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COMPARATIVE STUDY BETWEEN IVABRADINE AND ATENOLOL THERAPY FOR INFARCTED RATS: THE EFFECTS ON INFARCTION SIZE AND HEART FUNCTION

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Objective To compare ivabradine therapy with atenolol therapy on the effects of infarction area and heart function in rats after myocardial infarction.

Methods In this study, Sprague–Dawley rats were divided into two groups: MI-IVA group and MI-AT group. All rats were induced to myocardial infarction by complete ligation of the left coronary artery. Medical Treatment started after myocardial infarction immediately. On the seventh day and the 14th day after myocardial infarction eight rats from each group were sacrificed to get the left ventricle. Masson's staining was employed to distinguish the infarction and no-infarction region. The infarction area was calculated by morphometric analysis. The echocardiographs of the rest rats were recorded on the second day and the 30th day.

Results There was no difference in infarction area between MI-IVA group and MI-AT group on seventh day. After two weeks, the infarction area of MI-IVA group was significantly smaller than that of MI-AT group though there was no difference among those echocardiographic parameters taken 24 h after the infarction or on the 30th day.

Conclusion Ivabradine treatment for a relatively long period after myocardial infarction could reduce the size of infarction area, and prevent left ventricle remodelling.