to intolerance and three patients (with normal TPMT levels) due to recurrent hepatotoxicity. 30/44 patients tolerated combined therapy. 27/30 patients achieved an optimised TGN: MeMP ratio (<11). Specific ratios included 0 (n=13), 1 (n=9), 2 (n=4), 3 (n=1). 3/30 patients required Allopurinol 100 mg to obtain a ratio <11.

Conclusion The majority of patients (90%) obtained an effective TGN:MeMP ratio with reduced Allopurinol dosing at 50 mg. Those that did not achieve this ratio (10%) responded to dose escalation to 100 mg. TPMT status did not appear to influence the effect of low-dose Allopurinol. Hepatotoxicity may still occur with combined Allopurinol and thiopurines therapy. Low-dose Allopurinol may be considered a viable therapeutic strategy providing that appropriate clinical and biochemical surveillance is maintained.

REFERENCES AND/OR ACKNOWLEDGEMENTS
Thanks to gastroenterologists and the chief pharmacist.
No conflict of interest.

4CPS-148 ANALYSIS OF INTRA-PATIENT VARIABILITY OF PLASMATIC LEVELS OF TACROLIMUS IN EARLY MAINTENANCE OF RENAL POST-TRANSPLANT

1S Garcia García*, 2DS Oleas Vega, 3MB Aller Hernández, 2I Torres Rodríguez, 2BO Chamoun Huacón, 3F Pericas Bosch, 1JB Montoro Ronsano. 1Vall d’Hebron Hospital, Pharmacy Service, Barcelona, Spain; 2Vall d’Hebron Hospital, Nephrology Service, Barcelona, Spain; 3Vall d’Hebron Hospital, Artificial Intelligence Information Service, Barcelona, Spain

Background Tacrolimus is a calcineurinic inhibitor characterised by a narrow therapeutic window and high variability of plasmatic levels.

Purpose To assess the intra-patient variability (IPV) of tacrolimus plasmatic levels (FKplasm) in kidney-transplanted patients (KTP) during the early maintenance period (EMP), 3 to 6 months after surgery. In EMP begins a progressive reduction of immunisation to establish the future immunosuppressant dosage.

Material and methods Observational retrospective study in KTP within 2015–2017, monitored along the EMP and at least one determination of FKplasm.

The clinical data was collected from the hospital’s medical records, including kind of transplant, FKplasm and analysis date.

The FKplasm were analysed for each patient along the EMP. The mean and standard deviation of plasma concentrations, the number of blood determinations, the coefficient of variation (CV), the proportion of values lower than 5 and 7 ng/ml (P5 and P7) and the area under the concentration–estimated time (AUC-Min) were evaluated in EMP. To describe the IPV the CV was used.

The range of therapeutic FKplasm values was established between 5–20 ng/ml. The therapeutic control was considered inadequate if IPV was superior to 30% or the P7 or P5 was superior to 20%.

To evaluate the IPV and to compare the intra-patient values obtained, the analysis of variance and the Fisher–Snedecor F distribution were used (statistical analysis with SPSS).

Results Two-hundred and eleven patients and 2140 measures of tacrolimus determinations were included. The mean of FKplasm was 8.57 ng/ml (95% CI: 8.26 to 8.88) and the mean number of determinations was 4.72 (95% CI: 4.17 to 5.26) during the follow-up period.

The mean CV of FKplasm was 25.41% (95% CI: 23.09 to 27.74). A total of 31.75% (95% CI: 25.42 to 38.09) of the patients had a CV greater than 30%. The AUC-Min was 7.61 ng/ml/day (95% CI: 7.2 to 8.0).

Finally, the mean percentages of FKplasm lower than 7 ng/ml and 5 ng/ml were 27.20% (95% CI: 23.16 to 31.24) and 9.28% (95% CI: 6.49 to 12.06), respectively. The proportion of patients with values lower than 20% was 52.3% (95% CI: 45.6 to 58.8) P7 and 17.2% (95% CI: 12.3 to 21.8) P5.

The IPV of FKplasm during the EMP was higher than recommended in 31.75% of cases, similarly, 27.2% of the determinations were <7 ng/ml.

Conclusion Taking into account the limitations of this study, the early detection of patients with high IPV, or analytical values<7 ng/ml in the EMP is essential, since these are associated in the long term with a worse prognosis, leading to chronic rejection of the graft and/or greater pharmacological toxicity.

REFERENCES AND/OR ACKNOWLEDGEMENTS
Thanks to all authors for their involvement.
No conflict of interest.

