

# ABCB1/4 gallbladder cancer risk variants identified in India also show strong effects in Chileans

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Background: The first large-scale genome-wide association study of gallbladder cancer (GBC) recently identified and validated three susceptibility variants in the ABCB1 and ABCB4 genes for individuals of Indian descent. We investigated whether these variants were also associated with

GBC risk in Chileans, who show the highest incidence of GBC worldwide, and in Europeans with a low GBC incidence. Methods: This population-based study analysed genotype data from retrospective Chilean case-control (255 cases, 2042 controls) and prospective European cohort (108 cases, 181 controls) samples consistently with the original publication. Results: Our results confirmed the reported associations for Chileans with similar risk effects. Particularly strong associations (per-allele odds ratios close to 2) were observed for Chileans with high Native American (=Mapuche) ancestry. No associations were noticed for Europeans, but the statistical power was low. Conclusion: Taking full advantage of genetic and ethnic differences in GBC risk may improve the efficiency of current prevention programs. © 2020 The Authors

Cancer epidemiology

Gallbladder cancer

Native American ancestry

Population-specific risk marker

multidrug resistance protein 1

multidrug resistance protein 4

adult

aged

American Indian

Article

cancer incidence

cancer risk

case control study

Chilean

cohort analysis

controlled study

ethnic difference

European

female

gallbladder cancer

gene frequency

genetic variability

genome-wide association study

genotype

human

India

major clinical study

male

population research

principal component analysis

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