**62. The Alterations of Serum IgG Fucosylation as a Potential Additional New Diagnostic Marker in Advanced Endometriosis**

**Katarzyna Sołkiewicz 1, Hubert Krotkiewski 2, Marcin Jędryka 3 4, Andrzej Czekański 3 4, Ewa Maria Kratz 1
J Inflamm Res. 2022 Jan 13;15:251-266.doi: 10.2147/JIR.S341906. eCollection 2022.**

Abstract

Background: Endometriosis is an inflammatory disease leading to the growth of endometrial-like tissue outside of the uterus, which affects approximately 10% of young women of reproductive potential. The diagnosis of this disease is difficult, often invasive and time-consuming, therefore non-invasive diagnostic methods are strongly desirable in endometriosis detection. The aim of our project was to investigate whether any associations exist between the expression of serum IgG fucosylation and advanced stages of endometriosis. We were also interested in whether native serum IgG (s-IgG) fucosylation analysis, without prior IgG isolation, could provide a panel of parameters helpful in non-invasive diagnostics of advanced endometriosis.

Methods: IgG fucosylation was examined using a lectin-ELISA test with fucose- specific lectins: AAL and LCA, specific for core fucose α1,6-linked, as well as LTA and UEA which recognize α1,3- and α1,2-linked fucose, respectively.

Results: ROC curve and cluster analysis showed s-IgG reactivities with the panel of fucose-specific lectins AAL, LCA and LTA.

Conclusion: s-IgG reactivity with the panel of fucose-specific lectins AAL, LCA and LTA can be taken into account as a useful diagnostic and clinical tool to differentiate women with advanced endometriosis. Moreover, it has been shown that the analysis of native IgG fucosylation directly in serum, without prior time-consuming, expensive IgG isolation, is sufficient to distinguish advanced stages of endometriosis from a control group of healthy women.

Keywords: IgG fucosylation; endometriosis; lectin-ELISA; serum IgG.