Methods A total of 131 ACS patients and 178 healthy control subjects were recruited. The patients were treated with atorvastatin 10 mg daily for 1 month. The lipid profile and sdLDL-C were detected in healthy control subjects and patients before and the end of treatment. The SPSS software was used to analyse the effect of atorvastatin on the lipid profile and sdLDL-C.

Results The 95th percentile of sdLDL-C in healthy controls was 0.62 mmol/l. The atorvastatin treatment decreased the levels of TC, TG, HDL-C, LDL-C, non-HDL-C, TC/HDL-C ratio and sdLDL-C significantly, with p<0.05. The reduction of sdLDL-C was correlated with the baseline levels of TC, TG, LDL-C and nonHDL-C. In the patients with LDL-C<2.59 mmol/l, the treatment reduced the percentage of patients with sdLDL-C>0.62 mmol/l from 26.9% to 8.6%.

Conclusion The atorvastatin treatment can reduce the serum sdLDL-C in ACS patients, even the patients with LDL-C<2.59 mmol/l.