Metabolic effects of antidiabetic drugs on adipocytes and adipokine expression

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Several classes of antidiabetic agents have been developed that achieve their hypoglycemic outcomes via various molecular mechanisms. Adipose tissue is a major metabolic and energy-storing tissue and plays an important role in many metabolic pathways, including insulin signaling and insulin sensitivity. Adipose tissue monitors and regulates whole body homeostasis via production and release of potent proteins, such as adipokine and adiponectin, into the circulation. Therefore, any agent that can modulate adipocyte metabolism can, in turn, affect metabolic and glucose homeostatic pathways. Antidiabetic drugs are not only recognized primarily as hypoglycemic agents but may also alter adipose tissue itself, as well as adipocyte-derived adipokine expression and secretion. In the current review, we present the major evidence concerning routinely used antidiabetic agents on adipocyte metabolism and adipokine expression.

adipocyte

adipokine

adiponectin

antidiabetic agent

diabetes mellitus

inflammation

thiazolidinedione

adipocytokine

antidiabetic agent

biguanide derivative

dipeptidyl peptidase IV inhibitor

glucagon like peptide 1 receptor agonist

insulin

sodium glucose cotransporter 2 inhibitor

sulfonylurea

adipocytokine

antidiabetic agent

adipocyte

adipose tissue

diabetes mellitus

diabetic complication

disease classification

drug classification

drug effect

human

inflammation

metabolism

nonhuman

priority journal

protein expression

Review

adipocyte

animal

biosynthesis

drug effect

Adipocytes

Adipokines

Animals

Humans

Hypoglycemic Agents