to diagnose and treat diabetes is to decrease the risk of complications. Accordingly, the revised cutoff for FPG was established on the basis of the risk for the development of complications of diabetes. Analysis of several studies revealed that the approximate thresholds for increased risk of retinopathy and microvascular and macrovascular disease were 6.9 mmol/L (125 mg/dL) and 11.1 mmol/L (200 mg/dL) for fasting and 2-h postload glucose concentrations, respectively (1). Thus, FPG and the OGTT have approximately equal predictive value for the most pertinent and practical clinical outcome of diabetes, namely the development of long-term complications. Since it is less complex, less expensive, more reproducible, more readily obtained, and more acceptable to patients than the OGTT, the FPG should be the primary strategy for the assessment of glycemia.

Notwithstanding this recommendation, measurement of blood glucose concentrations is an imperfect method for identifying individuals with diabetes mellitus (4). Blood glucose concentrations are a continuum, and there is no absolute threshold for the development of complications, necessitating a somewhat arbitrary choice of cutoff. The advent of molecular and immunological assays that are capable of accurately diagnosing diabetes is eagerly awaited.

References


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Effect of Antiresorptive Therapy on Day-to-Day Variation of Urinary Free Deoxypyridinoline Excretion

To the Editor:

Measurement of bone markers provides information about bone resorption and formation. One of the proposed clinical applications is to monitor antiresorptive therapy (1); however, this could be precluded because bone markers show day-to-day and circadian variation (2–6). High intra-individual variation might be the principal cause of limited utility in the individual patient. Most of the studies on variability were done in untreated individuals. Therefore we decided to evaluate the effect of antiresorptive therapy on day-to-day variation of urinary free deoxypyridinoline (DPD).

Eight postmenopausal women (mean age, 62.5 ± 3.9 years) were studied. They all had osteoporosis (defined according WHO densitometric criteria) and pretherapy baseline DPD values above the upper limit of the reference interval (3–8 μmol/mol creatinine) with a mean ± SD of 10.83 ± 2.81 μmol/mol creatinine. Women were placed on therapy (10 mg of alendronate plus evening supplementation of 1000 mg calcium) for at least 6 months. Day-to-day variability was studied after 6 months to avoid the period of very dynamic changes in DPD as it responds to treatment. Five second-void morning urine samples were collected with 2-day intervals for each patient. Samples were all collected between 0800 and 1000 because untimed urine collections would potentiate intrindividual variability. DPD was measured by ELISA (Pyrilinks-D, Metra Biosystems) following the manufacturer’s instructions. All 40 samples were measured in duplicate in one batch, and results are expressed as μmol DPD/mol creatinine. The within-run analytical imprecision (CV) was <4%. The mean day-to-day CV was 12%, with a range of 5–15%. These values were considerably lower than those reported for untreated premenopausal women (mean CV, 16%; range, 7–25%) (4). To our knowledge, these are the first data on day-to-day variation of bone resorption markers under treatment. The lower variation observed herein would be explained by changes in the diurnal rhythm induced by treatment. Sarainen et al. (7), in a short-term treatment with clodronate, observed a nonsignificant trend in suppression of the diurnal rhythm of cross-linked N-telopeptides of type I collagen (NTx) excretion and no indication of such suppression in two other markers of bone resorption. Greenspan et al. (8) found no effect of 5 mg/day alendronate on the day-night difference in NTx excretion. Thus, although our patients received a different dose (10 mg/day), an alendronate-induced alteration of the diurnal rhythm in DPD excretion seems unlikely. On the other hand, Blumsohn et al. (9) reported that evening supplementation with 1000 mg of calcium completely abolished the diurnal rhythm of total DPD. Therefore, in our patients calcium supplementation may have reduced day-to-day variability by a reduction of diurnal variation of DPD excretion. Additional studies are needed to completely clarify this issue.

After 6 months of antiresorptive therapy, DPD concentrations in all women decreased to within the ref-
under antiresorptive therapy. Studies of DPD measurements in patients persist for additional long-term clinical utility. Interpretation of bone status and an appropriate individual patient to provide useful clinical information in the highest CV value reached 15%.

In conclusion, we observed—in a short-term study—a lower day-to-day variation of DPD during antiresorptive therapy than those reported by DPD during antiresorptive therapy is consistent even when the highest CV value reached 15%.


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**References**


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**Fig. 1.** Day-to-day variation of urinary free DPD excretion in eight patients under antiresorptive therapy during 5 nonconsecutive days. *Dashed lines denote DPD reference interval.*

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**Association between Chronic Hepatitis C Virus Infection and Increased Neopterin Concentrations in Blood Donations**

To the Editor:

In Austria, additional nonspecific screening of blood donations for immune system activation has been mandatory since 1993 for early detection of especially acute virus infections. For this purpose, measurement of neopterin concentrations is performed nationwide, allowing detection of cell-mediated immune reactions with great sensitivity (1). Earlier studies demonstrated in blood donors who already had passed the physical examination before donation and who already had donated blood that subclinical acute infections with certain viruses were more likely to be detectable serologically in donations with increased neopterin concentrations compared with donations with lower neopterin concentrations: Acute cytomegalovirus (CMV) infections examined by CMV-IgM antibody testing were found to be 17-fold more likely in donors with increased neopterin (2). In cases of Epstein-Barr virus (EBV) and parvovirus B19, the discrepancy between donor groups with low and high neopterin concentrations was smaller but still significant (EBV: 2.9-fold, P = 0.002; parvovirus B19: 3.3-fold, P < 0.001) (3).

In this study, we compared hepatitis C virus (HCV) status in blood donations with increased (>10 nmol/L) and reference value neopterin concentrations. We retrospectively investigated 54,402 donations (all donations at the Central Institute of Blood Transfusion in Innsbruck in 1996) that were screened for HCV antibodies, hepatitis B surface antigen, HIV-1 and -2 antibodies, Treponema pallidum (hemagglutinin assay, TPHA), liver enzyme alanine aminotransferase, and serum neopterin (IMMUtest, BRAHMS-Diagnostica), as regulated by the Austrian Guidelines for Transfusion Medicine. HCV antibodies were tested by ELISA (Ortho HCV 3.0 ELISA test system, Ortho Diagnostics), and positive results