

CHANGES IN CK-MB LEVEL IN ACUTE MYOCARDIAL INFARCTION

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ABSTRACT

Cardiac markers (Serum proteins) are tools in diagnosis of myocardial infarction. CK-MB is most valuable cardiac marker released from the damaged heart muscles. Total 196 MI patients and 104 controls (normal subjects) were studied in Cardiology Department of Hamidia Hospital, Bhopal. Initial elevation of CK-MB occurs after 6 hours, mean time to peak elevation was 8-24 hrs and time to return to the baseline was >48 hrs. In male controls the mean CK-MB level was 19.34 ± 2.83 IU/L and in female the mean CK-MB level was 19.32 ± 3.65 IU/L. The mean value of CK-MB at different time intervals in MI patients were 245.12 ± 64.56 at 8-16 hrs, 230.50 ± 44.88 IU/L at 17-24 hrs, 88.33 ± 3.84 IU/L at 25-32 hrs, 74.50 ± 38.19 IU/L at 33-40 hrs and 50.66 ± 2.32 IU/L at 41-48 hrs.

The difference in CK-MB level among male and female controls was statistically insignificant.

Key words: CK-MB: Creatine Kinase MB form, MI- Myocardial infarction.

INTRODUCTION

Serum enzyme markers are used for detection and management planning of MI. In the present investigation, the measurement of CK-MB level was performed. CK-MB of MI patients were compared with controls. The relation between level of CK-MB (in IU/L) and different time intervals, is a useful tool in order to detect the MI in ICU patients and for their rapid treatment.

MATERIAL AND METHODS

Overall 196 MI patients and 104 normal subjects were studied in Department of Cardiology, Hamidia Hospital, Bhopal. Patients were further divided and compared with their CK-MB value into both sex (male and female). The blood sample was collected. CK-MB level was estimated in IU/L by enzymatic method in autoanalyzer at different time intervals (hours) to know the peak and baseline level of CK-MB in the sample. ECG was also performed.

RESULTS AND DISCUSSION

The mean CK-MB level in both male and female controls was $19.33 \pm$ IU/L. It ranges from 10.32 IU/L to 28.12 IU/L. In normal male the level was 19.34 ± 2.83 IU/L, whereas in female the level was 19.32 ± 3.65 IU/L.

The study found that the mean value of CK-MB at different time intervals in MI patients were 245.12 ± 64.56 at 8-16 hrs, 230.50 ± 44.88 IU/L at 17-24 hrs, 88.33 ± 3.84 IU/L at 25-32 hrs, 74.50 ± 38.19 IU/L at 33-40 hrs and 50.66 ± 2.32 IU/L at 41-48 hrs. The difference in CK-MB level among male and female controls was statistically insignificant. The maximum level (245.12 ± 64.56 IU/L) of CK-MB was at the time interval between 8-16 hrs after MI. The pattern of rising and falling of CK-MB provided most valuable information about the MI and its timely management. This not only saves money of patients but also provides relief from hospitalization among economically deprived population of country like India.

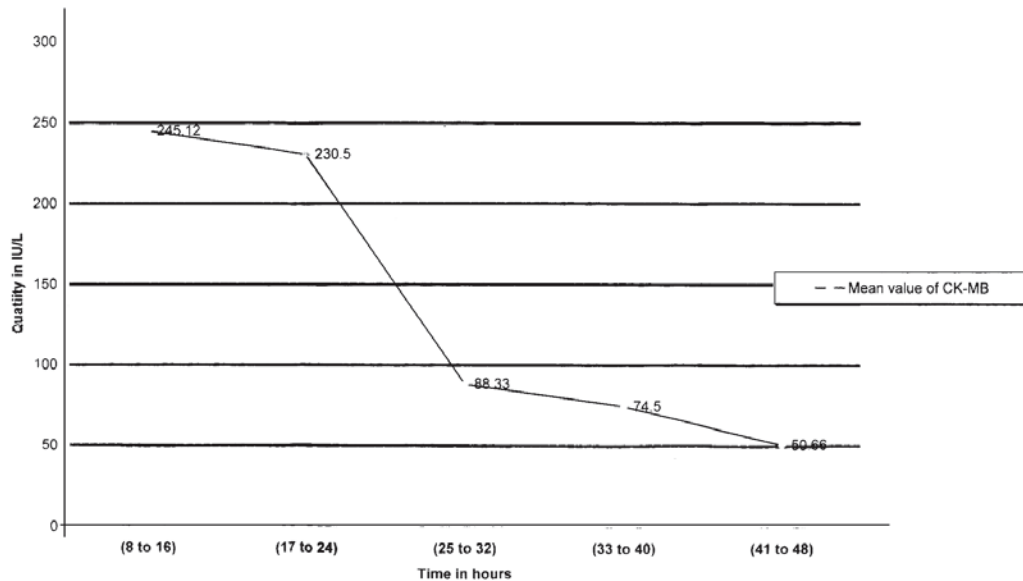


Fig. -1: Graph showing level of CK-MB at different time interval after myocardial infarction

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