

Comparison the occurrence of Non-Thyroidal Illness Syndrome between Polycystic Ovarian Syndrome and Single ovarian Cyst

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Abstract The association between the thyroid disorders and ovarian health function is a subject of debate, as thyroid disorders can interact with the ovaries through both autoimmunity pathways and a direct effect on ovarian function. Although there seem to be no correlations between the causes of hypothyroidism and PCOS or single ovarian cyst, these diseases have many characteristics in common, such as chronic anovulation by decreased serum sex hormone binding globulin and increased serum testosterone, luteinizing hormone (LH) and cholesterol. In addition to insulin resistant and alterations in lipids and metabolic parameters. The aim of this study was to assess the thyroid gland functions and determine the subclinical thyroid dysfunction in two groups of women who suffer from either PCOS or single cyst. In 115 patients of women within reproductive age (18-45 years), include 58 patients with PCOS and 57 patients with an ovarian cyst, we assessed the thyroid function by measuring the serum levels of TSH, FT3, and FT4 hormones using electrochemiluminescence immunoassay (ECLIA). We defined our patients on a subclinical thyroid dysfunction using free T4 and TSH levels based on expert reviews. Euthyroidism was defined as TSH of 0.45 to 4.49 mIU/L; subclinical hypothyroidism as TSH of 4.5 to 19.9 mIU/L; and subclinical hyperthyroidism as TSH < 0.45 mIU/L, with normal free T4 level. Non-thyroidal illness syndrome (NTIS) was defined as a low serum free T3 (FT3) level below 2.3 pm/ml, with low or normal FT4 and TSH serum levels. Among PCOS patients, Fifty-six patients (96%) showed euthyroidism, 2 of them (3.4%) subclinical hypothyroidism, no subclinical hyperthyroidism was detected. 9 (15.5%) of patients were diagnosed with Non-thyroidal illness syndrome. On the other hand, All Patients with single ovarian cyst were shown euthyroidism, 26 (45.6%) of them were diagnosed with Non-thyroidal illness syndrome. No correlation was detected between any of assessed hormones and the diameter of ovarian cyst. According to the result, all patients with PCOS or Ovarian cyst should be screened for thyroid dysfunction, in particular, Non-thyroidal illness syndrome.

Keywords: Polycystic Ovarian Syndrome, Single ovarian Cyst, Non-Thyroidal Illness Syndrome, Thyroid

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