NAD(P)H: Quinone oxidoreducatse polymorphism and lung cancer in Taiwan

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摘要

Abstract

Lung cancer is one of the leading causes of death in Taiwan since 1996. Genetic variation in metabolic activation or detoxification enzymes has been associated with the occurrence of lung cancer. NAD(P)H:quinone oxidoreductase (NQO1) enzyme is a cytosolic two-electron reductase thought to be involved in bioactivation and detoxification of environmental carcinogens. The possible association between NQO1 genetic polymorphism and lung cancer risk was examined among 95 male smokers without cancer and 100 male smokers with lung cancer in Taiwan. There was no significant difference in the proportion of wild-type NQO1 among all cancer cases and controls. When cases were stratified according to histological subtypes, the wild-type NQO1 was more common in adenocarcinoma than in controls. The odds ratio was 2.93 (95% confidence interval, 1.23-7.02; p = .02). This is the first observation for the positive association of this locus with lung cancer in an Asian population. These results suggest that NQO1 polymorphism is an important genetic risk factor for lung adenocarcinoma among smokers in Taiwan.