

Economic Evaluation of Generic Tacrolimus and Innovator in Renal Transplant Recipients in Egypt

Introduction

Chronic kidney diseases pose a huge economic burden. One of the most effective and preferred management plans is kidney transplantation. It is important to administer immunosuppressant after the transplantation to avoid organ rejection. Tacrolimus is one of the calcineurin inhibitors which proved to have a potent immunosuppressant activity among other comparators. Both brand and generic tacrolimus proved to have the same quality, efficacy, safety and pharmacokinetics properties. It is recommended to use generic tacrolimus to prevent posttransplant events.

Objective:

We conducted a cost minimization analysis to estimate the direct medical costs of adopting the generic tacrolimus compared to the innovator from a payer perspective in the Egyptian renal transplant recipients over one year.

Methods

We compared the cost and consequences of the generic tacrolimus versus the innovator in renal transplant recipients from the payer perspective in three transplant centers in Egypt including 120 patients over one year. Clinical data were extracted from a retrospective observational and database analysis study of renal transplant patients in different European countries. We considered the cost of hospitalization, secondary events management, medications, and followup tests. All costs were presented in Egyptian Pounds (EGP) in financial year 2022. The unit costs were captured from the Ministry of Health and the resource utilization was validated from Expert Panel. One-way sensitivity analyses were conducted to ensure the robustness of our results.

Results

In the management of post kidney transplant patients, using generic tacrolimus was associated with lower costs compared to the innovator (the drug acquisition + concomitant treatment costs for generic tacrolimus were EGP 48,527 vs EGP 81,684 for the innovator; difference=40.5%). The average direct medical costs per patient in one year in generic tacrolimus and innovator were EGP 135,028 and EGP 168,186, respectively (difference=20%). For the total population, the cost was estimated as EGP 16,203,383 and EGP 20,182,272 for the generic tacrolimus and innovator, respectively. Generic tacrolimus adoption resulted in EGP 3,978,888 savings (20% cost reduction). Thus, we could expect that any further decrease in treatment costs, would be translated to decrease in the total costs of the post kidney transplant patients.

Conclusion

The study results showed a reduction in costs upon using generic tacrolimus compared to the innovator in post kidney transplantation. Our results suggest that generic tacrolimus is cost saving with the same efficacy and safety in the prevention of post-transplant events. These findings can assist the policy and decision makers when considering the value of conversion from innovator to generic medication.

