

tients with known hypertension, only 16 (25%) had a controlled BP. This low BP control rate in the Belgian population has remained stable for many years despite the efforts of many physicians, which is rather disappointing. Several subject-related factors may be partly responsible for this bad result. For example, male sex and weight excess were significantly associated with less BP control (respectively, OR 0.441, 95% CI 0.200–0.969; 0.415, 95% CI 0.202–0.851 for obesity and 0.558, 95% CI 0.334–0.933 for overweight), whereas younger age (<50 years of age) was associated with more controlled BP (OR 2.294, 95% CI 1.453–3.622).

The prevalence of self-reported diabetes was 6.2% and very similar to previously reported values [4]. Two unknown diabetes patients were detected (i.e. one unknown for 10 known diabetes patients), and 25 participants with no known diabetes (7.8%) had an impaired glucose tolerance.

According to the Belgian Institute of Public Health (IPH) [5], the mean BMI of the adult population in 2008 (age >18 years) was 25.3 kg/m² (vs. 25.5 kg/m² among the present hospital visitors). Furthermore, 33% of the Belgian adult population had a BMI >25 kg/m² and 14% >30 kg/m² (respectively, 32.6% and 13.2% in our studied subjects). BMI was significantly higher among the >50 years of age patients than among the <50 years of age group (26.1 ± 4.4 kg/m² vs. 25.0 ± 5.0 kg/m², P < 0.05). Only three subjects reported having excess weight, while their BMI was normal. More alarming was the fact that 72 patients reported not being overweight at all, while their BMI was markedly elevated.

Self-reported hypertensive patients had, despite antihypertensive treatment, a higher mean systolic BP (152 ± 19 mmHg) than their normotensive counterparts (134 ± 20 mmHg, P < 0.01), a higher BMI (27.7 ± 5.2 vs. 24.9 ± 4.4 kg/m², P < 0.0001), belonged more frequently to the older age group (P < 0.0001), had more IGT (P < 0.01), more self-reported diabetes (P < 0.005) and more self-reported CKD (P < 0.02).

The most recent (2009) data from the 'Flemish League against Cancer' on tobacco use in Belgium indicate a 32% prevalence for active smoking in the adult population (≥15 years old), whereas 'only' 19.7% of the people studied reported being active daily smokers [6]. The prevalence of active smoking in Belgium is indeed increasing, especially in the male population, despite the recent restrictions forbidding smoking in restaurants, public places and the workplace.

Conclusions

Screening during World Kidney Day revealed that many people are at risk of developing chronic kidney disease due to a high prevalence of hypertension, uncontrolled blood pressure despite treatment, weight excess, smoking and diabetes. In addition, ~10% were diagnosed as having impaired glucose tolerance.

Further systematic screenings for renal risk should be carried out, which would likely generate data that can motivate citizens and authorities to promote lifestyle changes to reduce the burden of chronic kidney disease.

Conflict of interest statement. None declared.

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Anti-angiogenic assay assists fetal extraction decision in a case of pre-eclampsia suspicion?

Sir,

The diagnosis of superimposed pre-eclampsia can be difficult when there is already pre-existing hypertension and a pre-existing glomerular kidney disease with significant proteinuria [1].

Case. We report the case of a 25-year-old woman, for whom a non-proliferative IgA nephropathy with a serum creatinine at 103 µmol/L, a nephrotic range proteinuria, no hypertension and no hyperuricaemia was discovered at the beginning of her first pregnancy. The evolution was characterized by the onset of hyperuricaemia at 19 weeks of gestation followed by an excess weight gain with oedema, hypertension and deterioration of the renal function with a serum creatinine value increasing to 140 µmol/L. To help us to distinguish superimposed pre-eclampsia from isolated worsening renal disease associated with hypertension and to better assess the evolution of the disease, circulating levels of soluble fms-like tyrosine kinase-1 (sFlt-1) were measured serially by Quantikine immunoassays (R&D Systems) at 34 weeks plus 2 days, 34 weeks plus 6 days and 35 weeks. The high value of the first sample at 4193 pg/mL and the trend towards an increase with the second sample at 4446 pg/mL (even though the last value was at 3714 pg/mL) associated with concomitant threatening functional clinical manifestations of hypertension led us to perform delivery at 35 weeks by Caesarean section with the birth of a healthy baby weighing 2.5 kg. The postpartum period was characterized by a fall in circulating le-

vels of sFlt-1, immediately after delivery, with values at 888, 667 and 123 pg/mL. Conversely, serum creatinine and uric acid remained unchanged, 30 days after delivery at 141 and 428 $\mu\text{mol/L}$, respectively.

