Immunosuppressant drug level monitoring in pediatric transplantation: survey of practices

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INTRODUCTION

Therapeutic Drug Monitoring (TDM) is considered as cost-effective for the management of immunosuppressants in transplantation to enhance efficacy and prevent rejection.

TDM may be performed based on trough or peak levels, or area under the curve (AUC) measurement. The purpose of this survey was to describe immunosuppressive and TDM practices in pediatric solid organ transplantation.

RESULTS

Responder

✓ 10 pediatric centers answered
✓ North America: 6 / Europe: 4
   2 Liver transplantation
   2 Kidney transplantation
✓ 5 (50%) centers performed more than 20 solid organ transplantations/year (Figure 2).

Treatments and TDM schedule

Baseline immunosuppression and TDM practices

- n=10
- 9/10 C0
- 9/10 AUC0-4h
- 1/4 C0
- 1/4 AUC0-4h
- 2/2 C0

Clinical support

✓ Present in 7 centers as written guidelines (5)
✓ No center used an integrated computerized physician order entry system.

Genotyping

✓ Only one center occasionally used CYP3A genotyping for tacrolimus when desired levels could not be reached.

DISCUSSION, CONCLUSION

Practices were quite similar in the ten evaluated pediatric liver and kidney transplantation centers.

Analytical methods were usually unknown. Even if AUC measurement or genotyping are available, immunosuppressant TDM remains based on trough levels and written guidelines.