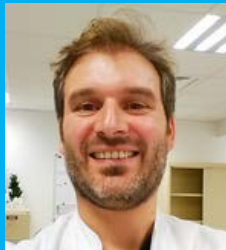


Séminaire de l'axe Pharmacométrie et pharmacothérapie

Estimation of immunosuppressant exposure using machine learning: towards a new way to perform therapeutic drug monitoring?



Jean-Baptiste Woillard, Ph.D.

Professeur agrégé
Faculté de médecine
Université de Limoges, France

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à l'invitation de la professeure Amélie Marsot

We recently developed Xgboost machine learning (ML) algorithms to estimate the interdose Area-Under-the-Curve (AUC) for tacrolimus and mycophenolic acid. Interestingly, predictions using these models were numerically better than those obtained using Maximum A Posteriori Bayesian Estimation (MAP-BE) based on a 3-sample limited sampling strategy (LSS) available in the back-office of our ISBA website (<https://abis.chu-limoges.fr/>). In addition, for tacrolimus, prediction based on 2 blood concentrations only (C0 and C3h) led to very accurate results, thus offering a simplification of AUC estimation in routine practice. In this article, we first introduce ML and we part of the results obtained in the two above mentioned studies.