[1]甘立霞.2型糖尿病基础研究中的难题与突破[J].第三军医大学学报,2014,36(15):1543-1547.
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2型糖尿病基础研究中的难题与突破

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Title: Basic research frontiers of type 2 diabetes: the nuts and cuts

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关键词: β-细胞质量; 胰岛素抵抗; 肥胖; 2型糖尿病

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Abstract: In recent years, tremendous progress has been made on beta cell dysfunction and insulin resistance, 2 fundamental pathological mechanisms of type 2 diabetes mellitus (T2DM). Reduced beta-cell mass has been widely accepted as the main cause leading to insulin secretion decline, the machanism of which has been attributed to enhanced beta-cell apoptosis, beta-cell dedifferentiation, and decreased beta-cell proliferation. Also having made a great breakthrough is the study on insulin resistance, particularly in obesity condition. Chronic systemic inflammation has now been recognized as the link between obesity, insulin resistance and T2DM. The enlarged adipose tissue is now recognized as the major source for the enhanced release of various bioactive adipokines and proinflammatory factors, such as leptin, resistin and TNF-α, which act as mediators for impaired insulin signaling in the liver, muscles and central nervous system. Supported in evidence, weight-loss by bariatric surgery has achieved great success in reducing the metabolic risk factors for T2DM and is the most effective treatment for morbid obese patients. These studies and clinical practice underscore adipose tissue and the gastrointestinal tract as important endocrine organs in maintenance of glucose homeostasis. Besides, the role of gut microbiota in the development of insulin resistance and metabolic disorders has been established. This review highlighted these recent progresses in mechanisms of T2DM with emphasis on the loss of beta cell mass and obesity-associated insulin resistance.

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