

ORIGINAL ARTICLE

Association between EZH2 Genetic Variants and Hepatocellular Carcinoma in a Chinese Han Population

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SUMMARY

Background: Hepatocellular carcinoma (HCC) is one of the most common malignancies worldwide. Studies have shown that EZH2, as the member of the Polycomb groups (PcGs) family, plays an important biological role in the occurrence and development of HCC. The association between the genetic variants of EZH2 and HCC is not yet fully established.

Methods: In this study, we used 175 patients with HCC and 209 healthy volunteers' blood samples of Chinese Han population to further analyze the relationship between EZH2 variants and HCC susceptibility.

Results: The results showed significant differences in distribution of alleles rs2302427 and rs3757441 between patients and the controls ($p < 0.05$). The three SNPs of EZH2 investigated show significant association with the elevated risk of HCC ($p < 0.05$) in addition to the overdominant model of rs3757441 and recessive model of rs41277434 ($p > 0.05$). The haplotype analysis of the three EZH2 SNPs revealed that the CCA and GTA haplotypes were associated with a higher risk of HCC ($p < 0.05$).

Conclusions: The results of these experiments indicated that the presence of EZH2 variants was significantly associated with HCC, and these variants could be useful genetic markers for predicting susceptibility to HCC in a Chinese Han population.

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Supplementary Table

Table 1. Child-Pugh of patients with hepatocellular carcinoma.

Variable	Child-Pugh		
	1 (A)	2 (B)	3 (C)
Hepatic encephalopathy	163	10	0
Ascites	152	21	0
Total bilirubin ($\mu\text{mol/L}$)	160	6	7
Albumin (g/L)	125	40	8
Prothrombin time (s)	68	101	4
Child-Pugh	116	53	4

Note: A total of 175 persons and 2 missing.

Table 2. Relationship between rs2302427, rs3757441, rs41277434 and “Child-Pugh” level.

	1 (A)	Child-Pugh		p [*]
		2 (B)	3 (C)	
rs2303427				
CC	75	32	2	0.595
CG	27	17	2	
GG	4	3	0	
rs3757441				
CC	7	3	0	0.702
CT	43	22	3	
TT	57	22	1	
rs41277434				
AA	106	50	3	0.374
CA	5	2	1	

Note: * - Application of Chi-Square Tests.