4CPS-149 EVALUATION OF INTRA-PATIENT VARIABILITY OF THE TACROLIMUS PLASMATIC LEVELS IN THE DIFFERENT PERIODS OF THE KIDNEY POST-TRANSPLANT

1S Garcia García*, 2DS Oleas Vega, 3MB Aller Hernández, 2I Torres Rodríguez, 2BO Chamoun Huacón, 3F Pericas Bosch, 1JB Montoro Ronsano. 1Vall d’Hebron Hospital, Pharmacy Service, Barcelona, Spain; 2Vall d’Hebron Hospital, Nephrology Service, Barcelona, Spain; 3Vall d’Hebron Hospital, Artificial Intelligence Information Service, Barcelona, Spain

Background The management of immunosuppression in kidney transplant (KT) is divided into: induction from 0 to 3 months, early maintenance (EM) from 3 to 6 months and late maintenance (LM) from 6 months. During the induction, more intense immunosuppression is required to prevent acute rejection of the graft.

Purpose To assess the mean concentration, the intra-patient variability (IPV) of tacrolimus plasmatic levels (FKplasm) and their evolution during the different periods of KT.

Material and methods Observational retrospective study included kidney transplanted patients since January 2015, with a minimum post-transplant follow-up of 2 years.

The clinical data was collected from the hospital’s medical records, including: kind of transplant, surgery date and FKplasm from the transplantation date to 2 full years of follow-up.

The variables of the study were calculated considering the different stages of KT: induction, EM and LM: 6–12 months (LM1), 1–2 years (LM2) and 2–3 years (LM3). The mean of FKplasm, the number of analytical determinations performed and the percentage of patients with concentrations lower than 5 ng/ml were calculated. The therapeutic range of FKplasm value was 5–20 ng/ml.

To describe the IPV of FKplasm, the coefficient of variation (CV) was calculated. The IPV was considered inadequate when the CV values were higher than 30%.

The statistical analysis was carried out using SPSS, and to compare population means the variance analysis and Fisher–Snedecor’s F distribution were used.

Results Two-hundred and twelve patients and 4180 measures of FKplasm were included. The values of the variables analysed were expressed in the temporal order of induction, EM, LM1, LM2 and LM3:

Mean FKplasm: 9.63 ng/ml (95% CI: 9.33 to 9.92), 8.57 ng/ml (95% CI: 8.26 to 8.88), 8.01 ng/ml (95% CI: 7.71 to 8.28).
EVALUATION OF INTRA-PATIENT VARIABILITY OF THE TACROLIMUS PLASOMATIC LEVELS IN DIFFERENT PERIODS AFTER LIVER TRANSPLANT

Background Immunosuppressive therapy in liver transplant patients (LTP) is divided into several temporary periods after surgery. The priority is to avoid acute rejection in the earliest stages, and advancing in time, to preserve a longer graft survival and to minimise pharmacological adverse events.

Purpose To assess the mean concentration, intra-patient variability (IPV) of serum levels of tacrolimus (FKs) and their evolution during the different periods after liver transplant to evaluate the therapeutic situation of LTP.

Material and methods Observational retrospective study since January 2015, with a minimal post-transplant follow-up of 1 year. Clinical data was collected from the hospital’s medical records.

Variables of the study were calculated considering different periods of liver post-transplant according to our hospital’s medical protocol: 0–1 month (S1), 1–3 months (S2), 3–6 months (S3), 6–9 months (S4) and 9–12 months (S5). FKs mean, coefficient of variation (CV), proportion of patients with CV >30% (CV30), estimated daily area under the curve (AUCd) and proportion of FKs values <5 ng/mL (P5) per patient were calculated. CV was used to characterise the IPV. Therapeutic control was considered inadequate if CV values were >30% or P5 >20%.

Conclusion FKplasm and IPV during induction are higher than in EM and LM. However, patients with CV >30% remain in the maintenance periods between 29.9% and 31.8%, and with values <5 ng/mL between 9.3% and 13.1% which would justify a greater need for pharmacokinetic monitoring and therapeutic control, in order to preserve a longer graft survival and to minimise the events of pharmacological adverse reactions.

REFERENCES AND/OR ACKNOWLEDGEMENTS
Thanks to all authors for their involvement.

No conflict of interest.

INFLUENCE OF THE ROUTE AND PHARMACEUTICAL PREPARATION INTRA-PATIENT VARIABILITY OF TACROLIMUS SERUM LEVELS IN THE LIVER TRANSPLANT PATIENT

Background In the earliest stages, immunosuppressive therapy in liver transplant patients (LTP) is targeted to avoid acute rejection, to preserve graft survival and to minimise the risk of pharmacological adverse reactions. The use of different administration routes or immediate-prolonged release preparations could influence tacrolimus serum levels (FKs) and variability.

Purpose To assess the mean concentration and the intra-patient variability (IPV) of FKs after their administration through immediate-prolonged release preparations and/or different pharmaceutical form (TacPP), administration route and FKs values within 1 month after liver transplant.

FKs mean levels, coefficient of variation (CV), proportion of patients with CV >30% (CV30) and proportion of FKs values lower than 5 ng/mL (P5) per patient were calculated.