

MINUTE FOR HEALTH - DIABETES MELLITUS

Diabetes mellitus is a disease in which the body does not produce or properly utilize insulin, a hormone normally produced by the pancreas and essential for most cells to take up glucose to use for energy. If the body is unable to produce or properly use insulin, glucose stays in the blood vessels instead of being used for energy for a longer period of time, and excess glucose causes damage to organs systems in the body before it is excreted in the urine. At the same time, the cells of the body do not take up the glucose and are starved for energy.

There are 3 types of diabetes mellitus. Type I, formerly called "juvenile diabetes", occurs when the pancreas does not produce enough insulin. Unless identified and treated, this can be a life-threatening condition. Type II, formerly called "adult onset diabetes", occurs when the cells of the body become resistant to insulin, and both medications and additional insulin injections are often used to control the disease. Gestational diabetes occurs in pregnant women and usually goes away after the baby is born.

Diabetes mellitus affects 29 million people in the United States (9.3% of the population). In most cases, the condition can be controlled with a combination of changes in lifestyle and nutrition, and with administration of medications. Deleterious effects of diabetes mellitus are most often seen after 10 years of persistently high blood sugar levels, and the complications include vision loss and blindness, nerve damage (diabetic neuropathy), heart disease, stroke, circulatory problems, kidney disease, and poor wound healing.

Diabetes mellitus type I occurs primarily in younger people, with slightly higher incidence in Caucasians. Diabetes mellitus type II is more common in older people, with higher incidence in African-Americans, Native Americans, and people who suffer from obesity. Risk factors for the development of diabetes mellitus include age greater than 45 years, obesity, sedentary lifestyle, family history of diabetes mellitus, hypertension, hypercholesterolemia, and in females with polycystic ovary syndrome and a history of diabetes during pregnancy.

Initial signs and symptoms of diabetes mellitus include extreme fatigue, unexplained weight loss or weight gain, frequent urination, increased thirst, blurry vision, any history of wounds that do not heal well. Blood and urine tests are required to make the diagnosis of diabetes mellitus. Patients who have a blood sugar greater than 126 mg/dL after fasting for 12 hours, or a blood sugar greater than 200 mg/dL 2 hours after an oral glucose challenge test, meet criteria for diagnosis of diabetes mellitus.

Treatment of diabetes mellitus centers around the importance of maintaining blood sugars as close to normal as possible. Therefore, consistent and daily monitoring of blood sugars is an essential component to any plan for proper control of diabetes mellitus. Lifestyle changes, including a diet with carbohydrates limited to less than 100 g per day combined with a structured exercise regimen, is a mainstay for treatment and prevention of diabetes mellitus. However, oral medications and injectable insulin are often required to control blood sugars as well.

Routine follow-up with your physician on a quarterly basis is an essential component to ensure that treatment of diabetes mellitus is effective, and that there are no signs of complications related to the disease.

Michael J Lucherini MD MS