

# Endometriosis Online Congress

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## *Abstract Book*



## INCREASED LEVELS OF INTERLEUKIN-18 IN FOLLICULAR FLUID FROM WOMEN WITH ENDOMETRIOSIS

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### Abstract

#### Introduction

Women with endometriosis have been shown to present poor fertilization and oocyte cleavage rates. The mechanisms are unclear but it may be related to impaired oocyte function, possibly due to an inflammatory milieu in the pelvis of these women. The NLR family member leucine rich repeat and pyrin domain containing 3 (NLRP3) forms the NLRP3 inflammasome that mediates innate immune responses via IL-1 $\beta$  and IL-18 and participates in a variety of inflammatory conditions. IL-18 is a pro-inflammatory cytokine that is structurally similar to IL-1 $\beta$  and strongly induces a Th1 response.

#### Objective

The aim of this study was to examine whether follicular fluid (FF) and granulosa cells (GCs) from women with endometriosis (n=14) deviated with respect to production of the inflammatory cytokine interleukin (IL)-18 compared with granulosa cells from women, undergoing IVF for male or tubal infertility (n=10).

#### Material and Methods

GCs were obtained from FF collected at the time of oocyte retrieval from women undergoing for IVF. The IL-18 levels were investigated by enzyme-linked immunosorbent assay (ELISA) and quantitative real-time PCR (qRT-PCR) in FF and GCs, respectively.

#### Results

The basal production of IL-18 cytokine was higher in cells from women with endometriosis when compared to controls in FF ( $p < 0.05$ ). No statistically significant differences in mRNA expression level of IL-18 in the GCs.

#### Conclusions

It suggests that the higher amounts of follicular IL-18 are not dependent of GCs production. Whether aberrant cytokine IL-18 in FF from women with endometriosis may disturb fertilizing capacity of oocytes requires study.

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