

December 28, 2016

Scientific Research Process

Name of Journal: *World Journal of Gastroenterology*

ESPS Manuscript NO: 30766

Manuscript Type: ORIGINAL ARTICLE

Title: Subclinical atherosclerosis is linked to small intestinal bacterial overgrowth *via* vitamin K2-dependent mechanisms

Authors: Francesca Romana Ponziani, Maurizio Pompili, Enrico Di Stasio, Maria Assunta Zocco, Antonio Gasbarrini, Roberto Flore

Correspondence to: Francesca R Ponziani, MD, Internal Medicine and Gastroenterology, Agostino Gemelli Hospital, Largo Agostino Gemelli 8, 00168 Rome, Italy. francesca.ponziani@yahoo.it

1 What did this study explore?

The aim of this study was to investigate the rate of MGP carboxylation in patients with SIBO and to decipher its association with the risk of developing subclinical atherosclerosis.

2 How did the authors perform all experiments?

During a six month period, all outpatients at the Gastroenterology Division of the Agostino Gemelli Hospital in Rome that presented with clinical signs of SIBO (e.g., bloating, abdominal pain, and diarrhea) fulfilling the inclusion and exclusion criteria were included in the study. All patients included in the study underwent a GBT to confirm the diagnosis of SIBO, assessment of daily intake of vitamin K2, quantification of plasma levels of the dephosphorylated-uncarboxylated matrix Gla-protein and ultrasound and Doppler ultrasound examination of the non-coronary arterial system.

3 How did the authors process all experimental data?

Statistical analysis was conducted using the R statistics program version 3.1.2. Kendall's tau-b correlation and regression analyses were performed on both the overall population as well as the SIBO group separately. All statistical tests were two-sided and differences were considered significant at p-values below 0.05.

4 How did the authors deal with the pre-study hypothesis?

We revised published data and formulated the pre-study hypothesis which was confirmed by our results. Our conclusions were then supported by the previous studies and our data.

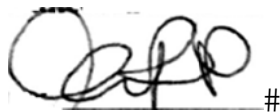
5 What are the novel findings of this study?

This study demonstrates that small intestinal bacterial overgrowth is associated with increased plasma levels of inactive matrix Gla-protein, which, in turn, correlates directly with early markers of atherosclerotic disease such as increased arterial stiffness.

Therefore, small intestinal bacterial overgrowth has the potential to serve as an indicator for increased risk of developing an overt cardiovascular disease.

#

Sincerely,

A handwritten signature in black ink, appearing to read 'FRANCESCO PONZIANI', followed by a small '#' symbol.

Francesca R Ponziani, MD

Internal Medicine and Gastroenterology, Agostino Gemelli Hospital,
Largo Agostino Gemelli 8, 00168 Rome, Italy

E-mail: francesca.ponziani@yahoo.it

Telephone: +39-34-71227242

Fax: +39-06-30156265

#