Improved Adherence and Outcomes for Pediatric Liver Transplant Recipients by Using Text Messaging

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ABSTRACT

Objective: The goal was to improve immunosuppressant adherence for pediatric patients with orthotopic liver transplants by using text messaging (TM).

Methods: A prospective study of sending TM reminders to the primary medication administrator (patient or caregiver) for pediatric transplant recipients was performed. Patient records were reviewed, comparing the year before and the year of the study. The SD of serum tacrolimus levels was used as an indicator of adherence.

Results: Forty-one patients provided consent. The median age was 15 years (range: 1–27 years), and the median age at the time of transplantation was 2 years (range: 4 months to 23 years). Fourteen patients (34%) were male. In 29 of 41 cases, the medications were self-administered by the patient. The mean duration of study was 13 ± 1.5 months. Twenty-two patients were receiving 1 immunosuppressant, 14 were receiving 2, and 5 were receiving 3. Thirteen patients (37%) stopped the study after 4 months. The mean tacrolimus level SD decreased from 3.46 μg/L before the study to 1.37 μg/L (P < .005). The number of immunosuppressants taken and patient self/caregiver medication administration did not significantly affect the results. The number of acute cellular rejection episodes decreased from 12 to 2 during the study. Risk factors for rejection were older age (17.67 vs 13.28 years) and administration of >1 immunosuppressant.

Conclusion: We observed significant improvement in medication adherence and a reduction in rejection episodes with TM reminders for pediatric recipients of liver transplants.

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