

# DRUG-DRUG INTERACTIONS IN PATIENTS ADMITTED TO AN INFECTIOUS DISEASES UNIT IN A TRAUMA HOSPITAL

MJ. de Dios García, C. Salazar Valdebenito, A. Pérez-Ricart, A. Barraquer Comes, L. Girona Brumos, P. Lalueza Broto, JC Juárez-Giménez  
Pharmacy Unit, Hospital Universitari Vall d'Hebron, Barcelona, Spain

## Background

The current complexity of pharmacotherapy in patients with orthopaedic infections increases the risk of drug-drug interactions (DDI) which could increase the probability of therapeutic failure and/or adverse drug reactions

## Purpose

The aim of this study is to identify **potential DDI** (severe/moderate) and **its clinical relevance** in patients admitted to the Infectious Diseases Unit in a tertiary trauma hospital.

## Materials and methods

**Design:** Prospective, observational study performed from January 2011 to April 2011 (100 days).

**Study population:** Patients with orthopaedic infections, admitted to an Infectious Disease Unit for at least 7 days.

**Data collected:** Bio demographical characteristics and pharmacology treatment during hospital stay.

**Method:** Checking physician prescription by a Spanish DDI database (Medinteract NR) and laboratory product information to determine potential DDI.

## Results

- N= 35 patients (72 % men)
- Mean of age = 53 years (range 20-82)
- Average hospital stay=21.9 days (range 7-64)
- Drugs/patient= 12.8

- 151 potential DDI detected
- 21 severe (S)
- 130 moderate (M)
- Mean of potential DDI= 4.6/patient

DRUG 1	DRUG 2	Number of potential DDI	%	Severity	Potential effect
Paracetamol	Dexketoprofen	14	9.3	M	Risk of gastrointestinal bleeding
Paracetamol	Rifampicin	12	7.9	M	Bad pain control
Dexketoprofen	Enoxaparin	8	5.3	M	Risk of bleeding
Insulin	Co-trimoxazole	5	3.3	M	Risk of hypoglycemia
Daptomycin	Simvastatin	4	2.7	S	Increase CK levels & risk rhabdomyolysis
Daptomycin	Dexketoprofen	4	2.7	M	Increase daptomycin toxicity: reduce its renal clearance
Enoxaparin	Enalapril	3	2	M	Increase risk of hyperkalemia
Ibuprofen	Paracetamol	3	2	M	Risk of gastrointestinal bleeding
Omeprazol	Diazepam	3	2	M	Increase diazepam toxicity: reduce its hepatic clearance

Table 1 . Most frequent potential drug-drug interactions

DRUG 1	DRUG 2	Number of DDI	Severity	Clinical effect
Leflunomide	Metamizole	1	S	Thombocytopenia
Paracetamol	Rifampicin	2	M	Bad pain control

Table 2 . Adverse effects caused by drug-drug interactions with clinical relevance

## Conclusions

- Despite the high incidence of potential DDI, only three of them had actual effects on the patient - just 1 severe. This is probably **due to the proactive role of the pharmacist** when is carrying out the validation of the doctor's prescription using an electronic prescribing program.

- **The integration of clinical pharmacist in Infectious Disease Unit facilitates prevention and detection of DDI and its complications.**

- It would be recommended to implement computer software for early detection of DDI to notify to the physician these potentially hazardous associations at the time of prescribing.