

CONTINUING MEDICAL EDUCATION EXAMINATION

Update on the Genetic Basis 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 statements is true concerning drug hypersensitivity reactions?
 - Nonimmediate reactions are mediated by specific IgE antibodies or by T cells
 - Nonsteroidal anti-inflammatory drug reactions are associated with COX-1 inhibition
 - Immediate reactions to β -lactam antibiotics are due to specific T cells
 - None of the above
- Which of the following are the most frequent triggers of drug hypersensitivity?
 - Allopurinol, carbamazepine, and abacavir, followed by β -lactam antibiotics.
 - Allopurinol, carbamazepine, and abacavir
 - β -Lactam antibiotics
 - Nonsteroidal anti-inflammatory drugs
- Which of the following are true for nonsteroidal anti-inflammatory drugs?
 - They are responsible for T cell-dependent reactions
 - They induce hypersensitivity reactions through COX-1 inhibition and leukotriene synthesis
 - They can induce IgE-mediated reactions
 - All of the above are true
- Which of the following have genetic studies on immediate β -lactam allergy focused mainly on?
 - The human leukocyte antigen system
 - Prostaglandin- and leukotriene-related genes
 - IgE-mediated reactions
 - The IL4/IL13 axis
- Which of the following is true for nonimmediate reactions?
 - Most genetic associations have been found for HLA alleles
 - Most information comes from Asian populations
 - The specific associated *HLA* allele depends on the triggering drug
 - All of the above are true
- Which of the following is a finding of a genome-wide association study on immediate reactions to β -lactam antibiotics?
 - An association between a polymorphism in histamine N-methyltransferase and histamine levels
 - A key role for *LTC4S* variants
 - Variants of class II MHC *HLA-DRA* and *C5* genes in 2 independent populations
 - An increased risk for carriers of polymorphisms in *NOD2*
- Which of the following is true for candidate gene studies?
 - They are able to identify new genes and pathways involved in complex diseases
 - They are based on biological plausibility criteria
 - They have identified *LGALS3* as a key gene in nonimmediate reactions
 - They can only be performed in Han Chinese
- Which of the following applies to nonsteroidal anti-inflammatory drug-induced cross-hypersensitivity?
 - The HLA system is expected to be involved, as these reactions are mediated by specific immunological mechanisms
 - Most genetic association studies have analyzed polymorphisms related to the arachidonic acid metabolic pathway
 - Most genetic association studies have found significant associations with polymorphisms through genome-wide studies
 - Most available genetic information refers to NSAID-induced acute urticaria/angioedema
- With which of the following did a recent genome-wide association study including both Spanish and Han Chinese NIUA patients find associations?
 - CEP68*
 - HLA* alleles
 - Ca²⁺, cAMP, and/or P53 signaling pathways
 - None of the above
- Which of the following is true for the genetic basis of drug hypersensitivity?
 - Clinically validated genetic biomarkers are available for most reactions
 - Most studies have followed the genome-wide approach
 - Most studies have been performed according to biological plausibility criteria
 - All of the above are true