TRENDS IN
Biomedical
Laboratory Sciences

ABSTRACT BOOK

2025, Volume 3, N.º1
Supplement

III CONGRESSO BioMedLab

ASSOCIAÇÃO PORTUGUESA DE CIÊNCIAS BIOMÉDICAS LABORATORIAIS

LISBOA
7-9 MARÇO 2025

TRENDS IN
Biomedical
Laboratory Sciences

Contents

TRENDS IN
Biomedical
Laboratory Sciences

Exploring Cardiovascular Risk and Plasma Ghrelin Levels in Older Adults: A preliminary study

Sara Brás Alves[1,2], Jeovana Capristano[3], Leandro Moreira de Sá[3], Eugenia Mendes[1], Hélder Fernandes[1] & Josiana Vaz[1]

1.Research Centre for Active Living and Wellbeing (LiveWell), Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal; 2. Universitat de Jaume I, Unitat Predepartamental d'Infermeria, AV. Sos Baynat, s/n 12071 Castelló de la Plana, Spain; 3. Instituto Politécnico de Bragança, Campus de Santa Apolónia, 5300-253 Bragança, Portugal

Cardiovascular diseases are a leading cause of illness and mortality worldwide, with ageing as a key risk factor. As people age, heightened inflammation, oxidative stress, and endothelial dysfunction increase their cardiovascular disease risk. Ghrelin, known as "the hunger hormone," is essential for energy regulation and metabolism. It offers cardiovascular benefits by promoting vasodilation and enhancing endothelial function. With anti-inflammatory and antioxidative properties, ghrelin aids vascular health, making it particularly significant for ageing populations where these processes are often disrupted. Imbalanced ghrelin levels may increase the risk of atherosclerosis and other cardiovascular complications. Understanding these variations in plasma ghrelin levels can offer insights into individual susceptibility to cardiovascular disease and highlight the hormone's role in metabolic and cardiovascular health. This preliminary study aimed to evaluate cardiovascular risk and plasma ghrelin levels in an elderly community. Cardiovascular risk was assessed using the Systematic Coronary Risk Evaluation model, from the European Society of Cardiology, which estimates a 10-year risk of cardiovascular disease mortality in Europe. Blood collection for laboratory tests was performed following WHO guidelines. Plasma ghrelin levels were measured using a commercial ELISA kit. Informed consent was obtained from all participants. Study approved by Ethical Council of ULSNE, Nº41/2024. Findings revealed a heterogeneous distribution of cardiovascular risk factors within the studied population. Specifically, approximately 43.8% of participants were classified as being at moderate risk, 18.8% were identified as higher risk, and 37.5% were categorized as lower risk. Plasma ghrelin levels exhibited significant variability among participants, with concentrations ranging from 1,281 to 10,000 pg/mL. These findings underscore the importance of targeted interventions to address modifiable risk factors such as smoking cessation, lipid management, and blood pressure control within this population. Additionally, the variability in plasma ghrelin levels observed among participants suggests that this biomarker may help identify individuals at heightened cardiovascular risk.

Keywords: Heart Disease Risk Factors, Aged, Hormones