



POSTER PRESENTATION

Open Access

HLA-B*58:01 allele is strongly associated with allopurinol-induced severe cutaneous adverse reactions in a Thai population

Thawinee Jantararoungtong^{1*}, Ticha Rerkpattanapipat², Santirat Prommas¹, Napatrupron Koomdee¹, Siwalee Santon¹, Montri Chammanphol¹, Apichaya Puangpetch¹, Chonlaphat Sukasem¹

From 6th Drug Hypersensitivity Meeting (DHM 6)
Bern, Switzerland. 9-12 April 2014

Background

Allopurinol has been reported as the most frequent causes of SCARs (severe cutaneous adverse reactions) in Thailand. Recent publications have shown that HLA-B*58:01 allele is a strong marker for allopurinol-induced SJS/TEN (Stevens-Johnson syndrome/toxic epidermal necrolysis). The aim of this study was to clarify the association of allopurinol-induced SCARs with the HLA-B*58:01 allele in Thai patients.

Method

To investigate this relationship, we performed PCR-SSOP (sequence specific oligonucleotide probe) on allopurinol-tolerant controls (n=56) and patients affected by allopurinol-induced SCARs (n=14). Among of allopurinol-induced SCARs, including 3 patients with allopurinol-induced DRESS (drug reaction with eosinophilia and systemic symptoms), 9 patients with SJS/TEN and 2 patients with MPE (maculo-papular exanthema) were included. The presence of HLA-B*58:01 allele were genotyped by PCR-SSOP method at Laboratory for Pharmacogenomics, Ramathibodi Hospital.

Results

Of the 14 patients with allopurinol-induced SCARs, 13 (92.8%) patients (3 DRESS, 9 SJS/TEN and one severe MPE) had HLA-B*58:01 while only 6 (10.71%) of the allopurinol-tolerant controls had this allele. The risk of allopurinol-induced SCARs was significantly higher in the patients with HLA-B*58:01 with an OR (odd ratios) of 108.33 (95% CI 11.96-980.82, $p < 10^{-6}$). When compared

with normal population, HLA-B*58:01 was associated with a higher risk of SCARs, both DRESS (OR: 80, 95% CI 3.42-372.87) and SJS/TEN (OR: 217.26, 95%CI 12.41-925.35).

Conclusion

In this study we confirmed that HLA-B*58:01 allele is strongly associated with allopurinol-induced SCARs in Thai population. Therefore, screening tests for HLA-B*58:01 allele in patients who will be treated with allopurinol will be clinically helpful in preventing the risk of developing SCARs.

Authors' details

¹Ramathibodi Hospital, Laboratory for Pharmacogenomics, Thailand.

²Ramathibodi Hospital, Medicine Department, Thailand.

Published: 18 July 2014

doi:10.1186/2045-7022-4-S3-P120

Cite this article as: Jantararoungtong et al.: HLA-B*58:01 allele is strongly associated with allopurinol-induced severe cutaneous adverse reactions in a Thai population. *Clinical and Translational Allergy* 2014 **4**(Suppl 3):P120.

¹Ramathibodi Hospital, Laboratory for Pharmacogenomics, Thailand
Full list of author information is available at the end of the article