INPLASY PROTOCOL

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None declared.

Genetic polymorphism of RAD51 influence susceptibility to colorectal cancer in a Chinese population

Zhong, J[1]; Liu, SQ[2]; Tang, JC[3].

Review question / Objective: **RAD51 gene polymorphism have been studied as high risk factors for a variety of tumors, and the rs1801320G/C single nucleotide polymorphism has been confirmed to be associated with gene transcription. Although it has been investigated with colorectal cancer by several studies, they reported controversial results. The present review is to further explore this association between RAD51 gene polymorphism and colorectal cancer risk.**
Condition being studied: **Colorectal cancer is one of the most common malignant tumors. Statistics show that its mortality rate ranks second among malignant tumors in Europe, especially in developed countries, and third after lung cancer and breast cancer. In the last decade, colorectal cancer incidence and mortality present a rising trend. Relative statistics indicate that its incidence rate in women will soon exceed that of stomach cancer, while its mortality rate in men will rank third only after lung cancer and stomach cancer. At present, the pathogenesis of colorectal cancer has not been fully elucidated, but related articles have been reported: age, dietary factors, tumor history, genetics, smoking, alcohol consumption, and genetic mutations increase the risk of colorectal cancer. Further studies have shown that its occurrence and development are closely related to the inactivation of tumor suppressor genes, oncogene mutations, cell proliferation, and apoptosis imbalance.**

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INTRODUCTION

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METHODS

Participant or population: Patients with colorectal cancer, who were pathologically diagnosed as colorectal cancer without receiving any preoperative treatment, and the control group was healthy people who underwent physical examination in the hospital during the same period.

Intervention: On the premise of informing the patients, 5ml venous blood was extracted from all subjects with an empty stomach and frozen at -20°C for use. The RAD51 polymorphism was investigated by PCR-RFLP method and the traditional phenol-chloroform extraction method was used to extract genomic DNA.

Comparator: Not applicable.

Study designs to be included: Meta-analysis.

Eligibility criteria: This experiment has given the consent of patients or their families, recorded in detail: basic situation, history, family history, smoking history, drinking history, etc. Smoking was defined as smoking a cigarette a day for a year and drinking alcohol as drinking white wine at least once a week for a month. All subjects signed written informed consent, completed the epidemiological investigation, and voluntarily provided a 5ml peripheral blood sample. All samples and research programs were approved by the Ethics Committee.

Information sources: English and Chinese literatures from Pubmed, Cochrane, Embase, China Biomedicine Network, China National Knowledge Network, and VIP database were carefully searched and reviewed.

Main outcome(s): OR together with 95%CI were counted to judge the association between risk factors and colorectal cancer risk.

Quality assessment / Risk of bias analysis: Newcastle-Ottawa Scale (NOS) score was also applied to evaluate the literature quality according to the above information.

Strategy of data synthesis: OR value, 95%CI, Q-statistic and I2 statistics were applied to obtain the corresponding association power and heterogeneity degree. The selection of fixed effect model and random effect model was based on Q-statistic and I2 statistics.

Subgroup analysis: The Subgroup analysis was conducted according to ethnic.

Sensitivity analysis: Individual studies were consecutively omitted in the sensitivity analysis to detect the influence of each study on the pooled OR.

Country(ies) involved: China.

Keywords: RAD51, single nucleotide polymorphism, colorectal cancer.

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