patients with acute coronary syndrome: The PROSPECT study. Eurointervention. 2012 Dec;8(8):929-38. Searched online June 28, 2013. http://www.ncbi.nlm.nih.gov/pubmed/23253546

Morales A, Madrazo Y, Ramírez José I., Castañeda L, Machín W, Álvarez L et al . Acute myocardial infarction incidence, mortality and case fatality in Santa Clara, Cuba, 2007-2008. MEDICC rev. [serial on the Internet]. 2011 Oct [cited 2013 June 28]; 13(4): 23-29. Searched online June 28, 2013. Available from: http://www.scielosp.org/scielo.php?script=sci\_arttext&pid=S1 555-79602011000400007&Ing=en. http://dx.doi.org/10.1590/S15 55-79602011000400007

79602011000400007&Ing=en. http://dx.doi.org/10.1590/S15 \* 55-79602011000400007. Morales Alberto, Madrazo Yuri, Ramírez.

Kannel WB, Hjortland MC, McNamara PM, et al. Menopause and the risk of cardiovascular disease. The Framingham Study. Ann Intern Med. 1976;85:447-452.

Rosano GM, Chierchia SL, Leonardo F, Beale CM, Collins P. \* Cardioprotective effects of ovarian hormones. Eur Heart J 1996 17(D):15-19 Searched online June 28, 2013. http://eurheartj.oxfordjournals.org/content/17/suppl\_D/15.full. pdf+html

Hochman J, Tarnis J, Thompson T, Weaver W, White H, de \* Werf FV et al. Sex, Clinical Presentation, and Outcome in

Patients with Acute Coronary Syndromes. N Engl Med 1999; 341:226-232. Searched online June 28, 2013. http://www.nejm.org/doi/full/10.1056/NEJM199907223410402 #t=articleDiscussion

Thomas CN, Titus G, Williams D, Simeon D, Pitt-Miller P. Two-year mortality and its determinants following acute myocardial infarction in Trinidad and Tobago. West Indian Med J. 2000 Jun;49(2):112-4.

WHO. Country and regional data on diabetes.2013 Searched online June 28, 2013. http://www.who.int/diabetes/facts/world\_figures/en/index3.htm [

Grundy S, Benjamin I, Burke G, Chait A, Eckel R, Howard B et al. Diabetes and Cardiovascular Disease – A Statement fo Healthcare Professionals From the American Heart Association. Circulation.1999;100:1134-1146. Searched online June 28, 2013. <a href="http://circ.ahajournals.org/content/100/10/1134.full">http://circ.ahajournals.org/content/100/10/1134.full</a>
Narhammar A, Schenck-Gustafsson K. Type 2 diabetes and cardiovascular disease in women. Diabetologia. 2013 Jan;56(1):1-9 Searched online June 28, 2013. <a href="http://www.ncbi.nlm.nih.gov/pubmed/22945305">http://www.ncbi.nlm.nih.gov/pubmed/22945305</a>
Idris N, Aznal SS, Chin SP, Ahmad WA, Rosman A,

Jeyaindran S et al. Acute coronary syndrome in women of reproductive age. Int J Womens Health. 2011;3:375-80 Searched online June 28, 2013. http://www.ncbi.nlm.nih.gov/pubmed/22140324

Campbell DJ, Somaratne JB, Jenkins AJ, Prior DL, Yii M, Kenny JF et al. Differences in myocardial structure and coronary microvasculature between men and women with coronary artery disease. Hypertension. 2011 Feb;57(2):186 92 Searched online June 28, 2013. http://www.ncbi.nlm.nih.gov/pubmed/21135353

Siddique A, Shrestha P, Salman M, Ahmed K, Sultan A, Hoque H et al. Age-Related differences of Risk profile and Angiographic findings in patients with Coronary Heart Disease. BSMMU J 2010;3(1)13-17 Searched online June 28, 2013. http://www.banglajol.info/index.php/BSMMUJ/article/view/5508

Blomkalns A. CRUSADE – A Roadmap for change: 100,000

patients make a difference. Interim Analysis of the 100,000

patients enrollment milestone. CRUSADE 2005 March;2 Searched online June 29, 2013 http://www.emcreg.org/pdf/monographs/crusade\_web.pdf Alexander K, Newby K, Cannon CP, Armstrong PW, Gibler WB, Rich MW. AHA Scientific Statements: Acute Coronary Care in the Elderly, Part 1. Non-ST-Segment Elevation Acute Coronary Syndromes: A Scientific Statement for Healthcare Professionals From the American Heart Association Counci on Clinical Cardiology: In Collaboration with the Society of Geriatric Cardiology. Circulation 2007;115:2549-2569. Searched online June 29, 2013 http://circ.ahajournals.org/content/115/19/2549.full coronary syndrome in the elderly based on reported symptoms. KAUMS Journal (FEYZ).2013;16(6):553-559 Searched online June 29, 2013. http://feyz.hbi.ir/browse.php?a\_id=1704&sid=1&slc\_lang=en Roe MT, Parsons LS, Pollack CV, Canto JG, Barron HV, Every NR et al. Quality of Care by Classification of Myocardial Infarction Treatment Patterns for ST-Segment Elevation vs Non-ST-Segment Elevation Myocardial Infarction. Arch Intern Med. 2005;165(14):1630 – 1636 Searched online June 30,

Andrikopoulos G, Tzeis S, Mantas I, Olympios C, Kitsiou A, Kartalis A. Epidemiological Characterisitics and In-Hospital Management of Acute Coronary Syndrome Patients in Greece: Results from the Target Study. Hellenic J Cardiol 2012; 53:33-40. Searched online June 30, 2013. <a href="http://www.hellenicjcardiol.org/archive/full\_text/2012/1/2012">http://www.hellenicjcardiol.org/archive/full\_text/2012/1/2012</a>, 1\_33.pdf

Al-Lawati J, Sulaiman K, Panduranga P. The Epidemiology of

http://archinte.jamanetwork.com/article.aspx?articleid=48665

Acute Coronary Syndrome in Oman. Sultan Qaboos Univ Med J. 2013 February;13(1): 43-50. Searched online June 30, 2013. <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3616799/">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3616799/</a>
Alspach J. Acute Myocardial Infarction without chest pain – A life-threatening variant? Crit Care Nurse 2012 August; 32(4):10-13 Searched online June 30, 2013. <a href="http://ccn.aacnjournals.org/content/32/4/10.short">http://ccn.aacnjournals.org/content/32/4/10.short</a>
DeVon HA, Ryan C, Shapiro M. Symptoms Across the Continuum of Acute Coronary Syndromes: Differences Between Women and Men. Am J Crit Care. 2008 January;17(1):14-25 Searched online June 30, 2013. <a href="http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2254515/#!po=25.5556">http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2254515/#!po=25.5556</a>