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Toll like receptor 1 genetic polymorphisms among helicobacter pylori positive and negative Thai patients; a summary report

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ABSTRACT

Toll like receptor (TLR) 1 is an important biomolecule that has plays a pivotal role in several medical disorders. In *Helicobacter pylori* related gastritis, TLR is observed on its clinical interrelationship with gastric dysplasia that is a precancerous condition. Here, the authors summative analyzed the observation of TLR1 polymorphism among Thai patients with *H. pylori* positive and negative status. According to the analysis, the CC polymorphism is common among the cases with positive *H. pylori* patients and CT polymorphism is common among negative *H. pylori* patients. From statistical analysis, no significant relationship between positivity for *H. pylori* and TLR1 polymorphism was detected ($P > 0.05$). Based on this observation, TLR1 polymorphism test might not be helpful in monitoring patients with *H. pylori* infection.

Core tip: Due to the lack of relationship between positivity for *H. pylori*and TLR 1 polymorphism, this polymorphism test might not be helpful in monitoring patients with *H. pylori* infection.

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Introduction

Toll like receptor (TLR) 1 is an important biomolecule. In general, TLR1 is a member of the TLR family which plays important role as recognition receptors of the innate immune system (1). TLR 1 has role in several medical disorders. In *Helicobacter pylori* related gastritis, TLR 1 is observed on its clinical interrelationship with gastric dysplasia that is a precancerous condition (2,3).

Objectives

Here, the authors summative analyzed the observation of TLR1 polymorphism among Thai patients with *H. pylori* positive and negative status.

Materials and Methods

The authors summarized the previous clinical reports regarding TLR1 (rs4833095) polymorphism among Thai patients. The summative analysis was done in order to get the summative data on the genotype distribution of the TLR1 polymorphism. In addition, the statistical relationship between positivity for *H. pylori* and TLR1 polymorphism is assessed using chi-square test. Statistical significant level is accepted at P value < 0.05. The research followed the Tenets of the Declaration of Helsinki.

Results

According to the summarization, there are two reports on the TLR1 polymorphism among Thai patients positive comparing to negative *H. pylori* infection. Overall 800 cases are studied. The distribution of the TLR1 genetic polymorphism is shown in Table 1. The CC polymorphism is common among the cases with positive *H. pylori* patients and CT polymorphism is common among negative *H. pylori* patients. By statistical analysis, no significant relationship between positivity for *H. pylori* and TLR1 polymorphism was detected ($P > 0.05$).

Discussion

TLR1 is known as a biosensor for pathogen in our body (4). Regarding *H. pylori* infection, the bacterial heat-shock protein 60 is proven for induction of inflammatory responses through the TLR-triggered pathway in human gastric epitheliums (5), while, this is believed to the underlying of gastric epithelial dysmorphology. Some previous reports can demonstrate the relationship between TLR1 polymorphism and gastric pathology in *H. pylori*

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Table 1. TLR1 polymorphism among Thai patients with *Helicobacter pylori* positive and negative status

TLR 1 genotype	*Helicobacter pylori* positive (n = 408)	*Helicobacter pylori* negative (n = 392)
CC	244	26
CT	8	364
TT	16	0

infection (2,3,6,7). The different observations can be seen in the reports on different nations (2,3,6,7). Here, the authors perform a summative analysis on the clinical observation among the Thai patients, an Asian nation. In the present report, the authors summarize on the pattern of genetic polymorphism of TLR1 in *H. pylori* positive and negative patients and found no significant relationship between positivity for *H. pylori* and TLR1 polymorphism.

Conclusion

Due to the lack of relationship between positivity for *H. pylori* and TLR1 polymorphism, TLR1 polymorphism test might not be helpful in monitoring patients with *H. pylori* infection.

Authors' contribution

Both authors wrote the manuscript equally.

Conflict of interests

The authors declared no competing interests.

Ethical considerations

Ethical issues (including plagiarism, misconduct, data fabrication, falsification, double publication or submission, redundancy) have been completely observed by the authors.

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