IS-40  Zona pellucida gene (ZP4) sequence in patients with polycystic ovary syndrome

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Normal oogenesis and folliculogenesis but also disturbed oogenesis and folliculogenesis in polycystic ovaries are not fully understood. Oocyte specific genes play an essential role in oogenesis and folliculogenesis. There are suggestions about possible role of some oocyte specific genes in etiopathophysiology of PCOS. Zona pellucida 4 gene (ZP4) is recently identified gene, which belongs to zona pellucida genes such as ZP1, ZP2 and ZP3. The role of ZP4, contrary to above-mentioned other ZP genes is not well described. The scope of this study was to analyze ZP4 coding sequence and expression in patients with polycystic ovary syndrome. Studied material included blood received from 29 patients (mean age 24.2±3.23 years; mean BMI 31.4+/−4.5 kg/m2) with polycystic ovary syndrome. All patients with PCOS were diagnosed with the use of ESHRE/ASRM criteria from 2003. DNA was isolated from blood cells (after separation of blood cells from serum) using a DNA isolation kit (QiaGen). Genomic DNA was used for in vitro amplification by PCR with a specific set of primers complementary to the coding sequence of the ZP4 gene. Products from each PCR reaction were examined by SSCP method. Samples with changes detected by SSCP in comparison to control probes were cloned into plasmid vector and then automatically sequenced. From a total of 29 patient samples with PCOS, we identified 5 nucleotide changes in the ZP4 coding sequence: 4 silent nucleotide changes in exons 1, 2, 4, and 5 nucleotide change in the exon 5 (position 114, T>G). The mutation in exon 5 (T>G) results in substitution of cystein for glycine of amino acid in position 223 of ZP4 protein. In summary, our data demonstrate that ZP4 nucleotide changes account for 15% of patients with PCOS.

IS-41  The concentrations of serum visfatin in patients with PCOS

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[Objective] The aim of this study was to measure serum visfatin levels in patients with polycystic ovary syndrome (PCOS) and to assess possible correlations between visfatin and the hormonal or metabolic parameters of the syndrome. [Methods] Serum visfatin levels were evaluated in 20 patients with PCOS and 22 women without PCOS age and body mass index (BMI) matched with the patients. The levels of blood sugar, insulin, gonadotropin, sex steroid hormones and homeostasis model assessment (HOMA-R) score were also evaluated. [Results] Serum visfatin levels were without significant differences between PCOS group and healthy control group. However, plasma visfatin levels were correlated with HOMA-R in the PCOS group. [Conclusion] Our data indicated that plasma visfatin concentration could be a new index for insulin tolerance in PCOS.

IS-42  The Cause of Amenorrhea for adolescent and premarital women

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Amenorrhea was categorized into the first amenorrhea and second amenorrhea. Results: The number of patients with primary amenorrhea was 62 (22.6%) and secondary amenorrhea was 212 (77.4%) in adolescent group. In premarital women group, the number of primary amenorrhea was 27 (6.5%) and secondary amenorrhea was 389 (93.5%). The causes of primary amenorrhea in adolescent group were as follows: 1) MRKH syndrome [16.1%, (10)], 2) Idiopathic hypergonadotrophic gonadism [11.3%], 3) Turner syndrome [11.3%], 4) Androgen insensitivity [9.7%], 5) Pure gonadal dysgenesis [8.1%]) and idiopathic POF [8.1%]. In premarital group, 1) MRKH syndrome [18.5%] and idiopathic hypergonadotrophic gonadism [18.5%], 2) Turner syndrome [14.8%]. The causes of secondary amenorrhea in adolescent group were as follows: 1) PCOS [50%, (106)], 2) Chronic anovulation [20.8%], 3) Weight related hypogonadotrophic hypogonadism [8.0%], 4) Idiopathic hypergonadotrophic hypogonadism and idiopathic POF [4.2%]. In premarital group, 1) PCOS [59.2%], 2) Chronic anovulation [14.1%], 3) Idiopathic hypergonadotrophic hypogonadism and idiopathic POF [5.6%], 4) Hyperprolactinemia [5.4%]. There was no difference in the causes of primary and secondary amenorrhea between adolescent and premarital group. Conclusion: The most common cause of primary amenorrhea is MRKH syndrome and idiopathic hypergonadotrophic hypogonadism and which of secondary amenorrhea is PCOS in both groups.