Gene Reports
Volume 16, September 2019, 100453

Association of TTTA polymorphism in *CYP19* gene with endometrial and ovarian cancers risk in Basrah

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https://doi.org/10.1016/j.genrep.2019.100453

Highlights

- This study aimed to explore the relationship of TTTA repeats polymorphism in intron 4 of *CYP 19* gene with EC and OC cancers in women in Basrah

Abstract

This study involved 62 patients and 60 healthy controls, genomic DNA was extracted from blood and *CYP19* gene amplified by PCR. The results showed The distribution of T'T'TA repeat polymorphism of the *CYP19* gene among the controls and endometrial cancer(EC), showed that the risk for EC was increased about two fold in the women which have (T'T'TA)9, (T'T'TA)11 and (T'T'TA)12 repeats OR=1.56, 2.16, 1.56 respectively. The risk to develop Ovarian Cancer(OC) patients have increased about two fold in the women having (T'T'TA)11, OR=2.087 and about four fold in the women with (T'T'TA)12, OR=3.868.Asignificant effect in (7–11) heterozygote allele between control and EC patients the risk increased about eleven fold, OR=10.5 and a significant effect in (7–10), (7–12) and (11–11) heterozygote alleles between control and Ovarian Cancer patients the risk increased about two fold, OR=2.111,2.111,2.462 respectively, and about six fold in (7–11) heterozygote allele OR=5.981. The (T'T'TA)n repeat lengths of ≤9 were classified as short (S), and those ≥10 were classified as long (L) the result showed the risk factor increased about six fold with S/L alleles of *CYP19* gene in EC. OR=5.625 and about two fold with L/L alleles OR=1..Alsothe risk factor increased about two fold with long allele of *CYP19* gene in OC. OR=2.216, four fold with S/L alleles OR=3.666 and about three fold with L/L alleles OR=3.3. In conclusion, this study showed an association between *CYP19* polymorphisms, with Endometrial and Ovarian Cancer especially the long Alleles and the haplotype and genotypes frequencies of *CYP19* maybe an indicator for susceptibility for Endometrial and Ovarian Cancer.

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Abbreviations

PCR, polymerase chain reaction; *CYP19*, cytochrome P45 19 gene; EC, endometrial cancer; OC, ovarian cancer; OR, odds ratio

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