Effects of IABP on myocardial infarction, heart failure and its impact on BNP and Cr levels

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View from specialist: It is creative, and of certain scientific and educational value.

[ABSTRACT] Objective: To investigate the effects of aortic balloon counterpulsation on myocardial infarction, heart failure and its impact on urinary sodium and serum creatinine. Methods: A total of 92 patients with acute myocardial infarction complicating with heart failure were randomly divided into observation group (n=46 cases) and control group (n=46 cases). Both groups were patients were required to stay in bed, given oxygen inhalation, anti-coagulation, anti-arrhythmia treatment and other conventional therapy. The control group was given dopamine, if blood pressure was not promoted well, then intraaortic balloon counterpulsation (IABP) treatment was applied; while the observation group was given IABP treatment directly based on conventional treatment. After the treatment, hemodynamic parameters, BNP, Cr, plasma-albumin, hs-CRP, fatality rate during hospitalization, and left ventricular ejection fraction of both groups were compared. Results: (1) After treatment, hemodynamic parameters in both groups were improved in both groups, and the hemodynamic parameters of the observation group was higher than that of the control group (P<0.05); (2) After treatment, BNP, Cr, hs-CRP of the observation group was significant lower than that of the control group, but , plasma-albumin level was significant higher than that of the control group (P<0.05); (3) In-hospital mortality of the experimental group was significant lower than that of the control group (P<0.05); (4) After treatment, left ventricular ejection fraction of both groups were elevated, but 24 hours after treatment, the left ventricular ejection fraction of the observation group was significantly higher than that of the control group (P<0.05). Conclusion: IABP can significantly improve the hemodynamic parameters in patients with acute myocardial infarction complicating with heart failure, it can decrease BNP, Cr, plasma-albumin, hs-CRP; correct heart failure, and increase patients' survival rate.

[KEY WORDS] Aortic balloon counterpulsation; Myocardial infarction; Heart failure; Brain urine sodium peptide; Serum creatinine