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CORRELATION OF TROPONIN-I AND FASTING LIPID PROFILE IN ACUTE CORONARY SYNDROME

KEY WORDS:

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ABSTRACT

AIMS AND OBJECTIVES: To determine the correlation of Troponin-I levels and fasting lipid profile in patients with acute coronary syndrome.
METHODOLOGY: A retrospective study was conducted on 67 patients with acute coronary syndrome and Troponin-I levels at the time of admission were recorded and those with a rise of 99th percentile were included. Simultaneous fasting lipid profile was also recorded and was correlated with Troponin-I levels using Pearson's index and P value.
RESULTS: It was found that level of triglycerides shows positive correlation to the level of troponin I level with a P-value of 0.023, Pearson's correlation of 0.283. We found a negative correlation of troponin I level with HDL level, with Pearson's correlation of -0.056, in patients with acute coronary syndrome.
CONCLUSION: There is a weak, positive correlation of serum triglycerides and a weak negative correlation of HDL of fasting lipid profile with level of troponin I in patients with ACS.

INTRODUCTION

Dyslipidemia is an independent risk factor for acute coronary syndrome.According to a study of 50 patients by [1]Bagale et al at Chhattisgarh in 2016, triglycerides,very low density lipoprotein and total cholesterol/high density lipoprotein ratio affects the severity of myocardial damage by correlating with the level of CKMB in patients with acute coronary syndrome.In a retrospective study in Nepal by [2]Kumar et al, 430 patients with chest pain and elevated profile were compared with 165 normal healthy subjects. In patients with chest pain and elevated Troponin I, significant dyslipidemia was present as compared to healthy patients and patients with only chest pain and negative Troponin I.

Thus, in this study we aim at studying the correlation between fasting lipid profile and level of Troponin-I in patients with ACS which in turn indicates the severity of myocardial damage in ACS.

METHODOLOGY

This is a retrospective study conducted in Yenepoya Medical College and Hospital, Mangalore. 67 patients with ACS were selected excluding the patients with sepsis, CKD and other conditions which might alter the Troponin-I levels.

Data were collected from January 2018 to August 2019 after due ethical clearance from the institute. Values of fasting lipid profile of the patients done simultaneously were collected and correlated with troponin I level by Pearson's correlation index and P-value. Results were entered.

RESULTS

Table1: Correlation of Troponin-I with Fasting lipid profile

Fasting Lipid profile	Pearson's correlation	P-value	Significance
Ser. Total cholesterol	0.119	0.349	NS
Ser.Triglycerides	0.283*	0.023	SIGNIFICANT
Ser.LDL	0.085	0.662	NS
Ser.HDL	-0.053	0.673	NS

*correlation is significant at the 0.05 level (2-tailed)
NS-not significant

According to Table1, level of troponin-I do not correlate with serum total cholesterol and serum low density lipoprotein with Pearson's correlation of 0.119 and 0.85 respectively. P-value of the same being 0.349 and 0.503 respectively. However, level of troponin I and serum triglycerides has a positive correlation with Pearson's correlation index of 0.283 and P-value of 0.023 which is significant at 0.05 level (2-tailed). It was also observed that level of Troponin-I were negatively correlated to high density lipoprotein with Pearson's correlation of -0.056.

DISCUSSION

There exists a significant correlation between level of Troponin-I and Serum triglycerides in patients with ACS. According to a study by [3]Nayak et al in 2009, level of Troponin-I were used as a predictor of dyslipidemia in patients with ACS. Ser. Total cholesterol, Ser. triglycerides, low density lipoprotein shows positive correlation with troponin T and a negative correlation with high density lipoprotein.

CONCLUSION

This study emphasize on triglyceridemia being related to elevation in level of Troponin-I in a patient with ACS and thereby indicating more severe myocardial damage. It has a negative correlation with high density lipoprotein in patients with ACS.

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