Question: 151

You care for a 17-year-old boy who is overweight. He has gained 44 lb (20 kg) in the last year, especially in his abdominal area. On examination today, his blood pressure is 158/90 mm Hg using a large, appropriately sized cuff. His mother has a similar body habitus and is being treated for type 2 diabetes mellitus.

Of the following, the MOST likely abnormalities to expect in this patient if his present condition continues into adulthood is

A. high triglyceride concentrations, low high-density lipoprotein cholesterol concentrations
B. hypoglycemia from insulin sensitivity
C. low concentrations of C-reactive protein in the blood
D. low fibrinogen concentrations with bleeding diatheses
E. low triglyceride concentrations, low low-density lipoprotein cholesterol concentrations
The metabolic syndrome is a series of clinical and laboratory findings that include truncal obesity, elevated concentrations of serum triglycerides, decreased concentrations of high-density lipoprotein cholesterol, and an elevation in blood pressure. Sex- and age-specific values exist for each of these values in the adult population. The metabolic syndrome increases the risk for type 2 diabetes and cardiovascular disease. In some recent studies of adult patients, the incidence of the metabolic syndrome was as high as 23%. The metabolic syndrome affects people from all ethnic and cultural backgrounds, but is most prevalent in the Hispanic population. The increasing incidence of the metabolic syndrome in the adult population is likely the result of the growing number of children who develop obesity. The growth in numbers of obese children has paralleled the increased incidence in type 2 diabetes and impaired glucose tolerance.

The patient described in the vignette has abdominal obesity, hypertension, and a family history of type 2 diabetes, which places him at risk for the metabolic syndrome and its attendant risks for the development of cardiovascular disease as he ages. The most likely laboratory abnormalities that will be identified with the metabolic syndrome are elevated triglyceride concentrations and decreased concentrations of high-density lipoprotein cholesterol. Insulin resistance, which often is found in metabolic syndrome, may lead to hyperglycemia. C-reactive protein and fibrinogen values often are elevated in patients who have metabolic syndrome.

References:
