Biomarker for Multimorbidity Risk in Aging People with HIV – GLIFE+

PROTECTION

PCT/EP2026/053586
Priority Date: 2025/02/11
Owners: Servicio Galego de Saúde (Sergas)
Inventors: Eva Poveda López and Aida López López

BACKGROUND

PWH, the population of older people living with HIV, is growing rapidly thanks to advances in antiretroviral therapy (ART). However, this group faces unique challenges related to accelerated aging and a higher prevalence of comorbidities compared to people without HIV. These comorbidities, which include cardiovascular, metabolic, and other chronic conditions, are largely driven by persistent chronic inflammation—a hallmark of HIV infection that is not fully resolved with effective ART. Chronic inflammation contributes to the progressive decline of immune function and the development of multiple age-associated diseases, complicating clinical management and affecting the quality of life of these patients.

There are no validated biomarkers that allow optimal prediction of comorbidity burden in PWH, nor are there clinical tools routinely used to stratify risk in this population. Traditional biomarkers, such as IL-6, hsCRP, sICAM-1, or sVCAM-1, lack the necessary specificity to reflect the complex interplay between inflammation, aging, and lifestyle factors that influence multimorbidity.

The identification of a unique and sensitive biomarker independently associated with multimorbidity, age, ART duration, and behavioral factors such as smoking allows for precise risk stratification and represents a significant advance in personalized interventions that improve the prognosis and quality of life for PWH. The challenge for researchers in this field is to develop clinical tools based on this biomarker that enable proactive and personalized management of multimorbidity in this growing population.

ACHIEVEMENTS AND RESULTS

A new differentiation and growth factor has been discovered and identified as a promising biomarker for multimorbidity in the HIV-infected population. Elevated levels of this biomarker were independently associated with the presence of multiple comorbidities, age, duration of antiretroviral therapy, and lifestyle factors such as tobacco and other substance use. This biomarker outperformed traditional cardiovascular risk biomarkers, allowing for better risk stratification and clinical monitoring of PWH.

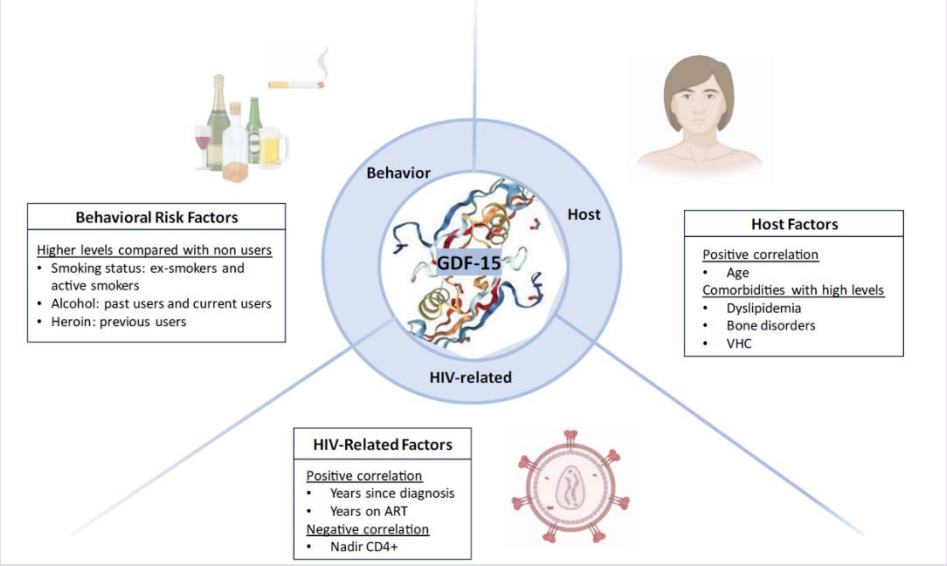
PURPOSES AND ADVANTAGES

The **main advantages** of this technology are:

- **Specificity and clinical sensitivity**: it uniquely reflects chronic inflammation and aging, surpassing traditional biomarkers in predicting multimorbidity in PWH.
- **Precision medicine**: Enables personalized risk stratification, facilitating preventive and therapeutic interventions tailored to each patient.
- **Improved clinical follow-up**: Provides an innovative tool for prognosis and ongoing health monitoring in older people living with HIV.
- **Impact on clinical practice**: Facilitates informed clinical decision-making, contributing to the optimization of ART and the proactive management of comorbidities.
- **Transfer and scalability**: Technology that can be easily integrated into clinical practice and scaled up.

COLLABORATION OFFER

This offer may take the form of a "Partnership Agreement" for the purpose of co-developing this technology or a "License Agreement" for the direct use of the proposed technology. If this offer is of interest to you or you need more information about it, please contact us.



CONTACT INFORMATION

Nerea Alonso Sousa
Innovation and Technology Transfer Unit
Galician Public Foundation for Biomedical Research Galicia Sur- IIS Galicia Sur

Tel: +34 986 217 454
email: nerea.alonso@iisgaliciasur.es
Webs:http://www.fundacionbiomedica.org/
http://www.iisgaliciasur.es/

INSTITUTO DE
INVESTIGACIÓN SANITARIA
Galicia Sur

Hospital Álvaro Cunqueiro
Estrada Clara Campoamor, 341
36312 Vigo, Pontevedra - SPAIN

www.fundacionbiomedica.org www.iisgaliciasur.es