EFFECTS OF HIGH-DOSE ATORVASTATIN TREATMENT IN PLASMA PROTEOME AFTER AN ACUTE CORONARY SYNDROME

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Several studies have shown that intensive treatment with statins is more effective than moderate therapy reducing the incidence of cardiovascular events after an Acute Coronary Syndrome (ACS). However, the processes involved in this clinical benefit are not entirely clarified yet. In order to elucidate the potential effects of intensive statin treatment, immunodepleted plasma samples from ACS patients were analyzed by 2-DE and 2D-DIGE. Twenty-five patients with ACS were randomized, the fourth day after admission, to receive atorvastatin 80 mg/dL (ATV) or standard therapy for two months, when plasma samples were collected and immunodepleted. These two groups were compared with healthy subjects, matched for age and sex. Changes in expression levels of 17 protein spots were revealed by 2-DE, but only one spot was affected by both treatments. ATV normalized 9 spots with respect to standard therapy and expression levels of other 7 spots were modified only by ATV. 2D-DIGE analysis showed altered expression levels in 33 protein spots, and both treatments affected15 of them. 14 different spots were normalized by ATV, but this treatment also modified expression levels of 4 different spots. The identified proteins were involved in several physiological processes that may be related to the benefits of high-dose statin therapy. This study might improve our understanding of the molecular mechanisms involved in the clinical advantage of this intensive treatment.