Myocardial uptake of antimyosin antibody compared with serum myosin light chain I levels in patients with myocardial infarction

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Myocardial accumulation of In-111-antimyosin (InAM) was evaluated in comparison with circulating serum myosin light chain I (LCI) level at the time of InAM injection. Seventeen consecutive patients were studied at various stages ranging from 6 days to 34 days after myocardial infarction (MI). The infarct area was positive for InAM uptake in all patients (100%), and significant myocardial uptake was observed in 14 patients (82.4%). The intensity of InAM uptake correlated with the infarct location shown by ECG and CAG. In contrast, 12 patients (70.6%) had normal or undetectable serum myosin LCI levels, with 5 being normal (0.42-2.5 ng/ml) and 7 undetectable (0.42 ng/ml or less). Only 5 patients (29.4%) had elevated serum myosin LCI levels at the time of InAM injection, and this elevation was slight, ranging from 3.4 to 4.5 ng/ml (mean: 3.75 ng/ml). Among patients with undetectable, normal, and elevated serum myosin LCI levels, there was no significant correlation between InAM uptake and the serum myosin LCI level. Thus, even after the serum myosin LCI level has decreased to normal, InAM can still bind to cardiac myosin in patients with MI, presumably until there is complete recovery from the hibernating myocardium due to ischemic damage.

Key words: myocardial infarction, In-111-antimyosin antibody, scintigraphy, serum myosin light chain I, immunoradiometric assay