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Possible Role of CPK-MB in the Early Detection of Alcohol Related Cardiac Damage

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INTRODUCTION

Alcohol: A potent psychoactive drug, causes acute and chronic changes in all organ systems. Alcohol consumption in large quantities over a long period of time causes cardiac morbidity. Association between excessive consumption and congestive cardiomyopathy has long been known. [(1)] Patients consuming > 90 g of alcohol a day for > 5 years are at risk for the development of asymptomatic Alcoholic Cardiomyopathy.[(2)] CPK-MB is a sensitive, specific and cost effective test used in diagnosis of acute myocardial infarction.[(3)(4)] Few studies, in alcoholics show raised levels due to chronic myocardial damage.

NEED FOR THE STUDY

Cardiac damage in chronic alcoholics has been assessed by 2D Echo and ECG but not much literature is available on the use of CPK-MB. Alcoholic cardiomyopathy, in the early stages, may be completely reversible if recognized and treated early. [(5)]

METHODOLOGY

Inclusion Criteria:

- Subjects: 30 alcoholic patients attending OPD of a tertiary care center willing to give consent for the study.
- Duration of alcohol use: 10 years or more.
- Amount of alcohol use: 180 ml or more per day.

Exclusion Criteria:

- Subjects not willing to give consent.
- Alcoholics with pre-existing cardiac morbidity.
- History of polysubstance use.

Materials

- Creatine Phosphokinase MB (CPK-MB): Normal = 0-24 u/liter.
- Electrocardiogram (ECG).

RESULTS

Out of the 30 subjects enrolled in the study, 28 were males and 2 females. Most of the subjects [(15)] were in the age group of 36 to 45 years, followed

by 46 to 55 years [7], followed by 26 to 35 years [6] and finally more than 55 years [2]. CPK-MB was elevated in 26 (86.6%) out of the 30 subjects. There were no significant ECG changes in any of the subjects.

DISCUSSION

High prevalence of elevation of CPK-MB, in *86.6 %* chronic alcoholics looks like a cause and effect relationship. Studies should be done to determine the usefulness of CPK-MB levels as a screening tool to detect early myocardial damage in alcoholics, especially in the absence of clinical and ECG findings. Since ours is a preliminary pilot study, we suggest that, further research should take into consideration other cardiac parameters like 2D Echo to correlate with CPK-MB levels. Thus, the affected patients can be detected at an early stage and proper preventive and curative measures can be taken.

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