Potential Drug-Drug Interactions in Kidney Transplant Patients

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Introduction and objectives

Beside immunosuppressive therapy, transplant patients frequently require a complex drug regimen that may consist of many drugs. Maintenance immunosuppression usually involves a combination of 2 or 3 agents.

The objectives were to identify potential drug-drug interactions (pDDI) and evaluate their prevalence in kidney transplant patients.

Study design and methods

- Retrospectively collected data from medical charts in the Nephrology Clinic, Clinical Centre of Serbia, University of Belgrade
- 105 adult patients over the period of maximum 5 years after transplantation
- All patients were informed and allowed the using of their charts.

- pDDIs were evaluated using *Lexicomp®* data base
- Data were analyzed using *IBM SPSS Statistics 22*.

Conclusions

The number of pDDIs in kidney transplanted patients is significant.

More attention for clinically relevant interactions is warranted in this population in order to provide safer and more effective therapy.

Results

Table 1. Demographic and prescription characteristics

Patients	
Gender	61 M + 43 F
Age (years)	16 – 54
Prescriptions	
Number of drugs	5788
Number of regimens	922

Table 2. Identified pDDI according to *Lexicomp®* data base

***Lexicomp®* risk rating**	**Number of pDDI**
X (avoid combination)	15
D (consider therapy modification)	237
C (monitor therapy)	2420
B (no action needed)	215
SUM	2887

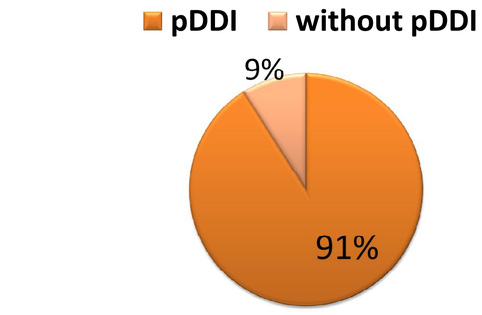

Figure 1. Percent of regimens with identified pDDI

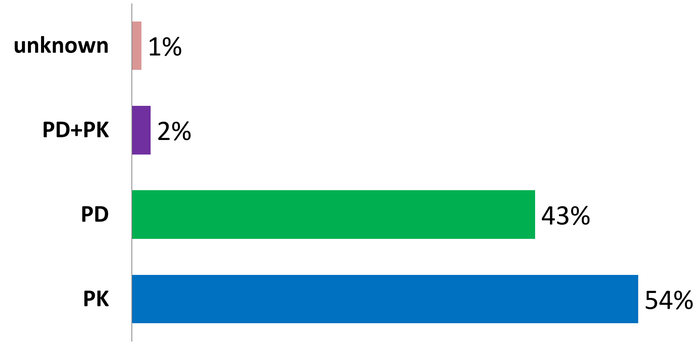

Figure 2. Partition of identified pDDI according to the mechanism of interactions

The most frequent pDDI:
- X category: 86.67% was pDDI of tacrolimus
- D category: tacrolimus + omeprazole;
  tacrolimus + esomeprazole;
  amlodipine + simvastatin

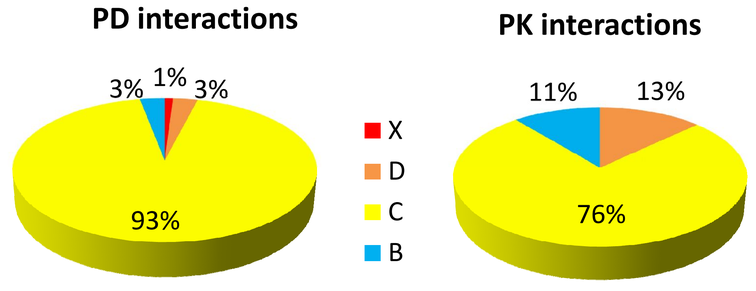

Figure 3. Presence of *Lexicomp®* risk rating categories in pharmacodinamic (PD) and pharmacokinetic (PK) interactions