

CONTINUING MEDICAL EDUCATION EXAMINATION

The Genetics of Drug Hypersensitivity Reactions

Instructions for obtaining 1.6 Continuing Medical Education Credits

Credits can be earned by reading the text and completing the CME examinations online throughout the year on the SEAIC web site at www.seaic.org



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CME Items

- Which of the following are the most frequent elicitors of drug hypersensitivity reactions?
 - β -Lactam antibiotics
 - Allopurinol, carbamazepine, and abacavir
 - Nonsteroidal anti-inflammatory drugs
 - β -Lactam antibiotics, followed by allopurinol, carbamazepine, and abacavir
- Which of the following statements is true concerning drug hypersensitivity reactions?
 - Immediate reactions to β -lactams are due to specific IgE antibodies
 - Nonsteroidal anti-inflammatory drugs reactions are associated with COX-1 inhibition
 - Nonimmediate reactions are mediated by specific T cells
 - All of the above
- Most genetic studies on immediate β -lactam allergy have focused on
 - IgE-mediated reactions
 - Prostaglandin and leukotriene-related genes
 - The IL4/IL13 axis
 - The human leukocyte antigen system
- A genome-wide association study on immediate reactions to β -lactams
 - Has found an increased risk for carriers of polymorphisms in *NOD2*
 - Has identified variants of class II MHC HLA-DRA and C5 genes in 2 independent populations
 - Has found an association between a polymorphism in histamine N-methyltransferase and histamine levels
 - Has shown a key role for *LTC4S* variants
- Which of the following is true for nonimmediate reactions?
 - Most genetic associations have been found for *HLA* alleles
 - Most information is from Asian populations
 - The specific associated *HLA* allele depends on the triggering drug
 - All of the above are true
- Which of the following applies to nonsteroidal anti-inflammatory drugs?
 - They induce hypersensitivity reactions through COX-1 inhibition and leukotriene synthesis
 - They can induce IgE-mediated reactions
 - They are responsible for T cell-dependent reactions
 - All of the above are true
- Which of the following statements concerning nonsteroidal anti-inflammatory drug-induced cross-intolerance reactions are true?
 - Most genetic associations studies have been conducted in Asian populations
 - Most genetic association studies have focused on polymorphisms in the HLA system
 - The HLA system is expected to be involved, as these reactions are immunologically mediated
 - Most available genetic information refers to NSAID-induced acute urticaria/angioedema (NIUA)
- Which of the following is true for genome-wide association studies?
 - They have been performed mainly for cross-intolerance reactions
 - They have identified *IL4* as a key gene in nonimmediate reactions
 - They can only be performed in Asian populations
 - They are able to identify new genes and pathways involved in complex diseases
- Which of the following is true for most regions showing some association with NIUA in a genome-wide association study including both Spanish and Han Chinese NIUA patients?
 - They were associated with HLA alleles
 - They were located in the proximity of CEP68
 - They were related to Ca^{2+} , cAMP, and/or P53 signaling pathways
 - All of the above are true
- How can a better understanding and knowledge of drug hypersensitivity reactions be achieved?
 - By monitoring the acute phase through the analysis of activation status and cell populations involved
 - By transcriptomic assays for study of gene expression
 - By immunohistochemistry
 - All of the above are true