

## **P58. Modulatory effects of D-Chiro-inositol (DCI) plus alpha lipoic acid (ALA) combination on metabolic and hormonal parameters of obese PCOS patients**

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**Context:** Polycystic ovary syndrome (PCOS) is a common endocrine condition that affects fertility through oligo-ovulation, hyperandrogenism and polycystic morphology of the ovaries.

**Objective & Study Design:** Since it has been demonstrated a high incidence of insulin resistance in PCOS patients, our study aimed to evaluate the efficacy of the integrative treatment with D-chiro-inositol (DCI) (500mg die, per os) combined with alpha lipoic acid (ALA) (400 mg, per os), for 12 weeks on hormonal parameters and insulin sensitivity in a group of obese PCOS patients (BMI>30).

**Results:** After the treatment, interval several endocrine parameters improved (luteinizing hormone [LH], androstenedione and insulin), insulin response to oral glucose tolerance test reported the significant improvement of insulin sensitivity. HOMA index and BMI decreased, though no lifestyle modification was requested. When data were analyzed according to the presence or absence of first-grade diabetic relatives, PCOS patients with diabetic relatives showed greater improvement after DCI+ALA integrative administration. In addition, this combination induced only in this group of patients the significant reduction of ALS and ALT, decreasing the risk of non alcoholic fat liver disease (NAFLD) risk.

**Conclusions:** the combination of DCI+ALA administration is effective in restoring better insulin sensitivity and an improved hormonal pattern in obese hyperinsulinemic PCOS patients, in particular, in hyperinsulinemic PCOS patients who have diabetic relatives.

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