Remission of uremic thromobocytopenia that was resistant to Eltrombopag after kidney transplantation

Jin Ho Lee¹, Seun Deuk Hwang², Joon Ho Song², Hee Yeoun Kim¹, Dong Yeol Lee¹, Joon Seok Oh¹, Yong Hun Sin¹, Joong Kyung Kim¹
¹Department of Internal Medicine-Nephrology, Bon seng Hospital, Korea, Republic of
²Department of Internal Medicine-Nephrology, Inha University Hospital, Korea, Republic of

Case Study: Introduction: Thrombocytopenia can occur in a variety of causes in patients with end-stage renal disease (ESRD) undergoing hemodialysis. Idiopathic thrombocytopenic purpura (ITP) refers to thrombocytopenia whose cause is unknown even after bone marrow biopsy. Eltrombopag (GlaxoSmithKline, London, UK) was recently used in the treatment of ITP. It is an oral thrombopoietin-receptor agonist and induces platelet proliferation and differentiation by initiating thrombopoietin-receptor. We announced that a patient was taking eltrombopag due to steroid resistant ITP, and the medication was discontinued after a successful kidney transplant.

Case: A 60-year-old woman diagnosed with diabetic ESRD in 2008 underwent hemodialysis three times a week. From Sep., 2015, the patient's platelet count has decreased to 10,000/mm³. Her dialysis efficiency was normal and did not show any abnormality in laboratory tests or bone marrow biopsy (Fig.1). Eltrombopag 25 mg was administered once a day because of resistance to steroid therapy. Although the drug was expensive (35,000 won or 31 US dollars/tablet), the number of platelets increased effectively up to 100,000/mm³ after administration. After that, the patient received a deceased donor kidney transplant on August 16, 2016. Thymoglobulin 50 mg iv was used for induction immunosuppressant (IS) for 3 days. Maintenance IS were calcineurin inhibitor, mycophenolate mofetil, and steroids. After KT, the patient maintained a normal platelet level and Eltrombopag was stopped immediately. After 9 months, the patient maintained normal kidney function and platelet count was maintained at 200,000/mm³ (Fig.2).

Conclusion: The steroid-resistant uremic thrombocytopenia has only a partial effect on the use of expensive eltrombopag in ESRD patient. However, after kidney transplantation, platelets showed normal findings even if all medications were discontinued.

Bone marrow biopsy
clinical course