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# Effect of *IL-18* gene promoter polymorphisms on prostate cancer occurrence and prognosis in Han Chinese population

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**ABSTRACT.** Interleukin-18 (IL-18) has been implicated in a wide variety of cellular functions that affect the biological response to tumors. However, there is insufficient evidence to prove that *IL-18* gene variants are associated with risk of prostate cancer. We examined a possible association between two promoter polymorphisms, -137G/C (rs187238) and -607C/A (rs1946518), in the *IL-18* gene and prostate cancer occurrence and prognosis in Han Chinese. We used a high-resolution melting method to genotype these two polymorphisms in 375 Chinese Han patients with prostate cancer and in 400 age-matched healthy controls. A hundred and eighty-one prostate cancer patients who had been receiving androgen deprivation therapy, including operational and medical castration, were enrolled

 

to follow-up in this study. Carriers of the GG genotype of the -137G/C polymorphism had a 2.165-times higher risk of prostate cancer progression than carriers of GC [95% confidence interval (CI) = 1.270-3.687]. Patients with the GG genotype at clinical stages III and IV also had significantly lower rates of progression-free survival (relative risk = 2.174, 95%CI = 1.211-3.906). However, we found no significant association of genotype or allele distributions of these two polymorphisms with occurrence of prostate cancer. We conclude that there is evidence that the *IL-18* gene promoter polymorphism -137G/C influences the prognosis of prostate cancer patients in androgen deprivation therapy, although neither of the two SNPs contributes to prostate cancer development.

**Key words:** *IL-18*; Prostate cancer; Polymorphism

 