Introduction
Sarcopenia, characterized by the loss of muscle mass and muscle strength leading to a global muscle functional impairment and physical disability. Biophyt® has developed the drug candidate Sarconesio (BIO101), purified at 97% of 20-hydroxyecdysone (20E), from the edible plant Stemmacantha carthamoides. BIO101 has a potential to improve muscle quality and function in vivo and in vitro models and accelerates differentiation and enhances mitochondrial function in skeletal muscle cells (see Poster number 4-011). BIO101 is the ongoing observational study dedicated to characterize the population for SARA-INt, the interventional study with the investigational drug BIO101. Both studies are hosted in SARA-Data, an innovative platform for clinical trials. Each of SARA-OBs and SARA-INt study is a 6-month multicenter clinical trial enrolling community-dwelling persons in Europe and USA and aged 65 years and older at risk of mobility disability. The main objective of SARA-INt is to evaluate 2 selected doses of BIO101 in the targeted sarcopenic population.

SARA-OBs
Sarcopenia definition used the criteria of the Foundation of NIH (Studenski et al., 2014) with the risk of mobility disability operationalized using Short Physical Performance Battery (SPPB; Guralnik et al., 1994)
• Absolute ALM (< 17.95 m in men and < 15.02 m in women) and ALM/BMI (0.789 in men, < 0.512 in women) measured by DXA.
• SPPB ≤ 8/12;

SARA-OBs Clinical study design
Main objective
• Characterize the target population in Europe and USA and estimate the prevalence of sarcopenia including sarcopenic obesity in the study sample.
Primary endpoint
• 400 m walking test gait speed
• Patient reported outcomes (PROs): Short Form Health Survey (SF-36) and Sarcopenia Quality of Life (SARQOL) and TSD-OCD for BMI ≥ 30
Secondary and exploratory endpoints
• Body composition, Gait speed; Grip strength, 6 minutes walk.
• Quality of life (SF-36). Similar to SPRINTT study: Myostatin, IL-6; Hsc73; Aldosterone; Renin; Isolated PBMC, etc…

SARA-OBs Main characteristics
Baseline characteristics of SARA-OBs included patients

SARA-INt
SARA-INt objectives
Primary objectives
• Evaluate the effect of two daily doses of BIO101 versus placebo on gait speed at the 400M test.
Key secondary objectives
• Compare the change from baseline of the Patient Reported Outcome (PRO): The Physical Function Domain (PF-10) of the Short Form Health Survey (SF-36).
• Rising from a chair

SARA-INt Study: Primary outcomes
• Body composition; Muscle strength; Star climbing; SPPB; PRO (SF-36, SarQol, TSD-OCD);
• Activity; Biomarkers; IL-6, Hsc73; Aldosterone; Renin; Isolated PBMC, etc…

SARA-INt preliminary results

SARA-INt clinical study design
• SARA-INt is an EU and US double-blind, placebo controlled, randomized IT(erventional) Clinical trial.
• SARA-INt aims to evaluate safety and efficacy of Sarconesio (BIO101), the investigational drug orally administered for 6 months.
• Most of the sites that participated in SARA-OBs, and additional sites are currently being selected.
• All the patients recruited in the SARA-OBs study are ready to be randomized in the SARA-INt study.
• A pharmacokinetic sub study in Europe is also included in the SARA-INt study.

Conclusions
• Like for other sarcopenia observational studies, SARA-OBs confirmed recruitment opportunities in sarcopenia trials when using the EWGSOP criteria (Studenski et al., 2020) and BMI ≥ 30
• Mean SPPB score and 400 m gait speed are very similar to the LIFE study (7.15 vs 7.1 and 0.85 vs 0.83 m/s respectively).
• ALM/BMI in men is lower than the FNH threshold (0.72 vs 0.78) but in similar women (0.53 vs 0.52).
• The mean BMID of 32.7 is comparable to low data of sarcopenic patients from other studies (mean from 46.1 to 57.5).

References
• Fielden KA, Travison TQ, Kim DR et al. Effect of Structured Physical Activity and Nutritional Supplements on Functional Outcomes in Healthy Older Adults: Results from the VIVID Study. J Am Med Dir Assoc 2017;18:534-542

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