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Inositol as putative integrative treatment for PCOS

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Comment [AH1]: Author: Please check the editing of this paper very carefully to ensure that your intended meaning has not been changed at any point.

Author biography

Alessandro D Genazzani is a Doctor of Medicine, endocrinologist, and obstetric and gynaecologist. He also obtained a PhD in the neurobiology of reproduction. After some years at the University of Florence, Italy, he moved to the National Institute of Child Health and Human Development (NICHD), at the National Institutes of Health, Bethesda, MD, USA, working with Professor David Rodbard, and then back to Italy. At present he is Chief of the Gynecological Endocrinology Centre at the Department of Obstetrics and Gynecology, University of Modena and Reggio Emilia, Italy, taking care of hormonal diseases impairing female reproduction.

Abstract

Studies over the last decade have demonstrated that some polycystic ovary syndrome (PCOS) patients have abnormal insulin sensitivity (insulin resistance), independently from being overweight or obese. This induces the risk of developing type 2 diabetes in such PCOS patients. The use of insulin sensitizers (i.e. metformin), reduces such metabolic, and most hormonal, impairments. As metformin often induces side effects, new integrative strategies have been proposed to treat insulin resistance, such as the use of inositols. Such compounds are mainly represented in humans by two inositol stereoisomers: myo-inositol (MYO) and D-chiro-inositol (DCI). MYO is the precursor of inositol triphosphate, a second messenger that regulates thyroid-stimulating hormone (TSH) and FSH as well as insulin. DCI derives from the conversion of myo-inositol via an insulin-dependent pathway. Several preliminary studies have indicated possible benefits of inositol therapy in PCOS patients, but to date no meta-analysis has been performed. This review aims to give clinical insights for the clinical use of inositol in PCOS.

Keywords: *anovulation, D-chiro-inositol, diabetes, hyperandrogenism, insulin resistance, myo-inositol*

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