SUMMARY

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Acute myocardial infarction (AMI) is a common cause for hospital admission to acute geriatric units. The diagnosis of AMI is difficult in the elderly because they often present with non-specific clinical features or may be unable to give an accurate history because of confusion, dementia or dysphasia. Consequently, AMI may be diagnosed on the basis of raised cardiac enzymes activities.

In about 20% of elderly patients, acute admission to hospital is preceded by a fall which may itself result in increased values of cardiac enzymes. Such an increase in the elderly patients may thus occur in the absence of myocardial damage leading to an erroneous diagnosis of AMI.

The MB isoenzyme of CK (CK-MB) has been reported to be highly specific for cardiac muscle damage. CK-MB, therefore, could be used to differentiate between myocardial and non-myocardial components in increased total CK activities. The facility to measure CK-MB activity may not be available (because it is expensive).

The serum creatine kinase : aspartate aminotransferase (CK : AST) ratio has also been used to distinguish between cardiac and skeletal muscle sources of increased CK activities, on the basis that skeletal muscle contains more CK and less AST per gram than cardiac muscle.

An increase in serum CK activity occurs in about one third of patients admitted to this acute geriatric unit. Of these, asignificant (35%) proportion had neither fallen nor had an AMI.

In this study, however, the CK : AST ratio was not sensitive or specific enough to be useful in the diagnosis of AMI in the elderly patients with raised CK activity, Because CK : AST ratio was significantly higher in "fallers" without an AMI than in "non fallers" with an AMI, and on the second and third days, it could differentiate between these groups.

This study was undertaken not to evaluate new tests but to optimise the current diagnostic tools. A high value of CK : AST ratio is to help to exclude AMI in doubtful circumstances. This study also emphasises the importance of validating diagnostic tests in the clinical environment in which they are to be used before being used in the laboratory,s test. An increase in CK activity is common in acute geriatric admissions and if CK-MB measurement or other determination of equal or better specificity for myocardial damage (Such as troponin T) is unavailable.