A Case of Tacrolimus Related Posttranslated Diabetes Mellitus (PTDM)

Gaziantep University Medical Faculty /Paediatric Endocrinology, Gaziantep/Turkey¹

Mehmet Keskin (1)
Murat Karaoglan (1)
Mehtap Akbalik Kara
(1) Mithat Buyukcelik (1)
Ozlem Keskin (1)

Background

Tacrolimus is a highly potent immunosuppressant agent. Despite its prophylactic effect on renal allograft rejection, the most marked side effect of tacrolimus is post-translational diabetes mellitus. There are some predictive risk factors which are determined on development of tacrolimus related diabetes mellitus: Advanced age, familial history, genetic factors, ethnicity, impaired glucose tolerance or metabolic syndrome in pre-transplantation period, obesity or overweight, immunosuppressant dose, additional other immunosuppressants, presence of associated hepatitis.

Objective

We present a case of tacrolimus related diabetes mellitus to pay attention to predictive risk factors before renal transplantation.

Case: 15 years old boy had chronic renal failure due to vesicoureteral reflux. He was referred by Department of Pediatric Nephrology because of blood glucose level higher than normal. His weight was 42 kg and his height was 144 cm and his BMI was 22. Blood tension was arterial: 130/90 mm/Hg.

When his health records of pre-transplantation period were revised, we realised that he had metabolic syndrome: Blood glucose test were as high as 280 mg/dL. LDL: 167 mg/dL. Triglyceride was 190 mg/dL. He had hypertension. HbA1C was 4.1. When he was admitted to our clinic, his laboratory test were following: Glucose: 501 mg/dL. LDL: 182 mg/dL, triglyceride was 164 mg/dL. HbA1C: 14.3, insulin: 2.2 U/mL. C-peptide: 1.4. Islet cell antibodies (Anti-GAD, Anti-ICA, Anti-IA) were negative. After transplantation, he was given tacrolimus 0.15 mg/kg/day and prednisolone 0.5 mg/kg/day plus mycophenolate mofetil 1200 mg/m²/day. In the 12th weeks, he was diagnosed tacrolimus related diabetes mellitus. The case had metabolic syndrome that is mentioned one of predictive risk factors.

Conclusion: We suggest to screen and be monitored predictive risk factors in pre-transplantation period. Measures should be taken to prevent modifiable risk factors.