

rs2736098

Germ line genetic variants of human telomerase reverse transcriptase (**hTERT**) are known to predispose for various malignancies including **glioma**. A study investigated genetic variation of hTERT gene T/G (**rs2736100**) and hTERT G/A (**rs2736098**) with respect to glioma risk.

Confirmed 106 cases were tested against 210 cancer-free healthy controls by **Polymerase chain reaction-restriction fragment length polymorphism** technique (RFLP) for **genotyping**.

Homozygous variant 'GG' genotype of rs2736100 frequency was >4-fold significantly different in cases versus controls (39.6% 17.2%; $p < 0.0001$). Further, variant 'G' allele was found significantly associated with cases (0.5 versus 0.2 in controls; $p < 0.0001$). Homozygous variant rs2736098 'AA' genotype (35.8% vs. 23.8%) and allele 'A' (0.49 vs. 0.34) showed a marked significant difference in cases and controls respectively ($p < 0.05$). In hTERT rs2736100, GG genotype significantly presented more in higher grades and GBM ($p < 0.0001$). Besides GG variant of hTERT rs2736100 had poor probability in overall survival of patients as compared to TG and TT genotype (log rank $p = 0.03$). Interestingly, two haplotypes of hTERT rs2736100/rs2736098 were identified as GG and GA that conferred >3- and 5-fold risk to glioma patients respectively wherein variant G/A haplotype was observed to pronounce highest impact to confer glioma risk ($p < 0.0001$).

The study indicates that hTERT rs2736098 and rs2736100 variants play an important role to confer a strong risk to develop glioma. Further, hTERT rs2736100 GG variant seem to play a role in bad prognosis of glioma patients. **Haplotypes** GG and GA could prove as vital tool to monitor the risk for glioma patients ¹⁾.

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Pandith AA, Wani ZA, Qasim I, et al. Association of strong risk of hTERT gene polymorphic variants to malignant glioma and its prognostic implications with respect different histological types and survival of glioma cases [published online ahead of print, 2020 Aug 11]. J Gene Med. 2020;e3260.

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