P-080 - IS LYSO-GL1 AN USEFUL BIOMARKER FOR GAUCHER DISEASE EVOLUTION AND SKELETAL INVOLVEMENT? EXPERIENCE OF A COHORT OF 197 ARGENTINIAN PATIENTS.

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INTRODUCTION: The Argentinean Gaucher Group is a collaborative group of treating physicians that monitors natural history and outcomes in 197 patients with Gaucher disease (GD). There is high prevalence of severe GBAmutation and as many as 87% of patients exhibit significant skeletal complications. Hence this cohort represents an informative cohort for evaluation of biomarkers that may reflect skeletal involvement, disease evolution and response to treatment.

OBJECTIVE: to determine which is the most specific biomarker for diagnosis and follow up in GD patients and taking into account the high prevalence of bone disease in argentinean GD patients, evaluate if any biomarker is related to bone disease.

METHODS: In 197 patients with Gaucher disease, serum samples (total 417) were obtained during various therapies: 175 patients treated for up to 14 yrs on imiglucerase ERT and 22 patients treated with eliglustat SRT for up to 6 yrs. Samples were analyzed for 9 different biomarkers established and exploratory: Lyso GL-1; GPNMB; CHITO; MIP-1b; C5a; IL-1b; IL-6 and TNF-α.

RESULTS: We analyzed biomarkers based on presence and absence of bone disease (BD). By univariate analysis chitotriosidase and Lyso GL1 were significantly associated with BD: Chitotriosidase (without BD: 66.05 vs. with BD: 153.56 nmoles/h/ml (P=0.010) and Lyso GL-1: 57.70 vs. 125.4 ng/ml (P < 0.001). By multivariate analysis, Lyso GL1 significantly correlated with BD: multivariate statistical analysis using the bone lesion variable: elevated LYSO-GL1 was associated with bone lesions severity (P= 0.003). Comparing biomarkers according type of treatment revealed patients on ERT had significantly elevated C5a compared to patients receiving SRT.

CONCLUSION: Our results support the use of Lyso GL1 for monitoring Gaucher disease and skeletal involvement. The increase of LYSO-GL1 values is directly related to the presence of bone disease (57.70 ng/ml without BL Vs. 125.4 ng/ml with BL) (P= 0.001) and with the severity of BL: no lesions: 57.70 ng/ml; bone marrow infiltration: 104.20 ng/ml; Erlenmeyer: 110,14 ng/ml; chronic osteonecrosis: 125,98 ng/ml; acute osteonecrosis: 152.81 ng/ml (P= 0,001). In this cohort of patients there is a higher prevalence of CHIT1 null homozygous and heterozygous(41%) making this biomarker less trustworthy.