

## MONITORING OF ANTIBIOTICS: DEGREE OF COMPLIANCE OF THE PHARMACOKINETIC SETTINGS

Gómez-De Rueda F, Cansino Calvo J, Elósegui Horno I, Robles Rodríguez I, Horno Ureña F.  
Servicio de Farmacia Hospitalaria. Complejo Hospitalario de Jaén

### BACKGROUND

Increasingly frequent and inappropriate prescription of broad-spectrum antibiotics, justifies the use in first-line of effective antibiotics as glycopeptides and aminoglycosides, who were abandoned by their associated adverse effects

### OBJECTIVE

To analyze the degree of implementation of the recommendations of setting dosing, by monitoring pharmacokinetics in antibiotic treatments in follow-up by the Spanish PROA Group (Optimization Antibiotics PRogram)

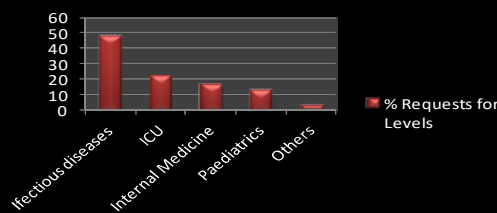
### RESULTS

Data of 123 adults were collected (63.4% men), with an average age of 46 years and range (16-91). The pediatric population was 21 patients (12 females) with ages ranging from 2 days to 1.5 months. The average duration of treatment for adults was 17 days and 5 for infants. It was also analyzed a subset of 13 patients in hemodialysis (HD) (61.5% women). 722 determinations of plasma levels, putting the average 3 to 5 monitors per adult patient in the paediatric information were sought. 78% (563) of dosing adjustments were vancomycin and 22% (159) remaining of aminoglycosides, being the most sought-after gentamicin. Requests for levels distributed services was: infectious diseases (48%), ICU (22%), internal medicine (17%), paediatrics (13%). Of the total of monitors, 2.9% (21) could not be performed due to lack of information or incorrect data in the application

### METHOD

Observational and retrospective study on the Unit of Clinical Pharmacokinetics (UFCC) from a University Hospital, during a period of 6 Months (Dic'16-Mayo'17). Antibiotics glycopeptides (vancomycin) and aminoglycosides (gentamicin, tobramycin and amikacin) were monitored drugs. For the processing of the information, standard sheets of application of plasma levels and reports made by pharmacokinetics clinical unit in the corporate application Diraya® (Digital single story) were reviewed. Both pediatric and adult population were considered and where the collected parameters were: dosage (mg/hour), weight (kg), size (cm), the infusion duration (min), age (years/days), days of treatment, the time of extraction, Cmin (valley level) and Cmax (peak level)(mcg/ml)

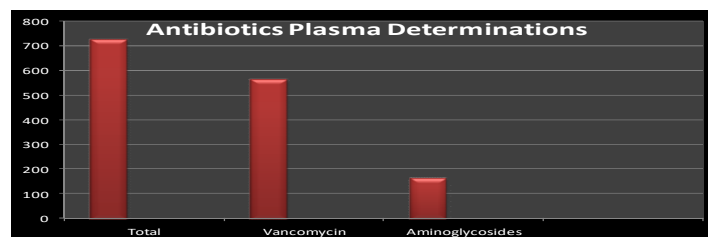
### % Requests for Levels



### Determinations Plasma Levels



### Antibiotics Plasma Determinations



### CONCLUSIONS

217 recommended individualized dosing adjustments, 209 were accepted (96.3%), which allowed the use of these antibiotics in the first instance preserving ecological niches and reducing the economic impact.