Insulin resistance in patients with adult polycystic kidney disease

Sir,
Insulin resistance has been reported in patients with adult polycystic kidney disease (APKD) [1], and Ducloux and coworkers recently suggested in a preliminary report that renal transplant recipients with APKD were at increased risk of post-transplant diabetes mellitus (PTDM) [2]. In a retrospective case-control study including 26 APKD recipients (cases) and 26 controls matched for age, gender and immunosuppressive therapy, a significantly higher prevalence of PTDM was observed in the former group than the latter (34.6 vs 15.3%) [2]. However, the authors did not include patients with impaired glucose tolerance (IGT) after renal transplantation, which is important to assess whether recipients with APKD are predisposed to develop post-transplant glucose intolerance.

In a single centre study we examined glucose intolerance prospectively in 173 consecutive renal transplant recipients at 10 weeks after transplant [3]. In the majority (n=167) an oral glucose tolerance test (OGT) was performed. Patients with pretransplant diabetes mellitus were excluded. Thirty-one patients (18%) had PTDM, 53 (31%) IGT and 89 (51%) normal glucose tolerance (NoGT).
Even though APKD patients are insulin resistant, they do not seem to have increased risk for post-transplant glucose intolerance.

Medical Department Jørn Hjelmesæth
Section of Nephrology Anders Hartmann
Vestfold Central Hospital Tønsberg
1 Medical Department Section of Nephrology National Hospital Oslo
Norway


3. Hjelmesæth J, Hartmann A, Kofstad J, Stenstrøm J, Leivestad T, Egeland T, Fauchald P. Glucose intolerance after renal transplantation depends upon prednisolone dose and recipient age. The primary renal disease was included in the univariate model, and nephrosclerosis was more prevalent in the PTDM group (7 of 31; 23%) than in the NoGT group (6 of 89; 7%) (*P* < 0.05). However, multiple stepwise logistic regression analysis revealed that actual daily prednisolone dose and age were the only independent predictors of both PTDM and IGT. A positive family history of diabetes mellitus was also independently associated with PTDM but not with IGT.

APKD was the primary renal disease in 29 of 173 recipients (17%) in our study (Figure 1) and was not more common in glucose intolerant recipients (11 of 84; 13%) than in the patients with NoGT (18 of 89; 20%). On the contrary a slightly but significantly lower proportion of recipients in the group with IGT had APKD than in both the NoGT group (*P* < 0.05) and the PTDM group (*P* < 0.05) (*χ²*). The prevalence of APKD was similar in the PTDM group (23%) and the NoGT group (20%). The three groups were not statistically different with respect to prednisolone dose, age and family history of diabetes (Figure 1). This sub-analysis must however be interpreted with caution because of the small numbers of patients assessed.

In conclusion our data could not support the findings of Ducloux and coworkers with respect to any correlation between APKD and PTDM, and patients with APKD did not have increased risk of post-transplant impaired glucose tolerance.