IV.5.4 Post-transplant diabetes mellitus

Guidelines

A. Post-transplant diabetes mellitus (PTDM) should be identified by regular (every 3 months) fasting blood glucose and/or glycated haemoglobin (HbA1c) measurements. PTDM should be treated as appropriate to achieve normoglycaemia.  
(Evidence level B)

B. Immunosuppressive therapy should be adjusted to reverse or ameliorate PTDM.  
(Evidence level B)

Commentary on Guidelines IV.5.4: Post-transplant diabetes mellitus

In most series, pre-transplant diabetes is an independent risk factor for cardiovascular disease in renal transplant patients [1–3]. Kasiske recently published that the risks of coronary artery disease and cerebrovascular disease were 3-fold higher in diabetic patients, while the risk for peripheral vascular disease was 28-fold higher for diabetic patients compared with non-diabetic patients [2]. Also, the risk of coronary disease in renal transplant patients is higher than in the population included in the Framingham study. The risk is similar in type I and type II diabetic patients, and the risk is higher in women. Therefore, it is clear that diabetic patients after renal transplantation are a high-risk population for developing cardiovascular disease. Miles et al. showed in a prospective study that the 12-year graft survival was significantly lower in diabetic than non-diabetic patients (40% vs 70%) and the risk of graft loss was 3.7-fold greater for diabetic patients [3].

Post-transplant diabetes is a relatively frequent complication after renal transplantation. Definition of PTDM should be the same as in the general population, i.e. a fasting blood glucose ≥7 mmol/l, and not only diabetes mellitus requiring insulin treatment. The incidence lies between 3.6 and 18% [4] and depends mainly on immunosuppressive therapy; treatment with corticosteroids, cyclosporine and tacrolimus is associated with post-transplant diabetes [5,6]. Comparing anti-calcineurin drugs, patients on tacrolimus exhibit a higher incidence in the first year than patients on cyclosporine. Elderly, black and Hispanic patients are the most susceptible to develop this complication, which frequently appears in the first month after transplantation.

Although there is not enough information regarding the complications induced by post-transplant diabetes, it is logical to control blood sugar levels strictly in order to avoid the associated morbidity.

References