Results After four weeks of treatment, the expression of MMP-2 and MMP-9 of myocardial extracellular matrix in MI rats were higher than sham-operation rats ((the expression of MMP-2: the expression of protein level: (171.4±7.6)%, (95.8±4.2)%, (157.5 ±6.4)% vs (62.2±3.3)%, $p<0.05$; the expression of mRNA level: (48.3±2.3)%, (33.2±2.1)%, (40.6±2.2)% vs (25.2±1.8)%, $p<0.05$). The expression of MMP-9:the expression of protein level: (217.5 ±8.1)%, (133.5±5.4)%, (180.2±6.8)% vs (95.2±3.9)%, $p<0.05$; the expression of mRNA level: (78.4±3.6)%, (55.6±3.1)%, (64.8±3.2)% vs (42.5±2.7)%, $p<0.05$.) The expression of AVE0991 group was less than MI group ($p<0.01$). In contrast, there was no difference in the expression of protein or mRNA of MMP-2and MMP-9 between the control and AVE0991+A-779 groups ($p>0.05$).

Conclusions AVE0991 could improve ventricular remodelling after acute myocardial infarction in rats, AVE could reduce the expression of MMP-2 and MMP-9 on both protein and mRNA levels, which are very important material attribute to extracellular matrix deposition. And A-779 could inhibit the AVE0991-induced ventricular remodelling.

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EFFECTION OF AVE0991 ON EXPRESSION OF MATRIX METALLOPROTEINASE-2 AND MATRIX METALLOPROTEINASE-9 IN RATS AFTER MYOCARDIAL INFARCTION

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Objectives To observe the effects of nonpeptide angiotensin-(1–7) (Ang-(1–7)) analogue AVE0991 on Matrix Metalloproteinase-2 (MMP-2) and Matrix Metalloproteinase-9 (MMP-9) in Rats After Myocardial Infarction (AMI).

Methods Forty Sprague-Dawley rats were randomly divided into four group: sham operation group, control group, AVE0991 group and AVE0991+A-779 group. Ten rats were sham-operation group (without coronary artery ligation), the rest ones were made into models of acute myocardial infarction (AMI) after left coronary artery ligation. After four weeks of treatment, reverse transcription polymerase chain reaction (RT-PCR) method and Western-blot method were used to evaluate the expression of MMP-2 and MMP-9 of myocardial extracellular matrix in rats.