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The influence of myo-inositol in comparison with metformin on metabolic and endocrinological disorders in women suffering from PCOS

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Statement of the Problem: Polycystic ovary syndrome (PCOS) is a multisystem reproductive- metabolic disorder and the most common endocrine cause of infertility. The role of insulin resistance (IR) in the development of PCOS has been extensively studied, and it is widely accepted that IR is an independent factor apart from obesity that plays a significant role in the molecular mechanisms leading to increased androgen synthesis in the ovary Among the various treatment modalities, two agents, metformin (MET) and myo-inositol (MI), have garnered substantial attention for their roles in managing PCOS The objective of our study was to determine the influence of Myo-Inositol (MI) on insulin resistance (IR), menstrual cycle regularity, and hyperandrogenism in women suffering from PCOS with normal BMI, and diagnosed IR. Methods: We performed a prospective randomized controlled trial (RCT) that included 60 participants with PCOS, who had IR and normal BMI. Two groups were formed. Group of thirty patients received MI, 4000 mg/day, and thirty patients in control group received Metformin, (MET), 1500 mg/day. Results: A statistically significant reduction of the area under the curve (AUC) of insulin concentrations during the oral glucose tolerance test (OGTT) was recorded in both examined groups after the applied therapy with MI and MET. The regularity of menstrual cycle in both groups was improved in > 90% of patients. The statistically significant decrease in androgenic hormones (testosterone, SHBG, free androgen index - FAI, androstenedione) was recorded in both groups and didn't differ between groups. Although pregnancy within the groups of examined women was not the primary outcome of the study, we had to note that 8 women were excluded from the group that took inositol, due to pregnancy. Conclusions: Both MI and MET can be considered very effective in regulation of IR, menstrual cycle irregularities and hyperandrogenism in normal weighted women with PCOS.

Biography

Employment Head of the Gynecological Endocrinology Department- Clinic for Gynecology and Obstetrics, Clinical Center of Serbia (KCS); Professor of Gynecology and Obstetrics, Faculty of Medicine, University of Belgrade; President of the Serbian Association for Gynecological and Reproductive Endocrinology (SAGRE) Education: Specialist in gynecology and obstetrics; General Endocrinology subspecialist; Fertility and sterility subspecialist;; PhD in the field of neuroendocrinology, from the Faculty of Medicine, University of Belgrade. Completed an International Course in Hysteroscopy, Cyprus 2004, and a laparoscopic suturing course in Leuven in 2008, organized by the European Society of Endoscopic Surgery Membership in professional associations: Member of: the American Association of Endocrinologists: ~ Endocrine Society ~ Member of the International Association of Gynecological Endocrinology (ISGE) President of the Serbian Association for Gynecological and Reproductive Endocrinology (SAGRE) from 2018.

01