

论著

## 糖尿病在糖尿病大鼠心肌梗死后心力衰竭形成中的效应

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**摘要** 目的: 评估糖尿病在链脲霉素(STZ)诱导的血糖不加控制的糖尿病大鼠急性心肌梗死(AMI)后心力衰竭(HF)形成中的效应。方法: 所有SD大鼠随机分组, 糖尿病组经腹腔内注射STZ(65mg/kg)诱导糖尿病, 70 d后所有AMI组结扎冠状动脉左前降支建立AMI模型。确定AMI前后各时点观察大鼠的生存率, 心肌超微结构的变化, 进行血流动力学分析、心肌纤维化测定及左心肥厚的评估。结果: 结扎左冠状动脉前降支后, 糖尿病大鼠的左心功能恶化及左室重构的速度均较非糖尿病大鼠显著。在早期阶段, 糖尿病与非糖尿病大鼠心肌纤维化相似, 而1月后却出现显著差别。结论: 糖尿病大鼠AMI后心力衰竭进展明显加速。

**关键词** [链脲霉素](#); [糖尿病](#); [心肌梗死](#); [心力衰竭](#)

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## Effects of diabetes on the development of heart failure in streptozotocin-induced diabetic rat model with acute myocardial infarction

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### Abstract

<FONT face=Verdana>AIM: To evaluate the time course and effect of diabetes on the development of heart failure (HF) in poorly controlled streptozotocin (STZ) - induced diabetic rat model for 70 d with acute myocardial infarction (AMI) in vivo. METHODS: All SD rats were randomized into four groups. Diabetes were induced by a single intraperitoneal injection of STZ (65 mg/kg), and 70 d later after the induction, AMI models were made with the ligation of left anterior descending coronary artery. The time course of diabetic effects on the development of heart failure in rats before and after AMI was observed. The survival rate of the rats and ultrastructure change of myocardium, the hemodynamics, the extent of the myocardial fibrosis, and the cardiac hypertrophy were also determined. RESULTS: After the ligation of left anterior descending coronary artery, the diabetic rats showed worse LV function and accelerated left ventricular (LV) remodeling compared with the non-diabetic ones. Myocardial fibrosis in both diabetic and non-diabetic rats subjected to AMI was similar in the early phase, while it was quite different after 1 month. CONCLUSION: Heart failure progression is accelerated in diabetic rat with AMI.</FONT>

**Key words** [Streptozotocin](#) [Diabetes mellitus](#) [Myocardial infarction](#) [Heart failure](#)

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