Comment. This case illustrates the difficulty in differentiating a superimposed pre-eclampsia from an isolated deterioration of a pre-existing renal disease during pregnancy. The increase in serum uric acid can be explained by a superimposed pre-eclampsia or by the impact of pregnancy in worsening pre-existing nephropathy, similar to the onset of hypertension. The high levels of circulating sFlt-1 found before delivery were in the same range as the mean serum level of 4382 pg/mL found by Levine *et al.* in the group of women with pre-eclampsia at a similar gestational age (as compared with 1643 pg/mL, in the control group of women with normal pregnancy) and strongly suggests an excess placental production related with superimposed pre-eclampsia [2,3]. Because of the possibility of false-positive values, histological placenta data would have been better to confirm the diagnosis [4]. Unfortunately, the latter was not preserved. However, these high levels of circulating sFlt-1 cannot account for the concomitant renal dysfunction. Indeed, renal failure is usually associated with a significant, but very moderate, increase in circulating sFlt-1 [5]. Moreover, in the present case, circulating levels of sFlt-1 fall rapidly after delivery despite the persistence of renal failure and hyperuricaemia.

Variations of sFlt-1-circulating levels have been mainly studied among population groups of gestational women. The present case demonstrates that the results of several sFlt-1-circulating assays performed on the same patient can also assist better birth management in difficult situations.

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Pleiotropic effects of vitamin D in an early stage of chronic kidney disease—Effect on insulin resistance

Disturbances of carbohydrate metabolism are common in patients with chronic kidney disease (CKD). Possible pathogenetic mechanisms involve unresponsiveness of insulin receptor and/or a bland response of the beta cell at the stimulus of hyperglycaemia. It is known that vitamin D has an important role in the endocrine function of the pancreas, particularly in the insulin release process, and is one of the determinants of insulin resistance [1]. This metabolic complication may be implicated in the accelerated atherosclerotic process and is common in CKD. The aim of our study was to investigate the effect of vitamin D treatment on insulin resistance in patients with CKD stage 3.

We included in our study 37 (25 men/12 women, age 51 ± 13 years old) non-diabetic patients with CKD stage 3 (eGFR 30–59 mL/min/1.73 m² calculated with the Modification of Diet in Renal Disease formula). Patients with history of diabetes mellitus and previous therapy with vitamin D were excluded. The underlying kidney disease was obstructive nephropathy, secondary focal segmental glomerulosclerosis, membranous glomerulonephritis and unknown cause of CKD. In all patients, CKD–mineral and bone disorder (CKD–MBD) was established. All patients were treated at the beginning with dietary phosphorous restriction, phosphate-binding agents and calcium supplements. If intact parathyroid hormone (iPTH) values were persistently >70 pg/mL, administration of 1-alpha-hydroxyvitamin D3 in a single daily dose of 0.25 μg was initiated. Fasting glucose concentration, insulin levels, HbA1c, iPTH, Ca, P and insulin resistance evaluated by homeostasis model assessment index [HOMA index, calculated as: fasting glucose (mmol/L) \times insulin (mU/mL) / 22.5] were measured before (T0) and 12 weeks after (T1) initiation of treatment. In all patients, an oral glucose tolerance test (OGTT) with an oral dose of 75 g of glucose was performed. No patient was under treatment with corticosteroids or erythropoietin for anaemia.

Plasma levels of fasting glucose and insulin levels were comparable before (T0) and after (T1) treatment with vitamin D (Table 1). The HOMA index was statistically higher in time T0 than T1 indicating that insulin resistance was improved. Mean glucose OGTT levels were higher in T0. There was no statistical difference in calcium, phosphorous, HbA1c, pre- and post-treatment concentration, although the T1 calcium concentration was higher than T0.

Vitamin D insufficiency is correlated with increased risk of all-cause and cardiovascular (CV) mortality in patients