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THROMBUS ASPIRATION DURING PRIMARY PERCUTANEOUS CORONARY INTERVENTION ATTENUATES C-REACTIVE PROTEIN LEVEL AND IMPROVES CARDIAC FUNCTION IN PATIENTS WITH ST-ELEVATION MYOCARDIAL INFARCTION

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Objectives To assess the impact of thrombus aspiration (TA) upon high-sensitivity C-reactive protein (hsCRP) level and cardiac function in patients with STEMI receiving primary PCI.

Methods A total of 832 patients with STEMI who underwent primary PCI were retrospectively enrolled. Among those patients, 537 cases received TA before balloon dilatation during PCI (TA group) and 295 cases did not receive TA therapy (control group). High sensitive CRP was measured at admission, on day 3 and 7, respectively. The peak level of cardiac troponin T (cTNT) and incidence of the major adverse cardiac event (MACE) (defined as the composite of any death, non-fatal myocardial infarction and target vessel revascularisation) were clinically compared. Echocardiography was used to assess the left ventricular function

within 1 week after the procedure and at a 6-month follow-up.

Results In comparison with the control, TA group had significantly lower levels of hsCRP on day 3 (18.36 ± 6.27 mg/l vs 12.37 ± 5.23 mg/l, $p < 0.05$) and day 7 (10.94 ± 5.81 mg/l vs 6.39 ± 3.76 mg/l, $p < 0.05$), and had obviously lower peak levels of cTNT on day 1 (9.94 ± 2.71 ng/ml vs 6.37 ± 2.38 ng/ml, $p < 0.05$). There are no statistical differences in the left ventricular end-systolic volume (LVEDV) and end-diastolic volume (LVESV) between TA group and the control at a 1-year follow-up, but TA group had significantly higher left ventricular ejection fraction (LVEF) (52.36 ± 3.48 % vs 44.21 ± 3.34 %, $p < 0.05$) than the control. There were no differences in the incidences of MACE during hospitalisation, at 30-day and 1-year follow-ups.

Conclusions The administration of thrombus aspiration during primary PCI in patients with STEMI may reduce hsCRP level, alleviating the injury of myocardium, followed by an improvement of LVFS at a 1-year follow-up.