

6th Annual Congress on  
**Gynecology and  
Women's Health**  
November 21, 2022 | Webinar

**Scientific Tracks & Abstracts**



# Sessions

Midwifery and Womens Health | Gynecology | PCOS

## Session Introduction

**Title:** **Treatment of PCOS: Insulin Resistance in Focus**

**Mirjana Sumarac-Dumanovic**, University of Belgrade, Serbia

**Title:** **Is there Any Impact of Women's Anxiety on ART Outcomes?**

**Amira Sallem**, University of Monastir, Tunisia

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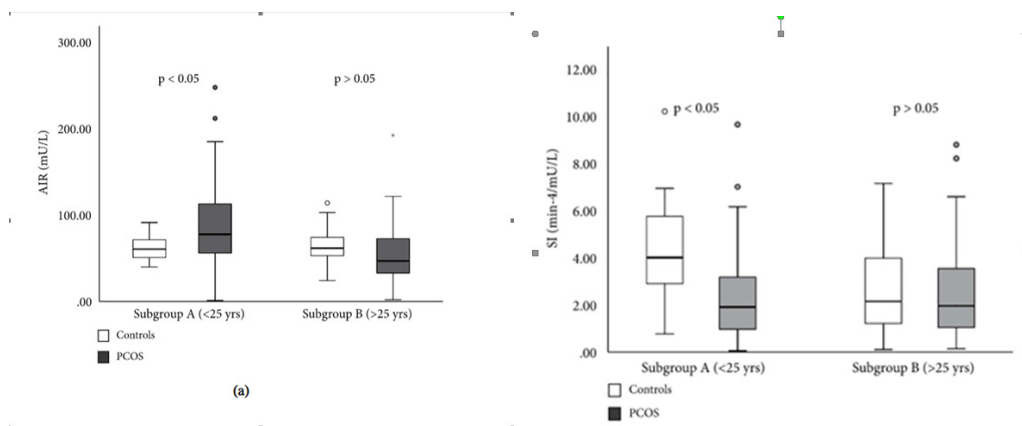
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## Treatment of PCOS: Insulin Resistance in Focus

**Mirjana Sumarac-Dumanovic**

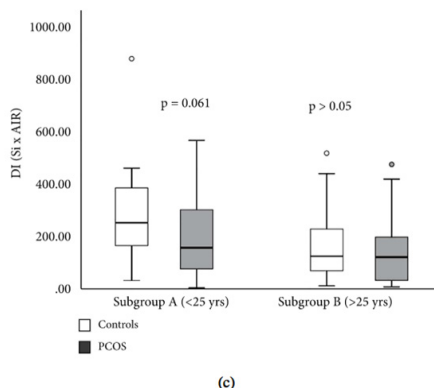
University of Belgrade, Serbia

Polycystic Ovary Syndrome (PCOS) is one of the most common endocrinopathy in women of reproductive age. Insulin resistance is a coexisting feature of this disorder in many with PCOS, but its role in the pathogenesis of PCOS is unclear. Even if insulin resistance is not one of the diagnostic criteria, it is one of the main targets of PCOS therapy along with oral contraceptives. In addition to insulin resistance, the associated failure of pancreatic  $\beta$ -cell function may be an important determinant of impaired glucose tolerance or Type 2 Diabetes (T2DM). The disorder is thought to begin with menarche and some features change with age. Some studies have suggested that adolescents with PCOS are severely insulin resistant, compared to a control group matched for body composition and abdominal obesity. Middle-aged women with PCOS have been noted to have an increased prevalence of T2DM compared to age-matched controls. Our recent data on subjects younger than 25 years emphasize the importance of diagnosing PCOS in adolescence and instituting appropriate therapy targeting insulin resistance and  $\beta$ -cell secretion before T2DM develops (ref 1). Among all insulin sensitizers, metformin is the most widely used in PCOS. The beneficial effects of metformin are increasingly evident, especially when combined with lifestyle modifications, improvement of pathogenetic mechanisms underlying PCOS, restoration of ovarian function and improvement of metabolic profile, especially insulin sensitivity and lipoprotein pattern. Metformin can improve the inflammatory condition both indirectly by improving metabolic parameters and directly through its anti-inflammatory effect. Several recent studies have reported the beneficial effects of inositol in improving the metabolic and hyperandrogenic profile of women with PCOS. Recent studies have also evaluated the effects of other antidiabetic drugs, such as incretin mimetics and SGLT2s, which may possibly be more effective in some comorbidities, such as obesity and cardiovascular disease.



