



Meta-analysis demonstrates no association between XRCC1 Arg399Gln polymorphism and bladder cancer risk

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ABSTRACT. We examined whether the X-ray repair cross-complementing group 1 (XRCC1) Arg399Gln polymorphism is a risk factor for bladder cancer by conducting a meta-analysis. We searched the Pubmed and Embase databases for study retrieval. This meta-analysis examined 16 case-control studies, including 892 prostate cancer cases and 1020 healthy controls. Meta-analysis results based on these studies showed no significant association between the XRCC1 Arg399Gln polymorphism and bladder cancer risk in comparisons of the glutamine (Gln) allele vs arginine (Arg) allele, Arg/Arg vs (Gln/Gln + Gln/Arg), Gln/Gln vs (Gln/Arg + Arg/Arg), Gln/Gln vs Arg/Arg, and Gln/Arg vs Arg/Arg [odds ratio (OR) = 0.96, 95% confidence interval (CI) = 0.80-1.16, P = 0.70; OR = 1.13, 95%CI = 0.70-1.82, P = 0.62; OR = 0.92, 95%CI = 0.79-1.07, P = 0.29; OR = 0.90, 95%CI = 0.69-1.16, P = 0.42; OR = 0.89, 95%CI = 0.75-1.05, P = 0.17, respectively]. In subgroup

analysis by ethnicity, no association was observed between the XRCC1 Arg399Gln polymorphism and bladder cancer risk in Caucasian, Mongoloid, or black populations. We identified no association between the XRCC1 Arg399Gln polymorphism and bladder cancer risk.

Key words: Bladder cancer; XRCC1 Arg399Gln; Gene polymorphism; Meta-analysis