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FAMILY PRACTICE BOARD REVIEW MANUAL

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Type 2 Diabetes Mellitus

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I. INTRODUCTION

Diabetes mellitus is a syndrome of metabolic disorders characterized by hyperglycemia that results from an absolute or a functional deficiency of insulin. In addition to hyperglycemia, this syndrome includes abnormalities of carbohydrate, lipid, and protein metabolism. Acute complications of diabetes include diabetic ketoacidosis, hyperosmolar coma, and hypoglycemia. Chronic complications include microvascular disease (retinopathy, neuropathy, and nephropathy) and macrovascular disease (coronary artery, cerebrovascular, and peripheral vascular).

Diabetes mellitus is a chronic and pervasive disease that is increasing in prevalence. By the year 2000, 20 million people in the United States will have a form of diabetes mellitus.¹ By the year 2010, the number of people with diabetes worldwide will double.¹ The increased prevalence of diabetes mellitus in the United States stems largely from an increase in type 2 diabetes, which is a result of an aging population, an increasing prevalence of obesity, and a more sedentary population. In the United States, it has been estimated that \$100 billion, or 1 out of every 7 health care dollars, is spent on patients with diabetes.¹

Diabetes mellitus is classified on the basis of pathogenesis, and most cases fall into 1 of 4 categories (**Table 1**).² Type 1 diabetes mellitus represents 5% to 10% of the diabetic population in the United States. It usually has an

acute onset and is characterized by poorly functioning or nonfunctioning pancreatic beta cells, leading to hypoinulinemia and resultant hyperglycemia and acidosis.

Most diabetics (90% to 95%) have type 2 diabetes mellitus. Type 2 disease is a heterogeneous disorder that develops gradually. It is characterized by decreased insulin sensitivity, defective beta cell insulin secretion, and increased glucose output by the liver. Insulin resistance in type 2 disease is thought to precede insulin secretory deficiency. Early stages of the disease (ie, during the first 10 years) are often characterized by hyperinsulinemia. It has recently been understood that many patients with type 2 disease, especially those with long-standing disease, have decreased beta cell function together with insulin insensitivity. The prevalence of type 2 diabetes has not been well evaluated.

II. CASE PRESENTATION

A 38-year-old African-American woman who has been a patient of yours for many years calls your office with complaints of vaginal itching and burning, dysuria, and urinary frequency for the previous 18 hours. She has polycystic ovarian disease and visits your office periodically for ongoing evaluation of her condition. She states that she cannot wait until her next appointment to be evaluated because of her severe discomfort. She denies sexual promiscuity, use of steroids, pelvic pain,