Imatinib mesylate, a selective inhibitor of the BCR-ABL tyrosine kinase gene, is now a standard therapy in patients with chronic myeloid leukemia (CML) and gastrointestinal stromal tumor (GIST). Recent studies have shown that imatinib alters T-cell–mediated immune responses,1,4 raising the possibility of opportunistic infections associated with imatinib therapy. So far, few epidemiological data are available to support this hypothesis. We report herein a case of peritoneal tuberculosis (TB) following 4 months of imatinib therapy for CML.

Report of a Case. A 37-year-old Swiss-born man was diagnosed as having BCR-ABL–positive CML, and imatinib mesylate therapy was initiated (400 mg/d). One month later, the imatinib dosage was reduced owing to an elevation in transaminase (3 times the upper limit of normal) and alkaline phosphatase (4 times the upper limit of normal) levels. Serologic test results for human immunodeficiency virus and hepatitis A, B, and C virus were negative, and the abnormal liver test results were attributed to imatinib therapy. Four months later, the imatinib mesylate dosage was again increased to 400 mg/d. One week later, the patient developed abdominal pain, anorexia, and nausea. Abdominal computed tomography revealed ascites, hepatosplenomegaly, and diffuse infiltration of mesenteric fat. An analysis of ascitic fluid revealed a white blood cell count of 1100/µL (50% lymphocytes) (to convert to ×10⁹/L, multiply by 0.001). Standard bacterial cultures remained sterile. Findings from a Ziehl-Neelsen stain and mycobacterial culture were negative, and the patient had no history of TB exposure. Global lymphopenia might have facilitated TB reactivation, but TB itself may induce transient lymphopenia.2 In fact, lymphocyte counts rose to subnormal levels after the initiation of antituberculous therapy. The increased incidence of herpes zoster3 and previous cases of pulmonary nocardiosis,7 pulmonary TB,8 and fungal pneumonia9 raise the possibility of opportunistic infections associated with imatinib therapy, but more data are needed. It might be prudent to investigate the presence of latent TB (by purified protein derivative skin testing or interferon-γ release assay) before the initiation of imatinib therapy.

At the time of TB diagnosis, 1 month after imatinib therapy discontinuation, there was global lymphopenia (CD3⁺, CD4⁺, and CD8⁺ cells: 190 [76% [percentage of total lymphocytes]], 155 [62%], and 39 [16%] cells/µL, respectively) and no evidence of blast transformation of CML. After 2 months of antituberculous therapy, lymphopenia was still present but less pronounced (CD3⁺, CD4⁺, and CD8⁺ cells: 846 [92%], 619 [67%], and 222 [24%] cells/µL, respectively).

Comment. To our knowledge, this is the second report of TB reactivation in association with imatinib therapy. The incidence of TB in Switzerland is low (<10 per 100 000 population per year), and the patient had no history of TB exposure. Global lymphopenia might have facilitated TB reactivation, but TB itself may induce transient lymphopenia.2 In fact, lymphocyte counts rose to subnormal levels after the initiation of antituberculous therapy. The increased incidence of herpes zoster3 and previous cases of pulmonary nocardiosis,7 pulmonary TB,8 and fungal pneumonia9 raise the possibility of opportunistic infections associated with imatinib therapy, but more data are needed. It might be prudent to investigate the presence of latent TB (by purified protein derivative skin testing or interferon-γ release assay) before the initiation of imatinib therapy.

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Underdiagnosis of Obesity in Adults in US Outpatient Settings

Obesity affects nearly 32%—more than 60 million—American adults. The obesity epidemic imposes an enormous cost on the nation’s health and economy. Evidence-based clinical guidelines recommend that treatment for obesity incorporates a 2-step process: assessment and management. Routine screening and accurate diagnosis are among the first steps leading to proper treatment. However, research on obesity screening and diagnosis in US outpatient settings is limited.

Methods. We examined the rates of obesity screening and diagnosis in a nationally representative sample of visits by patients 18 years and older to private physician offices and hospital outpatient departments across the United States. Data were obtained from the 2005 National Ambulatory Medical Care Surveys conducted by the National Center for Health Statistics (NCHS) (http://www.cdc.gov/nchs/about/major/ahcd/ahcd1.htm [accessed July 23, 2008]). Patient, physician, and clinical information is collected at each randomly selected visit and is recorded on NCHS standard patient record forms. Measurements of height and weight were captured for the first time in 2005. Body mass index (BMI) (calculated as weight in kilograms divided by height in meters squared) and obesity were defined according to accepted standards. Physician diagnoses were documented using open-ended responses for (up to 3) visit diagnoses, which were later coded by NCHS staff according to the International Classification of Diseases, Ninth Revision, Clinical Modification and check boxes for a prespecified list of current medical problems, one of which was obesity, regardless of visit diagnoses. The unit of analysis was the patient visit. National estimates were generated using the SURVEYMEANS procedure (version 9.1.3; SAS Institute, Cary, North Carolina) for the number and proportion of patient visits, including 95% confidence intervals (CIs), by taking into account the sampling weights and multistage-stratified probability sampling designs of the surveys.

Results. In 2005, American adults 18 years and older made an estimated total of 845 million outpatient visits (95% CI, 757 million–932 million). Measurements were recorded during 42% (95% CI, 39%-46%) of total visits for height, 65% (95% CI, 62%-68%) for weight, and 41% (95% CI, 37%-45%) for both height and weight. Of the visits for preventive care only, the corresponding rates were 52% (95% CI, 46%-58%), 75% (95% CI, 71%-80%), and 51% (95% CI, 46%-57%), respectively. Of the total visits in which BMI was obtainable, 37% (95% CI, 35%-40%) were for patients with a BMI of 30.0 or greater.

Only 29% (95% CI, 25%-32%) of visits by patients who were obese according to their BMI had a documented diagnosis of obesity (Figure). The proportion of visits during which obesity was diagnosed was 19% (95% CI, 15%-22%) for patients whose BMI was between 30.0 and 34.9, 32% (95% CI, 26%-38%) for those whose BMI was between 35.0 and 39.9, and 50% (95% CI, 43%-57%) for those whose BMI was 40.0 or greater. Obesity was diagnosed in less than 2% of visits by patients whose BMI was less than 30.0. Owing to the underreporting of clinical obesity, the agreement between obesity defined by BMI and that by physician diagnosis was low (κ=0.3).

Figure. Association of physician-diagnosed obesity with clinically measured body mass index (BMI) (calculated as weight in kilograms divided by height in meters squared). Error bars indicate 95% confidence intervals.