INTRODUCTION & OBJECTIVE

Cytogenetic analysis is still an important and mandatory component of Acute Myeloid Leukemia (AML) diagnosis and prognosis. Pretreatment cytogenetic and molecular genetic findings are one of the major independent prognostic markers in AML, and they determine chemotherapy response and outcome. However, cytogenetic does not provide alternative treatments when a patient have a high cytogenetic risk, and requires relatively long time until obtaining the results despite the treatment of these patients should begin as soon as possible.

The aim of this study is providing data about the utility of a new AML Precision Medicine (PM) Test as a complementary tool to conventional cytogenetic to overcome the main obstacles this later has.

MATERIAL & METHODS

1. Flow cytometry
2. PD Modelling and activity markers
3. GAM regression and ROC

RESULTS

Visual predictive check of the population pharmacokinetic models of cytarabine and idarubicin

Clinical correlation of cytogenetics vs PM Test

Alternative Treatments

CONCLUSIONS

- PharmaFlow PM Test and cytogenetics provide similar information
- Results from this novel PM Test are available in 72h, prior to treatment, while results from cytogenetic risk are available typically in 10-14 days, and thus after patient treatment.
- This novel approach provides information to hematologist with higher predictive value than risk factor (deviance explained 40.8% vs 29.4%) and ahead of treatment.
- PharmaFlow PM Test represents valuable in-time information, prior to treatment decision making.
- In addition, PM Test can provide alternative treatments to AML patients based on their ex vivo activity.