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**ARTERIOSCLEROSIS, THROMBOSIS, VASCULAR BIOLOGY**

**SESSION TITLE: DAMPS, INFECTION AND CARDIOVASCULAR METABOLISM**

## **Abstract 10712: Observational Findings of PULS Cardiac Test Findings for Inflammatory Markers in Patients Receiving mRNA Vaccines**

Steven R Gundry

Originally published 8 Nov 2021 | [https://doi.org/10.1161/circ.144.suppl\\_1.10712](https://doi.org/10.1161/circ.144.suppl_1.10712) | Circulation. 2021;144:A10712

This article has an expression of concern 

Expression of Concern: Abstract 10712: Mrna COVID Vaccines Dramatically Increase Endothelial Inflammatory Markers and ACS Risk as Measured by the PULS Cardiac Test: a Warning

is corrected by 

Correction to: Abstract 10712: Mrna COVID Vaccines Dramatically Increase Endothelial Inflammatory Markers and ACS Risk as Measured by the PULS Cardiac Test: a Warning

## **Abstract**

This clinic has been using the PULS Cardiac Test (Predictive Health Diagnostics Co., Irvine, CA) a clinically utilized measurement of multiple protein biomarkers, which generates a score predicting the 5 yr risk (percentage chance) of a new Acute Coronary Syndrome (ACS) called the PULS Score. The score is based on changes from the norm of multiple protein inflammatory biomarkers including IL-16, a proinflammatory cytokine, soluble Fas, an inducer of apoptosis, and Hepatocyte Growth Factor (HGF) which serves as a marker for chemotaxis of T-cells into epithelium and cardiac tissue, among other markers. Elevation above the norm increases the PULS score, while decreases below the norm lowers the PULS score. The PULS score has been measured every 3-6 months in our patient population for 8 years. Recently, with the advent of the mRNA COVID 19 vaccines (vac) by Moderna and Pfizer, we tracked the changes of the PULS score and three of the inflammatory markers it measures in all of our patients consecutively receiving these vaccines.








This report summarizes those results. A total of 566 pts, aged 28 to 97, M:F ratio 1:1 seen in a preventive cardiology practice had a previously scheduled PULS test drawn from 2 to 10 months following the 2<sup>nd</sup> mRNA COVID shot and was compared to the pt's PULS test drawn 3 to 6 months previously pre-shot. Each vac pt's PULS score and inflammatory marker changes were

compared to their pre-vac PULS score, thus serving as their own control. There was no comparison made with unvaccinated patients or pts treated with other vaccines.

Baseline IL-16 increased from 35+/-20 above the norm to 82 +/- 75 above the norm post-vac; sFas increased from 22+/- 15 above the norm to 46+/-24 above the norm post vac; HGF increased from 42+/-12 above the norm to 86+/-31 above the norm post vac. These changes resulted in an increase of the pre vac PULS score of predicted 11% 5 yr ACS risk to a post vac PULS score of a predicted 25% 5 yr ACS risk, based on data which has not been validated in this population. No statistical comparison was done in this observational study.

In conclusion, the mRNA vacs numerically increase (but not statistically tested) the markers IL-16, Fas, and HGF, all markers previously described by others for denoting inflammation on the endothelium and T cell infiltration of cardiac muscle, in a consecutive series of a single clinic patient population receiving mRNA vaccines without a control group.

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