Approach to A Patient with Suspected Drug Hypersensitivity

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Drug hypersensitivity reactions are a major health problem due to distinct immune mechanism, are masquerading as many different diseases and affect many organ systems. Moreover, it is often difficult to identify the culprit drug, which make drug hypersensitivity reactions to one of the more difficult areas of medicine. Therefore it is important to have a structured approach to a patient with possible drug allergy which should address the following aspects:

a) *is it a real allergy or a so-called "pseudo-allergic" reaction?* The latter elicit similar symptoms like an acute, IgE mediated allergy with urticaria, anaphylaxis etc, but no sensitization can be demonstrated. Moreover, the reaction often appears to be related to the pharmacological action (e.g. inhibition of prostaglandin synthesis) but not structural aspects of the drug.

b) *how severe is the reaction?* In addition to clinical signs, it is important to perform laboratory investigations, in particular differential blood counts (eosinophilia?) and liver function tests (ALAT/ASAT/γGT/AP). This helps in the diagnosis and is important for the further handling of the drug in the affected patient.

c) each doctor should be familiar with the *most severe forms of drug hypersensitivity*: besides the well known acute symptoms (urticaria, bronchospasm, edema, *anaphylaxis*) which appear within hours after drug intake, various delayed appearing reactions like Stevens-Johnson Syndrome, Toxic epidermal Necrolysis and DRESS, which is drug rash with eosinophilia and systemic symptoms (mainly hepatitis, but also nephritis, colitis or pneumonitis) are potentially life threatening and need immediate intervention.

d) each doctor should know that *certain drugs can cause severe side effects* quite frequently: Antibiotics, NSAID, abacavir, allopurinol and aomatic antiepileptics are the main groups of drugs, but many more can be incriminated as well. Researchers from Taiwan have shown that some of these reactions are strongly associated to a certain HLA-B-phenotype, and studies are in progress to use HLA typing to avoid such severe side effects.

d) *Very important is the information of the patient*: which drug can he use in the future, which are forbidden? In addition to history, which provides the most important information, some in vivo (epicutaneous and prick, i.d. tests) and a few in vitro tests may pinpoint the eliciting drug. Provocation tests are mainly done to show a tolerability (also with an alternative drug) than to prove the drug allergy. The patient should receive an emergency-card, indicating his drug allergies and possible cross-reactivities to other drugs.

Using this approach it is possible to better recognize and prevent such iatrogenic side effects in the future.