



In the Era of High Sensitivity Troponins: Time to Say Good Bye to CK-Mb



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INTRODUCTION

Acute coronary syndrome (ACS) is one of the leading causes of mortality in the United States and cardiac biomarker testing is routinely performed to aid healthcare professional in clinical decision making. Initially, creatinine kinase, myoglobulins, AST, and LDH were used, however, the advances in technology have led to more sensitive and precise assays like serum cardiac Troponins (cTn) levels, which have revolutionized the cardiac medicine. The high sensitivity troponins are the biomarkers of choice owing to its nearly absolute specificity and sensitivity for myocardial damage. However, other cardiac markers especially CK-MB testing are still routinely ordered as part of work up of myocardial injury in many healthcare settings.

BACKGROUND

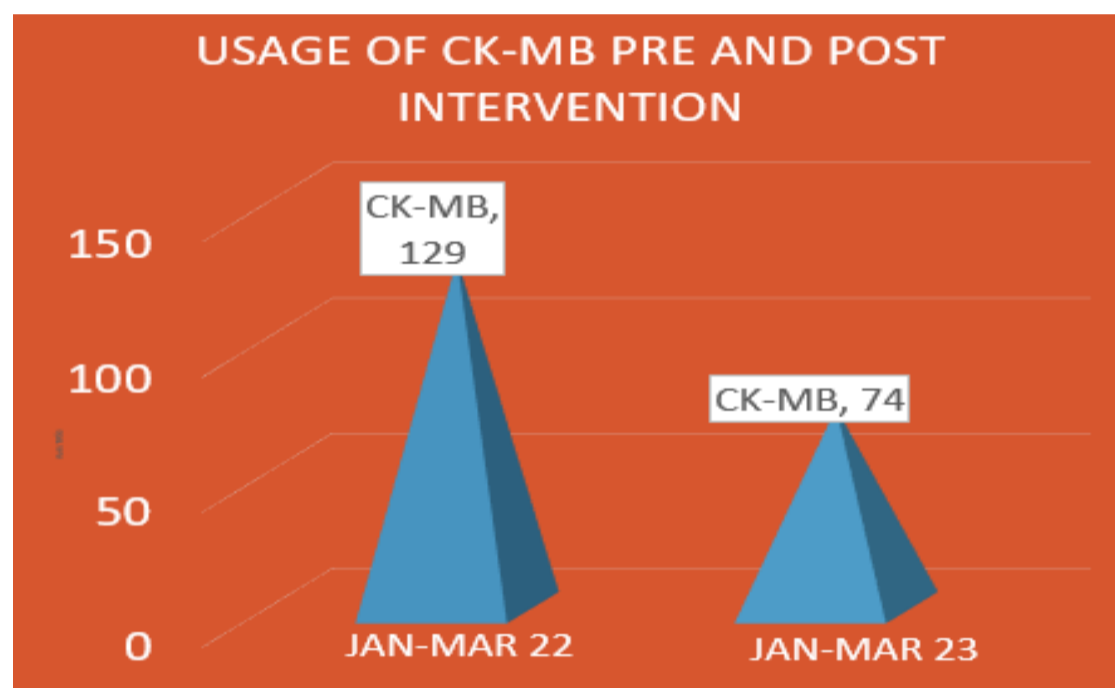
The MI unit order set used at Conemaugh Hospital includes CK Total, CKMB, Troponin, and Troponin delta changes.

At Conemaugh memorial hospital, the annual volume of MI units ordered for year 2021 was 8,889.

AIM

We consider CK-MB as a financial burden to the health care system without adding value to patient care. Thus, eliminating a simple laboratory test, which provides no incremental value to patient care, may prove to be cost-effective, time-efficient, and more precise decision-making, without affecting the high standards of care. We also intend to communicate with multiple teams including hospital administration for removal of CK-Mb from the MI unit order set from electronic medical record.

RESULTS



CONCLUSION

The CK-Mb levels ordered in from JAN-01-2022 to March-31-2022 were 129 by 21 internal medicine residents. The CK-Mb levels ordered in from JAN-01-2023 to March-31-2023 were reduced to 74, which represents a forty-three percent reduction. Total number of IM residents ordered CK-Mb were also reduced to 10. The Project is still ongoing for a total of 12 months duration.

DISCUSSION

Memorial medical executives have approved eliminating MI unit from the order set and IT team has edited the EPIC order sets.

We also expanded this quality improvement project to Nason, Miners, and Meyersdale hospitals.

METHODS

We educated different healthcare teams regarding redundancy of CK-Mb in evaluating cardiac etiologies through multiple ways.

We collaborated with frontline physician/representatives from the departments of cardiology, internal medicine, and emergency medicine as majority of these tests are order by them.

Though seemingly straightforward to write, we do acknowledge that significant hurdles to this implementation exist, and the biggest barrier is to convince physicians who have been ordering CK-MB for years.

Successful removal of CK-MB requires leadership support, awareness, and reassurance that diagnostic efficacy will not be compromised.

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