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THE EFFECTS OF ATORVASTATIN WITH DIFFERENT DOSES ON SLOX-1 AND H_2S IN ACUTE CORONARY SYNDROME

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Objectives To investigate the effects of atorvastatin with different doses on soluble lectin-like oxidised low-density lipoprotein receptor-1 (sLOX-1), 8-isoprostane, hydrogen sulphide (H_2S) and nitric oxide (NO) in patients with Acute Coronary Syndrome (ACS).

Methods 107 cases in the Second Affiliated Hospital of Dalian Medical University from 2010–2011 were enrolled in this study. 89 patients with ACS were randomised into atorvastatin 20 mg/d or 40 mg/d for 1 week. 18 healthy patients were chosen as control group. The levels of serum sLOX-1, 8-isoprostane and plasma H_2S were measured by ELISA, the levels of serum NO was assayed by nitrate reduction method.

Results The serum levels of sLOX-1, 8-isoprostane in ACS group were obviously higher than that in control group, The levels of sLOX-1 showed a positive correlation to the serum levels of 8-isoprostane ($r=0.83$, $p=0.00$), the levels of H_2S and NO decreased in ACS. The levels of sLOX-1, 8-isoprostane in ACS group under atorvastatin 20 mg/d and 40 mg/d reduced after treatment, the levels of H_2S and NO increased after treatment. Their changes was more significant in 40 mg/d group. [20 mg: sLOX-1 (12.59±2.39) vs baseline (12.96±2.58) ng/ml, 8-isoprostane (1.42±0.12) vs baseline (1.49±0.08) ng/ml, H_2S (31.26±3.18) vs baseline (27.93±5.55) μmol/l, NO (98.50±9.68) vs baseline (78.96±16.18) μmol/l; 40 mg: sLOX-1 (9.31±2.31) vs baseline (13.03±1.09) ng/ml, 8-isoprostane (1.15±0.48) vs baseline (1.57±0.92) ng/ml, H_2S (36.60±3.02) vs baseline (30.53±7.64) μmol/l, NO (127.46±14.55) vs baseline (80.69±19.92) μmol/l; $p<0.05$.]

Conclusions The levels of sLOX-1 and 8-isoprostane are upregulated, that of H_2S and NO reduce in patients with ACS. Atorvastatin could decrease the levels of serum sLOX-1 and 8-isoprostane, increase the levels of H_2S and NO, and atorvastatin with 40 mg/d has more effects