

The weight reduction in adolescents with Polycystic Ovarian Syndrome is associated with increase in serum adiponectin

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Abstract

Introduction: Polycystic ovary condition (PCOS) is a hormonal issue basic among ladies of regenerative age. Ladies with PCOS may have inconsistent or drawn out menstrual periods or overabundance male hormone (androgen) levels. The ovaries may build up various little assortments of liquid (follicles) and neglect to routinely discharge eggs.

The specific reason for PCOS is obscure. Early analysis and treatment alongside weight reduction may lessen the danger of long haul entanglements, for example, type 2 diabetes and coronary illness.

Indications

Signs and indications of PCOS regularly create around the hour of the primary menstrual period during pubescence. Once in a while PCOS grows later, for instance, in light of significant weight gain.

Signs and side effects of PCOS shift. A finding of PCOS is made when you involvement with least two of these signs:

Sporadic periods. Rare, unpredictable or delayed menstrual cycles are the most well-known indication of PCOS. For instance, you may have less than nine periods every year, over 35 days among periods and strangely substantial periods.

Overabundance androgen. Raised degrees of male hormone may bring about physical signs, for example, abundance facial and body hair (hirsutism), and at times extreme skin break out and male-design hairlessness.

Polycystic ovaries. Your ovaries may be expanded and contain follicles that encompass the eggs. Thus, the ovaries may neglect to work consistently.

PCOS signs and side effects are ordinarily progressively extreme in case you're stout. PCOS has become one of the most common endocrine disorders and recently it has been observed that diet, genetics and lifestyle are the major contributors to the onset and progression of PCOS. Trends are alarming towards various metabolic diseases such as obesity, hypertension, diabetes, insulin resistance, iron disorders, visceral adiposity, musculoskeletal disorders and many more. PCOS is a major global public health challenge due to increased consumption of fatty foods, calorie rich food and inadequate physical activity that altered the hormonal changes, lipids or methyl glyoxal and subsequently releases a novel form of cytokines. Adiponectin is produced and expressed by adipose tissue, which is prevalent in Polycystic Ovarian Syndrome with increased Body Mass Index (BMI), Adiponectin has profound insulin – sensitizing, anti-inflammatory and anti-atherogenic effects.

Objective of the study is to investigate the association between weight reduction in obese adolescent with PCOS and adiponectin, TNF- α and C-reactive protein.

Patients and Methods: Twenty-seven adolescent women between 10 and 20 years with anovulation and hyperandrogenism were recruited from the outpatient clinic of Maternity Hospital, Kuwait over a three year period September 1, 2014 to August 31, 2017. All had clinical evaluation including history and physical examination. They were randomized into 3 treatment groups: Metformin only, Metformin and Exercise and

Exercise. Serum levels of Testosterone, adiponectin, TNF- α and C-reactive protein were estimated by ELISA technique initially before treatment and repeated after 3 months.

Results: The features of oligomenorrhoea, high BMI and acne like in other parts of the world. All the three interventions resulted in weight reduction and regular menstruation in about 34% of the young women. Metformin with exercise had more significant effect in decreasing total 50% as compared to 28% with metformin only and 14% with exercise only. Similarly, Metformin with exercise had a more significant increase in serum adiponectin (3.42 and 4.2 Vs 8.48 $P < 0.001$) decrease of TNF- α (11.08 Vs 34.6 and 48.4 $P < 0.020$) and C-RP (20.8 and 18.2 Vs 11.4 $P < 0.031$).

Conclusion: Weight reduction in adolescents with PCOS is associated with increase level of serum adiponectin and decrease levels of TNF- α and C-RP.

Key words: Adolescent, PCOS, Adiponectin, Weight reduction, Metformin, TNF- α .