

## 基础研究

### 高脂饮食联合小剂量STZ诱导2型糖尿病大鼠及小鼠模型眼表角膜病变的形态学观察

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#### 摘要:

目的: 探讨高脂饮食联合小剂量链脲佐菌素(STZ)诱导的2型糖尿病大鼠及小鼠模型眼角膜形态学改变, 阐明糖尿病并发眼部疾病时眼表角膜病变特征。方法: 将动物随机分为模型组和正常对照组, 高脂饮食联合STZ腹腔注射建立大鼠及小鼠糖尿病模型。造模16/12周后, 氧化酶法检测空腹血糖水平, 酶法检测血清游离脂肪酸及总胆固醇水平; 动物处死后分离眼球, 角膜HE染色并在光镜下观察其组织病理学改变。结果: 与正常对照组比较, 模型组大鼠及小鼠体质量无明显改变( $P>0.05$ ), 但摄食量、空腹血糖、血脂水平均显著升高( $P<0.01$ )。与正常对照组比较, 模型组大鼠及小鼠角膜形态学观察均表现为厚度明显增加, 上皮层及基质层水肿明显。结论: 高脂饮食联合小剂量STZ注射建立的实验性大鼠及小鼠糖尿病模型成模后16/12周, 均具有明显的眼表角膜受损特征。

#### 关键词:

Morphological observation of |corneal injury in high-fat diet combined with low-dose STZ-induced type 2 diabetic rats and mice

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#### Abstract:

Abstract:Objective To investigate the morphological changes of cornea of rats and mice with type 2 diabetes mellitus induced with high-fat diet combined with low-dose STZ and clarify the characteristics of the corneal injury in rat and mouse models with diabetes and eye diseases.Methods Animals were divided into control groups and model groups.High-fat diet combined with intraperitoneal injection of low-dose STZ were used to induce type 2 diabetic rat and mouse models.After 16/12 weeks,fasting blood glucose,free fatty acids and total cholesterol levels were measured with oxidase method and enzyme method.The histopathological changes of the cornea were analyzed by light microscope.Results Compared with control groups,there was no significant change in body weights of rats and mice in model groups ( $P>0.05$ );but the food intake,fasting blood glucose and lipid levels of rats and mice in model groups were significantly increased ( $P<0.01$ ).Compared with control groups,the corneal epithelium and stroma in model groups were obviously edema.Conclusion Both experimental diabetic models induced by high-fat diet and low dose of STZ in rats and mice have significant damage to the cornea after 16/12 weeks.

Keywords: type 2 diabetes mellitus;diabetic eye disease;ocular diseases;cornea

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