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Genomewide association analysis of premature ovarian failure

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The clinical criteria of premature ovarian failure (POF) are defined as the cessation of menstruation before the age of 40. The characteristics of POF accompany amenorrhea, hypoestrogenism, and high gonadotrophin levels, especially serum follicle-stimulating hormone $> 40\text{mIU/mL}$. Etiology and pathophysiology of POF have not been identified. In this study, we hypothesized that the gene(s) involved in the development of POF will be discovered by whole genomewide association analysis using Illumina Infinium 100K SNP chip. Peripheral blood samples of genomic DNA were collected from 16 patients and from 16 healthy fertile women. We found that many genes were very significantly associated with POF. These results suggest that the screened SNPs by genomewide association analysis may be good candidate genes for full scale target gene association study. Strongly associated genes with POF will be genotyped using Illumina 1,536 Golden gate SNP chip.