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Absence of association between *TLR4* Thr399Ile polymorphism and cervical cancer susceptibility

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Abstract

*Background***:** Toll-like receptors (TLRs) play a key role in pathogen detection and initiating inflammatory response. Several lines of evidence have suggested chronic inflammation as one of the major factors linked to carcinogenesis. Single nucleotide polymorphisms (SNPs) in *TLR* genes including *TLR4* have been shown to be associated with cancer susceptibility, although reports have been conflicting.

Aim: The present case-control study was designed to ascertain the association of *TLR4* C1196T/ Thr399Ile polymorphism with cervical cancer risk among Indian women.

Patients and methods: The study comprised of tumor biopsies from 110 histopathologically diagnosed cervical cancer cases and cervical smears from 141 disease free healthy controls. DNA was obtained using standard proteinase-K digestion and phenol-chloroform extraction method. Genotyping of samples was carried out by Polymerase Chain Reaction-Restriction Fragment Length Polymorphism (PCR-RFLP) method.

Results: The results showed presence of single genotype CC (Thr/Thr) and complete absence of T allele across all the sample types thereby showing genotypic frequency of 1.0, 0.0 and 0.0 for