

Troponin1 and Pro BNP Levels in Acute Coronary Syndrome

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Aim: To estimate the levels of Troponin1 and ProBNP in Acute Coronary Syndrome.

Materials And Methods: 75 patients diagnosed with Acute Coronary Syndrome were taken from The emergency Department of Indus Hospital, Vishakapatnam and their blood samples were estimated for Troponin1 and Pro BNP.

Results: The mean of Troponin1 in cases was 0.2481 with SD of 0.32 and P value of 0.1570. The mean of Pro BNP was 597.34 with P value >0.05.

Conclusion: Troponin 1 and Pro BNP levels were significantly elevated in patients with Acute Coronary Syndrome.

Acute Coronary Syndrome¹ is an acute and life threatening event. It usually results due to a plaque in one or all three of the coronary arteries. The symptoms include sudden onset pre cordial chest pain and sweating with marked ECG changes². The risk factors include family h/o, smoking, alcohol, Diabetes mellitus³ and Hypertension. Troponin1⁴ is the most significant cardiac enzyme. It predicts the extent of heart muscle damage⁵. Increased levels are associated with increased damage. Lower levels are associated with less damage. BNP is called Brain Natriuretic Peptide⁶ which was originally isolated from porcine brain tissue⁷ that has the effect of increasing sodium excretion in the kidney. BNP increases the Glomerular filtration rate⁸, decreases sodium retention⁹ and inhibits rennin and Aldosterone secretion. It is a marker of cardiac dysfunction¹⁰ that correlates with the severity of symptoms and asymptomatic left ventricular hypertrophy and congestive heart failure.

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I Materials And Methods

75 patients diagnosed with Acute Coronary Syndrome were taken from The emergency Department of Indus Hospital, Vishakapatnam and their blood samples were estimated for Troponin1 and Pro BNP. The Ethics committee was informed and written consent was taken from the patients.

Inclusion Criteria:

1. Only new cases with chest pain were considered.
2. Symptoms of duration less than 6 hrs were taken.

Exclusion Criteria:

1. Patients having past history of COPD, Renal failure and cor pulmonale were excluded.
2. Patients having symptoms of more than 6 hrs duration were excluded.

Parameters Estimated:

1. Troponin 1
2. ProBNP.

Sample Collection And Analysis: Blood samples were taken for troponin1 estimation in accordance with Tayside protocol for chest pain evaluation. After analysis the serum from the blood sample was stored in a refrigerator at 4 degrees centigrade. Within 3 days, 0.5 ml of the remaining serum was aliquoted for the measurement of BNP. BNP was measured on Triage meter Panel.

II Results:

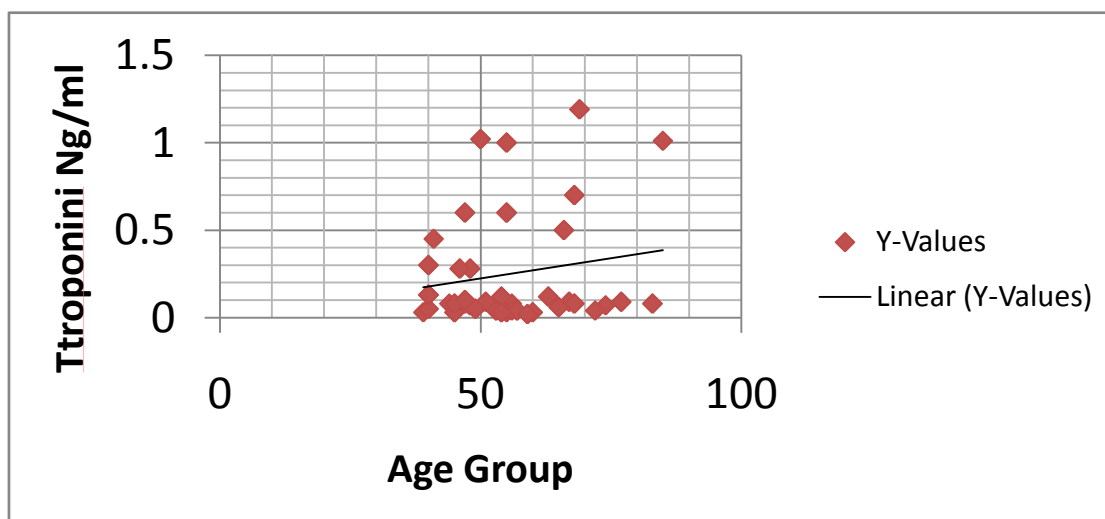
Age group	Male	Female	Total
35-45	07 (9.33)	03 (04.00)	10 (13.33)
45-55	20 (26.67)	10 (13.33)	30 (40.00)
55-65	12 (16.00)	04 (5.33)	16 (21.33)
65-75	12 (16.00)	02 (2.67)	14 (18.67)
75-85	05 (6.67)	00 (0.00)	05 (6.67)
Total	56 (74.67)	19 (25.33)	75 (100.0)

Table No.2 Parameters of Troopin and Probinp : (n=75)

I) Troponini ng/ml	II) Probinp PG/ml
1. Sample size (n=75)	n=75
2. Means: 0.2481	597.34
3. Standard deviation : 0.32	566.51

Table No.3 Correlation test applied between age and Troponini and Probinp

I) Troponini ng/ml	II) Probinp PG/ml
1. Correlation (r) value = 0.16507	r = 0.071833
2. Degrees of freedom:73	73
3. P value = 0.1570 P > 0.05	= 0.5402; P > 0.05

RELATIONSHIP B/N AGE AND TROPONINI**III Discussion**

%) ,56 were male(74.6%).19(25%) were female patients.30 were in the age group of 45-55 yrs and 21% of the subjects were in the age group of 55-65yrs.The mean age of male subjects is 56.38+/-11.85 followed by female subjects whose mean age is 52+/-9.5yrs. The mean of TroponinI in cases was 0.2481 with SD of 0.32 and Pvalue of 0.1570.The mean of Pro BNP was 597.34 with P value >0.05.James L Januzzi etal¹¹ in their study of Natriuretic Peptides as Biomarkers in Heart failure showed that Pro Bnp increases Myocardial infarction.Our study is in concordance with the study of Patrick T Ellinor etal¹² in their study Discordant atrial natriuretic peptide and brain natriuretic peptide levels in atrial fibrillation .

IV Conclusion

The mean of Pro BNP was 597.34 with P value >0.05. Pro BNP can be used as an effective marker for diagnoses and monitoring of Acute Coronary Syndrome patients.

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