

blood pressure may assist in maintaining good blood pressure control.

IMPAIRED FASTING GLUCOSE (SEE ALSO CHAP. 403)

In patients with the metabolic syndrome and type 2 diabetes, aggressive glycemic control may favorably modify fasting levels of triglycerides and/or HDL cholesterol. In patients with impaired fasting glucose who do not have diabetes, a lifestyle intervention that includes weight reduction, dietary saturated fat restriction, and increased physical activity has been shown to reduce the incidence of type 2 diabetes. Metformin also reduces the incidence of diabetes, although the effect is less pronounced than that of lifestyle intervention.

INSULIN RESISTANCE (SEE ALSO CHAP. 404)

Several drug classes (biguanides, thiazolidinediones [TZDs]) increase insulin sensitivity. Because insulin resistance is the primary pathophysiologic mechanism for the metabolic syndrome, representative drugs in these classes reduce its prevalence. Both metformin and TZDs enhance insulin action in the liver and suppress endogenous glucose production. TZDs, but not metformin, also improve insulin-mediated glucose uptake in muscle and adipose tissue. In a meta-analysis of nine trials involving 12,026 participants, the TZD pioglitazone versus placebo was associated with reduction in ASCVD events in patients with insulin resistance (metabolic syndrome), prediabetes and type 2 diabetes. However, adverse effects including weight gain, bone fracture, and congestive heart failure with/or without edema were seen. Benefit of TZDs has been seen in patients with NAFLD, and with metformin in women with polycystic ovary syndrome, and both drug classes have been shown to reduce markers of inflammation.

■ FURTHER READING

ALBERTI KG et al: Harmonizing the metabolic syndrome: A joint interim statement of the International Diabetes Federation Task Force on Epidemiology and Prevention; National Heart, Lung,