Relationship between genetic polymorphism of methylenetetrahydrofolate reductase G1793A and ulcerative colitis

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[Abstract] Objective To investigate the relationship between methylenetetrahydrofolate reductase (MTHFR) G1793A genetic polymorphism and ulcerative colitis (UC) in the Zhejiang Han population. Methods A total of 209 patients with UC and 434 healthy collators were examined in the present study. The polymerase chain reaction restriction fragment length polymorphism method was adopted to detect the distribution of MTHFR G1793A allelic gene and genotypic frequency. Results The frequencies of the MTHFR G1793A allele gene and variant genotype GA+AA among UC patients were significantly higher than that in the healthy control group (23.21% vs 15.32%, \( P = 0.001 \), OR=1.670,95% CI1.246~2.384;37.80% vs 25.81%, \( P = 0.002 \), OR=1.747,95% CI1.228~2.486). Furthermore, stratified analysis of the clinical characteristics of UC patients showed that the frequencies of the G1793A allele gene and the variant genotype GA+AA increased significantly among patients with extensive colitis compared with the patients with distal colitis (25.58% vs 12.36%, \( P = 0.006 \), OR=3.51,95% CI0.220~0.559;56.09% vs 23.98%, \( P = 0.001 \), OR=8.275,95% CI1.152~4.495). Conclusions The frequencies of the allelic gene variant of MTHFR G1793A and genotype were significantly increased among patients with UC in the Zhejiang Han population, which suggests that the genetic mutation may increase the risk of UC and have an effect on the region affected by UC.

[Key words] 5,10-Methylenetetrahydrofolate reductase (FADH2); G1793A; polymorphism; restriction fragment length colitis; ulcerative
1. 3 MTHFR G1793A

2. 1 PCR-RELPA

3. 1 MTHFR G1793A

Tab. 1 Relationship between the genetic polymorphism of MTHFR G1793A and the clinical characters of UC patients [cases (%)]

<table>
<thead>
<tr>
<th>G</th>
<th>GA+AA</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>GG</td>
<td>94(74, 92)</td>
<td>33(25, 58)</td>
</tr>
<tr>
<td>GA</td>
<td>36(43, 91)</td>
<td>10(7, 42)</td>
</tr>
<tr>
<td>AA</td>
<td>110(63, 64)</td>
<td>27(17, 27)</td>
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3. 2 IBD

IBD

Hey

MTHFR

Hey

UC

MTHFR

UC

MTHFR

UC

MTHFR

UC

MTHFR

UC

MTHFR

UC

MTHFR

UC

MTHFR

UC

MTHFR