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## Recent publications

1. Sumarac-Dumanovic M et al. (2022). Age, Body Mass Index and Waist-to-Hip Ratio Related Changes in Insulin Secretion and Insulin Sensitivity in Women with Polycystic Ovary Syndrome: Minimal Model Analyses. *Int J Endocrinol* 18; 2022:6630498.
2. Dragović G, Sumarac-Dumanovic M et al. (2018). Correlation between PAI-1, leptin and ferritin with HOMA in HIV/AIDS patients. *Exp Mol Pathol.* 2018 Aug;105(1):115-119.
3. Sumarac-Dumanovic M et al. (2017). Downregulation of autophagy gene expression in endometria from women with polycystic ovary syndrome. *Mol Cell Endocrinol* 15; 440:116-124.
4. Sumarac-Dumanovic M et al. (2013). Therapeutic improvement of glucoregulation in newly diagnosed type 2 diabetes patients is associated with a reduction of IL-17 levels. *Immunobiology.* 218(8):1113-8.
5. Sumarac-Dumanovic M et al (2008). Increased activity of interleukin-23/interleukin-17 proinflammatory axis in obese women. *Int J Obes (Lond)* 33(1):151-6.

## Biography

Mirjana Sumarac-Dumanovic is a Professor of Endocrinology and Internal Medicine at the University of Belgrade School of Medicine and Head of Multidisciplinary Center for Obesity in University Clinical Center of Serbia, Clinic for Endocrinology, Diabetes and Diseases of Metabolism. From 2016 she is Full time Professor at University of Belgrade. Dr. Sumarac-Dumanovic research interests have always been focused on diabetes and in particular the physiopathology and therapy of type 2 diabetes and insulin resistance syndrome and polycystic ovary syndrome as well as in obesity. She is a member of many societies and associations including the European Society of Endocrinology, European Association for the Study of Obesity. She is secretary of Serbian Association for the Study of Obesity. She organized many meetings in field of endocrinology and obesity. Dr Sumarac-Dumanovic has published over 50 articles in international journals. She was invited lecturer in field of PCOS, diabetes, obesity.

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## Is There any Impact of Women's Anxiety on ART Outcomes?

**Amira Sallem**

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**Statement of the Problem:** Childlessness is perceived by both partners as an emotionally hard experience. For the women the burden could be greater as she undergoes most of both investigations and treatments. The purpose of this study is to address the question whether anxiety could negatively impact ART outcomes and to point out the most stressful time point during an ART course.

**Methodology & Theoretical Orientation:** This was a prospective study including 79 infertile women undergoing in vitro fertilization at the Reproductive Medicine Unit of Farhat Hached Hospital (Tunisia). Participants were asked to answer the Beck anxiety inventory (BAI) on the day of oocyte retrieval. Accordingly, they were classified in one of the 3 groups:

**Group A:** Very low anxiety (n= 36; BAI<21),

**Group B:** Moderate anxiety (n= 24; 22≤BAI≤35) and

**Group C:** Severe anxiety (n=19; BAI≥ 36).

For each patient, two blood samples were collected to assess free cortisol level on the day of oocyte retrieval and on the day of embryo transfer.

**Findings:** In severely anxious patients, the implantation rate was the lowest in comparison with moderately anxious women (p= 0.03) and those having low levels of anxiety (p= 0.001) and was negatively correlated to BAI score (r= - 0.65; p= 0.001). Interestingly, both clinical pregnancy and live birth rates were similar among the three groups. Cortisol level was significantly higher on the day of embryo transfer than that measured on the day of oocyte pick-up (p<0.0001).

**Conclusion & Significance:** The day of embryo transfer is the most stressful time point and psychological counselling is crucial to enhance implantation rate. Hence implantation has occurred, no obvious impact of stress on pregnancy and live birth was seen.

### Recent publications

1. Agostini F, Monti F, Paterlini M, Andrei F, Palomba S, La Sala GB. Effect of the previous reproductive outcomes in subfertile women after in vitro fertilization (IVF) and/or intracytoplasmic sperm injection (ICSI) treatments on perinatal anxious and depressive symptomatology. *J Psychosom Obstet Gynaecol.* 2018;39(1):29–37.
2. Palomba S, Daolio J, Romeo S, Battaglia FA, Marci R, La Sala GB. Lifestyle and fertility: the influence of stress and quality of life on female fertility. *Reprod Biol Endocrinol RBE.*
3. 2018;16(1):113. 3. Massarotti C, Gentile G, Ferreccio C, Scaruffi P, Remorgida V, Anserini. Impact of infertility and infertility treatments on quality of life and levels of anxiety and depression in women undergoing in vitro fertilization *Gynecol Endocrinol.* 2019 Jun;35(6):485-489.

### Biography

Amira Sallem is an expert in the field of Andrology and Assisted Reproductive Technologies (ART) born in Tunisia. She obtained her degree in Medicine in 2015 in the Faculty of Medicine of Monastir (Tunisia) and her PhD in Reproductive Sciences in the University of Paris in 2019.