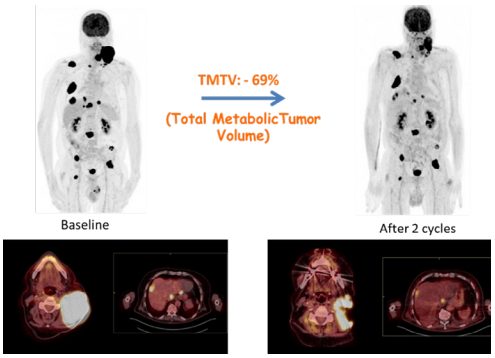
NOVEL COMBINATION OF 2 ANTI-METABOLIC DRUGS FOR THE TREATMENT OF DIFFUSE LARGE B-CELL LYMPHOMA

Novel anti-metabolic treatment combining L-Asparaginase and Metformin in relapsed/refractory Diffuse Large B-Cell Lymphoma

ERGANEO
L'AVENIR EST FAIT D'AUDACE

PRESENTATION

Diffuse Large B-cell Lymphoma (DLBCL) is the most common lymphoma in adults. Even though cure rates have significantly improved in the last few years since the introduction of new immunochemotherapy treatments, refractory/relapse cases can reach up to 40%. New clinical management and therapeutic options are therefore necessary for DLBCL patients. We used a combination of L-asparaginase and Metformin for a combined anti-metabolic treatment targeting both the OxPhos and glycolytic energy metabolism of DLBCL cells. We have demonstrated that combining these two drugs strongly induces apoptosis not only in OxPhos, but also in Glycolytic DLBCL cells. Most importantly, the clinical proof of concept of the efficacy of a new protocol based on both drugs administration was established in a human refractory/relapsed DLBCL patient with induced apoptosis after only 24 hours of treatment and very promising reduction of tumor volume and partial remission. These results pave the way toward new therapeutic approaches for refractory/relapsed DLBCL patients.



Diffuse large B-cell lymphoma (DLBCL) - Refractory/relapsed DLBCL patients - L-asparaginase - Metformin - Energy metabolism - Mitochondrial apoptosis

DEVELOPMENT PHASE

- In vitro POC showing the additive effect on DLBCL cell lines
- Establishment of a novel protocol for antimetabolic drug administration in human refractory/relapsed DLBCL patients
- Clinical proof of concept showing clinical efficacy on 3 relapsed/refractory DLBCL patients

APPLICATIONS

- Novel therapeutic option for human refractory/relapsed DLBCL patients
- Novel therapeutic option for DLBCL in dogs

COMPETITIVE ADVANTAGES

- Synergistic effect of the combination of L-asparaginase and Metformin for mitochondrial apoptosis induction
- Synergistic effect in reducing DLBCL tumor mass
- Establishment of a novel protocol of anti-metabolic drug administration

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INTELLECTUAL PROPERTY

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